

6/12/62

BOSTON MEDICAL
AUG 5 1962
LIBRARY



Digitized by the Internet Archive
in 2012 with funding from

Open Knowledge Commons and the National Endowment for the Humanities

GAILLARD'S
MEDICAL JOURNAL.

(Formerly the Richmond and Louisville Medical Journal.)

E. S. GAILLARD, M.D.,

EDITOR AND PROPRIETOR.



VOLUME XXIX.

NEW YORK:
A. G. SHERWOOD & CO., PRINTERS, 76 EAST NINTH STREET.
1880.

CONTRIBUTORS TO VOLUME XXIX.

DR. ARCHAMBAULT.....	439, 692	C. KELLY.....	292
A. E. J. BARKER.....	395	J. G. KIERNAN.....	480
DR. BELL.....	72	J. R. LEESON.....	187
J. BERNUTZ.....	561	L. LETZERICH.....	439
M. BIOT.....	575	R. J. LEVIS.....	496
T. H. BUCKLER.....	343	A. L. LOOMIS.....	647
S. C. BUSEY.....	176, 469	WM. M. MASTIN.....	1
W. S. BYRNE.....	646	E. MOORE.....	70
J. J. CALDWELL.....	245	JNO. E. NEALE.....	393
A. H. F. CAMERON.....	447	DR. ONIMUS.....	334
J. J. CHISHOLM.....	190	SIR JAS. PAGET.....	287, 375
A. CLARK.....	66	L. S. PILCHER.....	484
M. S. COLE.....	618	J. H. POOLEY.....	358
J. CORNILLON.....	221	WM. ROBERTS ..	183
PROF. CZERNY.....	57	B. ROTH.....	68
R. DAVY.....	395	W. E. SAUNDERS.....	60
PROF. DERNEINT.....	63	L. A. SAYRE.....	73
HORACE DOBELL.....	37	JULES SIMON.....	338
J. MILNER FOTHERGILL.....	157	J. MARION SIMS	625
E. S. GAILLARD	36	HEYWOOD SMITH.....	185
PROF. GOSSELIN.....	295	L. TAIT... ..	69
W. S. GREENFIELD	70	W. F. TEEVAN	643
WM. A. HAMMOND.....	126	T. GAILLARD THOMAS.....	398, 576
H. G. HARGIS.....	590	W. R. THOMAS.....	188
R. HARRISON.....	65	R. E. THOMPSON.....	509
DR. HOUGHTON.....	182	M. VERNEUIL.....	293
T. W. JONES... ..	504	T. WHIPHAM.....	145

CONTENTS OF VOLUME XXIX.

	PAGE		PAGE
Abortion, Kentucky Decision on	579	Dr. Wm. M. Mastin to Journal, "Tracheotomy in Croup."	323
Ague, Nitrate of Amyle in	60	Dr. O. Morse to Journal, "Traumatic Enterocolitis."	429
Amputating at Shoulder Joint	572	Dr. F. Powell to Journal, "Gunshot Wound and Hernia."	557
Amputation, Cotton-Wool Dressing	505	Dr. F. C. Roberts to Journal, "Fish Bone in Throat."	426
Anatomical Fact, An	234	Dr. F. C. Roberts to Journal, "Delirium Tremens and Beer."	427
Anatomy, Atlas of	238	Dr. F. B. Tiffany to Journal, "Instrument for holding Prepuce."	552
Anchylosis, Osteotomy in	395	Dead Bodies, Preservation of	237
Animal Rubber	230	Diabetes, The Alkalines in	221
Arithmetic, A New	576	Diagnosis, Aids to	645
Aristotle, New Facts about	352	Diagnosis, Expression of the Face as an aid to	78, 452
Arm of Extraordinary Length, An	572	Diarrhoea Mixture, Squibbs	348
Attenuations	571	Digestion, Therapeutics of Starch	183
Audiphone of Dr. Thomas	395	Drug Smoking, Therapeutic Value of	345
Battey's Operation in Insanity	459	Dura Mater, Thrombosis of the Sinuses	176
Benzoate of Soda in Diphtheria	437, 570	Dysentery, Treatment of by Rectal Injection	183
Bloodletting	504		
Breasts becoming Cancerous, Indurations of	287		
Bromide of Ethyl	443, 571, 572		
" " Iron	571		
Buphthalmos	191		
Calculi, Treatment of Hepatic	343		
Calomel, Fumigations of	646		
Cerumen, Simulating Bronchitis	187		
Cervix Uteri, Dilatation of	69		
" " Epithelioma of	625		
Cholecystotomy	238		
Chloral, Deleterious effects of	397		
Chloroform	36		
Clemenceau, Anecdote about	449		
Clerical Diploma Selling	576, 577		
Colchicin in Rheumatism	233		
Conjunctiva, Polypus of	194		
Conjunctivitis, Diphtheritic	195		
Consumption, Salisbury cure of	436		
Cornea, Conical, with Exophthalmic Goitre	197		
" " Gunshot Wound of	198		
Cremation in Gotha	348		
Croup, Tracheotomy for	1		
CORRESPONDENCE, ORIGINAL.			
Dr. Biot to Journal, "Paris Surgical Operations."	101	Advertisements in Text Pages of Journals	241
Dr. S. M. Burnett to Journal, "Errors in Translation of Landolt."	325	American Medical Association	582, 694
Dr. H. Caruthers to Journal, "Pins, Needles, etc."	547	Arkansas Medical Monthly	587
Dr. W. A. Caruthers to Journal, "Pins, Needles, etc."	547	Arkansas State Medical Society	588
Dr. H. G. Cornwell to Dr. Sims, "Nelson's Method in Chloroform Narcosis."	667	Arkansas University Medical Department	588
Dr. W. B. Craig to Journal, "Unusual Origin of Subclavian Artery."	428	Bromide of Ethyl	354
Dr. J. S. Dorset to Journal, "Gynaecological Cases."	668	Chicago Medical Gazette	243
Dr. W. L. Gillette to Journal, "American Medical Association."	216	Cigar Making in Tenement Houses	352
D. J. H. Haynes to Journal, "Puerperal Convulsions."	553	Color Blindness	123
Dr. H. C. G. to Journal, "Bidding for Poor House Practice."	217	Consultations with Irregular Physicians	585
Dr. H. to Journal, "Yellow Fever."	100	Harvard Register	583
Dr. A. T. Henley to Journal, "Tracheotomy in Croup."	354	Homœopathy	122
Dr. J. G. Kiernan to Journal, "Opium Poisoning by Absorption."	325	Independent Practitioner	587
Dr. Landolt to Journal, "Errors in Translations of."	215	Lunacy Reform in New York	353
		Lunatic Asylums of New York City	353
		Maryland Medical Convention	587
		Memphis	239
		Medical Societies	465
		National Board of Health	117
		N. Y. Neurological Society's Answer	118
		N. Y. Hospital Library	588
		Night Medical Service	467
		Percentages on Prescriptions	468
		Popular Publications	695
		Sanitary Condition of the Public Schools	465
		Sanguinis Bovinus Exsiccatus	588
		Sentence of Edward Cowley	354
		Virginia Medical Association, Tenth Session	466
		Eclampsia, Pilocarpine and Jaborandi in	455
		Eclectics, A Row among the	461
		Electricity in Medicine and Surgery	245
		Electric Light in the British Museum	447
		" " German Army and Navy	109
		Enemata, Zulu	349
		English Pharmacy	345
		Errors, Typographical	234
		Escape from Pain, The	375
		Essentials of Anatomy Litigation	457
		Ether, First Insensibility from	63
		Ethylization	496
		Examination, An Indian Post-Mortem	453
		Eyeballs, Arrest of Development of	191
		" " Congenital Absence of	197

	PAGE		PAGE
Eye, Fulminating Glaucoma of each.....	193	Phthisis in New York, Deaths from last year.....	459
" Gunshot Wound of.....	190	Pilocarpine in Uræmia.....	233
" Injury, Stupor from.....	193	Pilot, Sudden Death of.....	237
" Lids, Oedema of.....	190	Pins, Needles, etc., in Tissues of the Body....	357
" Loss of, followed by Sympathetic Inflammation.....	193	Prescription, A Colossal.....	579
" Thirty-four Years Loss of, followed by Irritation.....	193	Putting a Graduate through the Newspapers.....	344
" Thirty-two Years Loss of, followed by Irritation.....	193	Renal Inadequacy.....	66
Fat Around Heart, Over Accumulation of....	458	REVIEWS.	
Fibrinous Bronchitis, Acute.....	458	Charcot—Diseases of the Nervous System.....	556
Fibroid Pneumonia.....	647	Clark, Fairlie—Manual of Surgery.....	435
Fish, Trichinæ in.....	463	Darling and Ranney—Essentials of Anatomy.....	554
Fœticide in Maine.....	349	Fenwick—Practice of Medicine.....	434
Fœtus, Acoustic Sound heard after Death of.....	454	Flint, Sr.,—Auscultation and Percussion.....	433
" in Ossified Uterus of Eighty year old Woman.....	458	Granville—Common Mind Troubles.....	557
Frost Bites.....	295	Hartshorne—Our Homes.....	558
Glad Tidings.....	110	Jeffries—Color Blindness.....	102
Glass Sleepers for Horse Railroads.....	231	Keyes—Venereal Diseases.....	670
Guaiacum, Administration of.....	447	Klemm—Muscle Beating.....	559
Gynæcological Lectures.....	398, 516	Nothnagel—Topische Diagnostik an Gehirnkranken.....	108
Hæmaturia, Paroxysmal.....	393	Packard—Sea Air and Sea Bathing.....	558
Hæmorrhoids.....	449	Playfair—System of Midwifery.....	219
Hay Fever, An Outside View of.....	451	Reynolds—System of Medicine.....	217, 432
Heart, Affections of.....	157	Richardson—Ministry of Health.....	220
Hepatic Abscess, Dr. Hazard on.....	238	Rosenthal—Diseases of the Nervous System.....	105
High Potencies.....	236	St. Leger—Paralysis Agitans.....	107
Hippocrates, Mrs.....	346	Tyson—Examination of Urine.....	559
Homœopathic Times on Homœopathy.....	351	Utica, N. Y. State Insane Asylum Report.....	326
Hydrate of Chloral.....	576	Virchow—Post Mortem Examinations.....	559
Iridectomy followed by Insanity.....	192	Wood, H. C. Jr.,—Brain Work and Over Work.....	436
Iris Torn by Whiplash.....	195	Wood, H. C. Jr.,—Therapeutics, Materia Medica and Toxicology.....	555
Iritis Specific, Salicylate of Soda in.....	199	Salicylica.....	569
Kidney, Granular Disease of.....	188	Salicylate of Iron.....	571
Lens Torn out by a piece of Wood.....	190	Scarlatina in Children.....	439
Liver, Functions and Disorders of.....	37	" " Ten Weeks, Second Attack of.....	233
Lithotomy.....	65	" " A remarkable Case of.....	453
Living Thermometer, A.....	349	Sclerotic Acid.....	445
Malaria, Vehicles of.....	61	Sleep, A Lecture on.....	156
Mastitis, Phytolacca Decandra in.....	453	SOCIETIES, PROCEEDINGS OF.	
Medical Colleges.....	115	American Dermatological Association.....	86, 199, 302
Menorrhagia, Lecture on.....	561	New York Academy of Medicine.....	417, 530
Menstruation at Three Years.....	233	" " Medico-Legal Society.....	652
Milk, Medical Uses of.....	515	Speculum, The Vaginal Rectal Ring.....	613
Monsters, Double.....	484	Spinal Muscles, Influence of Sayre's Treatment on.....	68
Monstrosity.....	449	Spine, Lateral Curvature of.....	73
Nephritis during Pregnancy.....	231	Splenotomy, Remarks on.....	57
Neurological Society's Answer.....	236	Strychnia, Localization of.....	446
Neurotomy in a Stab Wound of the Eye.....	196	Strudwick, Death of Dr. Edmund.....	581
New Paint.....	449	Symblepharon Operation.....	194
News, Medical.....	113, 235, 347, 457, 576	Tanner's Dr., Offer to Fast Thirty Days.....	349
Oleomargarine.....	684	Typhoid Fever, Cold Baths in.....	345, 351
Operations in Constitutionally Diseased Individuals.....	63	" " in Children.....	672
Osmun's Lactophosphates of Lime.....	114	Urethra, Stricture of.....	663
Ovariectomy, Treatment of the Pedicle in.....	185	Vaccination and Varicella.....	344
Ozone, Practical Uses of.....	114	" " Deaths from Erysipelas after.....	692
Paper Pulp from Poplar Wood.....	230	Vinegar as a Post Partum Hæmostatic.....	63
Pamphlets Received.....	559	Vitality, Post-Mortem.....	576
Paralysis, Infantile Atrophic.....	334	Water Proofing Boots.....	448
Pathology of Yellow Fever.....	349	Yellow Fever, Nautical Origin of.....	589
Patella, Treatment of Fracture of.....	72		
Peritoneum, Tuberculosis of.....	469		
Perquisites, A Surgeon's.....	232		
Physicians in Washington, A tax on.....	351		



MEDICAL JOURNAL.

(Formerly the Richmond and Louisville Medical Journal.)

VOL. XXIX.]

JANUARY, 1880.

[No. 1.

ORIGINAL COMMUNICATIONS.

“Qui Docet Discit.”

Tracheotomy for Croup in the United States : Analysis of 863 Operations. By WM. M. MASTIN, M.D., Mobile, Alabama.

In the past few years membranous laryngitis and diphtheria have agitated the medical mind to a greater degree, and have been of more serious consideration both in this country and Europe, than the entire vocabulary of zymotic diseases.

Their very close resemblance has afforded most interesting matter for the advocates of each theory ; the *unicist* finding abundant material for the belief that the affections are but different expressions of one and the same poison ; the *dualist* contending that the two maladies have nothing in common, being totally different, and due essentially to separate and distinct causes.

The obvious reason for this discussion is readily found in the rapid increase of diphtheria in the last decennia, which, with the important position croup holds among the class of diseases incident to early life, particularly in crowded districts where the spread of contagion is most rapid, has called forth vast numbers of contributions to the subject, in the form of clinical reports, brochures, and treatises.

In these numerous contributions, the *treatment* has claimed a liberal share of each ; and, as croup in the large majority of cases has a fatal issue, the subject of *tracheotomy* has occupied a conspicuous position ; in the hope that the Art of

Surgery might afford some little aid to the, too frequently, useless list of medical therapeutics.

Notwithstanding the attention bestowed on this point, there is still a very great diversity of opinion as to the propriety of opening the trachea; some of the highest authorities directly deprecating the procedure, whilst others, whose opinions are deserving of equal respect, advocate the operation in the strongest terms.

The operation, recommended by Mr. Home, was first successfully performed by John André, * of London, in 1782, who opened the windpipe in a little girl of five years of age. This case was published in Leyden, in a dissertation by Dr. T. White, four years later; and in 1814 followed the case of Thomas Chevalier, which was reported in the *Medico-Chirurgical Transactions*, † London, 1816. In 1825 the illustrious Bretonneau, who first intelligently described diphtheria and gave it a proper position in nosology, added the third case to the record of favorable issues, where the trachea was incised in a child in the last stage of croup; and since then so numerous have been the cases recorded, that at present the list amounts to such a large number that the operation should take a position among the justifiable surgical procedures, and will, I doubt not, soon be placed on a firm and definite basis.

The repugnance that existed to the operation, both by the laity and the majority of the profession, is not to be wondered at when we consider the great fatality attending it during the first years of its growth, for the early statistics showed such a ratio of unsuccesses as to appall the stoutest heart. Thanks, however, to the French and especially to the untiring and enthusiastic advocacy of Trousseau, the tide of popular and professional opinion was changed very materially, when in 1858 ‡ that celebrated man presented to the Academy of Medicine, in Paris, the result of 146 tracheotomies (the operations of French Surgeons), with 57

*Trousseau—Tracheotomy in Croup—*Diction. de Médecine*, 1835. West, *Diseases of Children Lec.* XX p. 225, Note, Phil'a. 1850.

†Vol. VI, p. 151.

‡Bull. de l'Acad. Med XXIV, p. 231, 1858.

recoveries ; with an additional list * of 39 operations and 17 cures, which contrasted very forcibly with the statistics presented to the same body twenty years before, where the number of favorable results was but 28 in 140. †

In Great Britain at first, the ratio of successes by no means kept commensurate pace with those of the French, since the statistics of her surgeons fell far short of the French reports, and hence the operation languished in the Isles for several years.

By some this want of success was thought to be ascribable to the lack of that dexterity which characterizes the latter ; by others to a difference in the type of or extent to which the disease progressed in the two countries ; whilst still others attributed it to the more thorough knowledge of the disorder by the French, and particularly to the previous treatment pursued.

As the subject was more deeply investigated, however, surgeons began to appreciate that their whole duty did not end with the mere stroke of the knife ; greater attention was bestowed upon the treatment following the operation ; and, as a consequence, the statistics of Spence, ‡ Cruickshank, § and Buchanan, || gave results quite as good as those published in France, and the operation in Great Britain appears to-day to be rapidly approaching the position of a *universally* recognized procedure in the therapeusis of croup.

Naturally enough, American Surgeons were, in a measure, influenced in their opinions of the operation by the condemnation of their British Confrères, and thus, during these early investigations of the French, in America scarcely a

* Bull. de l'Acad. Med. XXIV, p. 233. 1858.

† Bull. de l'Acad. Med. 1839.

‡ James Spence, Edin. Med. Jour. Feb. 1860, and March 1864. (Mr. Spence gives 87 operations and 28 cures.)

§ Reynolds System, Med. Vol. I, p. 101 ; Aitkin's Prac. Med. London, 1868, Vol. I, p. 588. (C. had 11 tracheotomies and 8 recoveries in 2 years.)

|| British Med. Jour. March 25th, 1871, p. 310. (Dr. B. had 39 operations and 13 cures.)

In 1857 Dr. Fuller reported to the Royal Medico-Chirurgical Society, the particulars of 5 cases of tracheotomy with two recoveries. (Am. Jour. Med. Sci. April 1857, p. 525 ; extracted from Med. Times and Gaz. Feb. 7, 1857.)

single step was taken in this direction. But that state of disregard was not of very long duration, for our surgeons saw little sufferers daily succumb before their eyes to all the horrors of suffocation without being able to raise a finger for their relief. Emetics, mercury, blood-letting, antimony, all, alike proved futile ; and the consciousness of their utter inability to afford the requisite aid by such medicinal means, forced them to look to the mechanical measure of opening the trachea to supply their carbonized patients with the oxygen for which they were so terribly struggling. Hence it was, more attention was given to the reports from France—the merits of the operation were examined,—tracheotomy was more frequently resorted to,—and now, with the attention paid to the general condition of the patient, the statistics which are herewith presented will show that, American advances are keeping pace with the progress of trans-Atlantic countries.

It is of interest to re-gance at the course the operation has taken.

The first successful case, although occurring in London, failed to excite the attention among the English which it created in France, and hence they allowed their Continental neighbors to establish an operation for which they claimed the first successful issue.

Thus in reality, the operation was rooted in British soil but blossomed forth in France ; and for its rapid advance and actual acknowledgment and establishment as a sound surgical measure in obstructive inflammations of the larynx, the world is, undoubtedly, indebted to French surgeons.

That tracheotomy is established on a firm basis, is sufficiently shown by the many illustrious names which are numbered among the long list of its advocates ! Were only those of Trousseau, Lagnenbeck, Erischsen, Gross, its supporters, they would be ample to establish any surgical procedure ! But compare tracheotomy of to-day with the operation of a half century ago—when its advocates could be pointed out individually,—and, we have a just idea of the strides it has taken.

Now its supporters comprise the entire French school, and

the surgical lights of Germany. Great Britain has arrayed in its favor, Brodie, Holmes, Henry Smith, Spence, Thompson, Buchanan, and a host of other eminent men ; whilst in the United States tracheotomy has the sanction if not the advocacy of almost every medical man throughout its broad territory ; and by the statistics which are here collected will be seen we have a full appreciation of that boon which opening the trachea has conferred upon suffering humanity.

In attempting to collate the cases of tracheotomy performed in the United States for obstructive laryngitis, circular letters were sent to the most prominent surgeons in each of the States ; and although many have neglected to acknowledge their receipt, *very many* have responded with promptness, and in detail ; and hence, whilst I do not intend, by any means, to offer the statistics presented in these pages as a complete list of the number of operations performed, I must say that they do contain a *greater* number than I have seen elsewhere published ; and it is for the reason that many cases are here given which have never been in print before, and to add them to the literature of the subject, that I now give publicity to this paper.

The total number of operations tabulated amount to 863,* with 178 recoveries, and 685 deaths ; and include in their scope 26 States and 1 District, viz ; Alabama (17), California (3), North Carolina (1), South Carolina (4), Colorado (1), Connecticut (4), Georgia (5), Illinois (34), Indiana (8), Kentucky (16), Louisiana (3), Maine (3), Maryland (17), Massachusetts (51), Michigan (8), Minnesota (5), Missouri (95), Mississippi (7), New Jersey (2), New York (432), Ohio (14), Pennsylvania (88), Tennessee (5), Texas (25), Vermont (3), Virginia (6), District of Columbia (1), and *unknown States* (5) ; and by reference to the *general table*, will be found, in addition, the names of the different operators etc., in each State.

* Of these 296 were *diphtheritic croup*, with 41 cures and 255 deaths. 194 *psuedo-membranous croup*, with 47 cures and 147 deaths. 373 *croup in general*, (their *exact* nature not being known) with 90 cures, and 283 deaths.

TABLE SHOWING NUMBER OF TRACHEOTOMIES, NAMES OF OPERATORS, RESULTS, ETC.

No of Cases.	State.	Operators.	Results.		Authorities.	Remarks.
			Successes.	Unsuccesses.		
1	Alabama.	C. J. Clarke.....	0	1	Letter from operator.....	Hereditary influence bad.
1	"	E. H. C. Bailey.....	0	1	Letter from operator.....	
1	"	T. J. White.....	0	1	A. T. Henley, Macon Station.....	
4	"	J. J. Dement..	1	3	Letter from operator.....	One died from chloroform on table.
1	"	A. T. Henley.....	1	0	M. S. Letter from operator.....	
2	"	J. F. Heustis.....	1	1	Verbal.....	
3	"	C. H. Mastin.....	0	3	Verbal.....	One case Moribund at time of operation.
1	"	E. H. Sholl.....	0	1	Letter from operator.....	Child naturally very feeble and delicate.
1	"	B. H. Riggs.....	0	1	Letter from operator.....	Operation in last stage in both cases.
2	"	A. P. Hall.....	1	1	Verbal.....	
(17)			(4)	(13)		
3	California.	H. P. Tuttle.....	1	2	Letter from operator.....	One of deaths due to Scarlatina poison.
(3)			(1)	(2)		
1	North Carolina	McIlvain.....	0	1	Amer. Jour. Med. Science, Jan. 1824, quoted by Cohen.....	
(1)			(0)	(1)		
1	South Carolina,	M. Michel.....	0	1	Letter from operator.....	
1	"	S. Baruch.....	0	1	Letter from operator.....	Death caused by choking of a "home-made" tube.
2	"	C. Kollock.....	1	1	M. S. letter from operator.....	
(4)			(1)	(3)		
1	Colorado.....	Jesse Hawes.....	0	1	Letter from operator.....	
(1)			(0)	(1)		

1	Connecticut . . .	E. P. Bennett.	0	1	Letter from operator.
2	"	N. Nickerson.	1	1	B. H. Catlin; W. Meriden.
1	"	F. Bacon,	1	0	B. H. Catlin; W. Meriden.
(4)			(2)	(2)	
1	Dist. Columbia,	N. S. Lincoln.	0	1	Prentiss in Amer. Jour. Med. Science, April, 1868.
(1)	Georgia.	W. F. Westmoreland,	(0)	(1)	Letter from operator.
5			(1)	4	
(5)			(1)	(4)	
3	Illinois.	H. Wardner.	1	2	Letter from operator.
16	"	H. A. Johnson.	4	12	M. S. letter from operator.
15	"	R. L. Bogue.	6	9	Chicago Med. Jour. & Exam., Feb. 1878
(34)			(11)	(23)	
5	Indiana.	Haughton.	1	4	Trans. Ind. State Med. Soc., 1867, quoted by Cohen. op-cit.
1	"	J. R. Weist.	0	1	Letter from operator.
2	"	M. J. Bray.	0	2	Letter from operator.
(8)			(1)	(7)	
5	Kentucky.	J. M. Holloway.	0	5	Letter from operator.
1	"	L. D. Kastenbine.	0	1	Letter from R. O. Cowling, Louisville,
1	"	G. W. Bayless.	0	1	Letter from R. O. Cowling, Louisville,
7	"	D. Cummins.	0	7	Letter from operator.
2	"	J. D. Jackson.	2	0	Rich. & Louis. Med. Jour. Mar., 1874,
(16)			(2)	(14)	
3	Louisiana.	J. L. Crawcour.	0	3	M. S. letter from operator.
(3)			(0)	(3)	
3	Maine	E. H. Hill.	0	3	Letter from operator.

Cohen in his papers on "Croup in its relations to Tracheotomy," reports a case by Prentiss himself; but this is a mistake, since Prentiss says distinctly that no operation was done, and gives reasons for the same. (See Journal referred to.)

One of the cases died from chloroform, and one from the carelessness of nurse who let tube become plugged.

One was Moribund at time of operation.

TABLE SHOWING NUMBER OF TRACHEOTOMIES, NAMES OF OPERATORS, RESULTS, ETC.—*Con.*

TRACHEOTOMY FOR CROUP.

No. of Cases.	State.	Operators.	Results.		Authorities.	Remarks.
			Successes.	Unsuccesses.		
(3) 17 (17) 3	Maryland	Chris. Johnston	(0) 3 (3)	(3) 14 (14)		
	Massachusetts	C. T. Collins	1	2	Letter from operator	One was Moribund and died on table; the other from Apncea, due to carelessness of nurse who let tube get displaced.
3 2	" "	J. C. Warren Cabot	1 2	2 0	Letter from operator Amer. Jour. Med. Science, April, 1861. Extracted from Boston Med. & Surg. Jour., Feb., 1861.	
28 13	" "	D. W. Cheever Gay	6 7	22 6	M. S. Letter from operator Bos. Med. & Surg. Report, Jan. 27, 1858, Cohen, Croup in its relations to Tracheotomy	Great immediate relief to all fatal cases.
1 1	" "	Townsend Bigelow	0 0	1 1	H. H. Smith, Op. Surg., 1852, p. 261, Amer. Jour. Med. Science, xxvi, p. 80, from Cohen, loc. cit.	
(51) 2 2	Michigan "	H. O. Hitchcock H. F. Lyster	(17) 0 0	(34) 2 2	Letter from operator Letter from operator	Dr. L. thinks operation usually put off too long, One of these Moribund at operation.
4 (8) 2	" Minnesota	J. H. Beech S. F. Hance	0 (0) 1	4 (8) 1	Letter from operator Letter from operator	

TRACHEOTOMY FOR CROUP.

3	Minnesota.....	D. W. Hand	0	3	Letter from operator.....	One died from tube becoming displaced whilst child at stool, thus death ensuing.
(5)	Missouri	J. T. Hodgen.....	(1)	(4)	Letter from operator.....	
57	"	G. H. Gregory.....	5	52	Letter from operator.....	
35	"	J. T. Berghoff.....	2	33	Letter from operator.....	
2	"	R. McNull.....	1	0	Am. Med. Bi-weekly, Aug. 16, 1879.....	
(95)	Mississippi	B. B. Drane.....	(9)	(86)	Letter from operator.....	One case in artic-mortis at operation.
1	"	E. P. Sale.....	0	2	Letter from operator.....	
2	"	Wm. N. Ames	0	2	Letter from operator.....	
2	"	Wm. Powell.....	0	1	Letter from operator.....	In artic-mortis—died on table.
1	"	D. T. Price.....	(0)	1	Letter from operator.....	Asphyxia imminent when operation done.
(7)	"	"	(1)	(6)	"	"
1	New Jersey.....	B. A. Watson.....	0	1	Letter from operator.....	
1	"	Pitney.....	1	0	N. J. Rep't, v. p. 854; Cohen, op. cit.	
(2)	"	"	1	(1)	"	
15	New York.....	Wm. H. Van Buren.	2	13	M. S. letter from operator.....	Operation late in all—one death due to Erysipelas.
4	"	J. H. Pooley.....	1	3	Rich. & Louis. Med. Jour., June, 1877.	Dr. Pooley is now of Columbus, Ohio.
67	"	A. Jacobi	13	54	Am. Jour. obstet. May, 1868.....	In 5 of deaths patient Moribund at operation, hence mortality should be 13 in 62.
55	"	E. Krackowizer.....	16	39	Jacobi, Am. Jour. obstet. May, 1868..	One died on table; one from Scarlatina.
48	"	Waldemar Von Roth.	11	37	ditto.	Death in 1 due to accidental removal tube, and in 3 to outside complication, hence ratio of cures should be 10 in 39.
43	"	L. Voss.....	10	33	ditto.	
4	"	O. S. Pine.....	1	3	E. N. Chapman, Proc. Med. Soc. Co. Kings, Nov., 1877.....	
	"	"			L. S. Pitcher, Croup & Trach. in city of Brooklyn. Apr. 1877.....	
7	"	H. B. Sands.....	1	6	Clin. lec. on Tract. & Larynx. Seguin's Series, Vol. 2. No. viii.....	One case in artic-mortis when operation performed.

TABLE SHOWING NUMBER OF TRACHEOTOMIES, NAMES OF OPERATORS, RESULTS, ETC.—*Con.*

No. of Cases.	State.	Operators.	Results.		Authorities.	Remarks.
			Successes.	Unsuccesses.		
1	New York.....	Ayres.....	1	0	H. H. Smith, op. Surg., 1852, Cohen op. cit.....	
1	"	D. Bloodgood.....	0	1	L. S. Picher, Croup & Trach. in city of Brooklyn.....	
1	"	G. Buck.....	0	1	ditto.	
1	"	J. H. Raymond..	0	1	ditto.	
2	"	D. A. Dodge.....	0	2	E. N. Chapman, loc. cit.....	
2	"	G. A. Evans.....	0	2	ditto.	
11	"	G. R. Fowler.....	2	9	ditto.	
3	"	C. H. Giberson....	0	3	ditto.	
5	"	C. K. Briddon....	0	5	Am. Med. Times, 1863, quoted by Cohen op. cit.....	
1	"	Wm. Wallace.....	1	0	Letter from operator.....	This case, was 52 years of age.
15	"	W. Gilfillan....	1	14	E. N. Chapman, loc. cit.....	
3	"	R. Hesse.....	0	3	ditto.	
25	"	J. C. Hutchison,..	2	23	ditto.	
2	"	D. E. Kissam.....	0	2	ditto.	
5	"	J. M. Minor.....	2	3	ditto.	
10	"	J. C. Rappold....	2	8	ditto.	
4	"	H. N. Read.....	1	3	ditto.	
1	"	H. Reidel.....	0	1	ditto.	
1	"	W. F. Sandford....	0	1	ditto.	
1	"	G. Wackerhagen....	0	1	ditto.	
1	"	J. Watt.....	0	1	ditto.	

10	New York.....	L. S. Pilcher.....	5	5	Letter from operator.....	In one, death there was a complication of Scarlatina.
2	"	J. Ball.....	1	1	E. N. Chapman, loc. cit..	
5	"	G. Cochran.....	2	3	ditto.	
4	"	S. Sherwell.....	1	3	ditto.	
8	"	F. W. Rockwell.....	2	6	Letter from operator.....	In one, death was due to plugging of tube from carelessness of nurse.
12	"	J. Krauter.....	4	8	E. N. Chapman, loc. cit.....	
1	"	J. Wight.....	1	0	M. S. letter from A. R. Matheson, Brooklyn.....	In Chapman's tables this case is given as unsuccessful.
2	"	M. Figueira.....	0	2	E. N. Chapman, loc. cit.....	
1	"	H. Garrigues.....	0	1	ditto.	
2	"	Chas. Jewett.....	0	2	Letter from operator.....	
1	"	A. J. Gerster.....	0	1	E. N. Chapman, loc. cit.....	
1	"	N. G. Hutchinson.....	0	1	ditto.	
2	"	G. H. Atchinson.....	1	1	ditto.	
3	"	E. S. Buncker.....	0	3	ditto.	
1	"	A. B. Crosby.....	0	1	ditto.	
1	"	H. Lowenstein.....	1	0	ditto.	
1	"	Arnold Hallett.....	0	1	Letter from operator.....	
2	"	Guden.....	0	2	G. W. Rachel, Am. Jour. Med. Science, July, 1877.....	
2	"	Lilienthal.....	0	2	ditto.	
1	"	Hackelng.....	0	1	ditto.	
3	"	J. H. Barber.....	0	3	Letter from operator.....	
1	"	G. L. Arnold.....	1	0	Archiv. Clin. Surg., March, 1877.....	
2	"	Geo. W. Rachel.....	1	1	Am. Jour. Med. Science, July, 1877...	
5	"	J. F. Minor.....	1	4	Letter from operator.....	In all, operation done in last stage.
1	"	R. M. Wyckoff.....	0	1	E. N. Chapman, loc. cit.....	
7	"	J. Cochran.....	0	7	ditto.	
1	"	F. H. Stuart.....	0	1	ditto.	
1	"	W. T. White.....	0	1	ditto.	
8	"	L. A. Sayre.....	5	3	Meeting of N. Y. Academy Medicine, March 15, 1877.....	

1	New York,	W. S. Buttles.	0	1	Letter from operator.	
1	"	W. C. Otterson.	0	1	F. N. Chapman, loc. cit.	
(432)			(93)	(339)		
1	Ohio.	H. Culbertson.	1	0	Letter from operator.	
1	"	W. J. Underwood.	0	1	Letter from operator.	
3	"	J. C. Reeve.	0	3	Letter from operator.	
3	"	A. B. Hovey.	0	3	Letter from operator.	
4	"	J. H. Pooley.	1	3	M. S. letter from operator.	
1	"	B. S. Chase.	0	1	M. S. letter from W. J. Underwood, Akron.	One died on table—operation in last stage.
1	"	P. E. Jones.	0	1	M. S. Letter from S. P. Bishop, Delta, (2)	
(14)			(2)	(12)		
7	Pennsylvania.	J. H. Packard.	1	6	M. S. Letter from operator.	
11	"	H. Lenox Hodge.	2	9	Letter from operator.	
2	"	J. Solis Cohen.	0	2	M. S. letter from operator.	
17	"	R. J. Lewis.	2	15	M. S. letter from operator.	
2	"	T. G. Morton.	1	1	Letter from operator.	
1	"	De F. Willard.	0	1	Letter from operator.	
3	"	W. G. Porter.	0	3	Letter from operator.	
2	"	J. M. Barton.	0	2	Letter from operator.	
2	"	W. S. Duncan.	0	2	Letter from operator.	
3	"	H. E. Goodman.	1	2	Verbal.	
9	"	J. Pancoast.	4	5	H. H. Smith, Op. Surg., Phila., 1863; Meigs in Am. Jour. Med. Science April, 1849, Cohen, op. cit. p. 19.	In the two cures no tube was used, but a strip of the trachea was excised.
9	"	Drysdale.	3	6	Meigs & Pepper, Dis. Chil. Art. Croup, Phila., 1877.	One in artic-mortis when operation done.
1	"	Bowling.	0	1	Cohen, op. cit. p. 20.	
1	"	Allis.	0	1	Phila. Med. Times, June 1, 1871; Cohen, op. cit.	
1	"	Smith.	0	1	H. H. Smith, Op. Surg., Phila., 1852; Cohen, op. cit.	
1	"	Hewson.	0	1	Cohen, op. cit.	
1	"	Bache.	0	1	Cohen, op. cit. Am. Jour. Med Science, July, 1869; Cohen, op. cit.	One death was due to Scarlatina.

1	Pennsylvania	Keen	0	1	Phila. Med. Times, April 15, 1871	
1	"	E. Atlee	0	1	Cohen, op. cit.	
1	"	John Ashurst, Jr.	1		M. S. letter from operator.	In one death due to convulsions from indigestible of food.
4	"	D. Hayes Agnew	2	2	M. S. letter from operator.	
3	"	T. V. Crandall	2	1	Letter from operator.	In unsuccessful death due to pneumonia from draught of cold wind by carelessness of nurse.
2	"	Physic	0	2	Meigs & Pepper, Dis. Chil. Art. Croup.	
2	"	Goddard	0	2	ditto.	
1	"	Page	(19)	1	ditto.	
(88)	Tennessee	C. S. Fenner	1	4	N. A. Med. Chir. Rev., 1860 ; Cohen, op. cit.	
5	Texas	Fred. Herff	(1)	(4)	M. S. letter from operator.	4 were practically dead at operation.
21	"	B. F. Eads	5	16	M. S. letter from operator.	
2	"	Jno. H. Pope	1	1	M. S. letter from operator.	
2	"	A. T. Woodward	0	2	M. S. letter from operator.	
(25)	Vermont	A. M. Fauntleroy	(6)	(19)	Letter from operator.	Death in one was due to pneumonia from child getting wet from a leaky roof.
3	"	Jno. H. Claiborne	1	2	Letter from operator.	
(3)	"	C. P. Johnson	(1)	2)	Letter from operator.	
3	"	J. N. Upshur	0	3	Letter from operator.	
1	"	Grove	0	1	Am. Jour. Med. Science Jan., 1852,	
(6)	"	Burgess	0	1	from Stethoscope, Dec., 1851.	
1	"	Thompson	0	1	Virginia Med. Monthly, March, 1879.	
(6)	Unknown.	Johnson	(0)	(6)	Cohen, op. cit.	
1	"		0	1	Am. Jour. Med. Science, Jan., 1824 ;	
2	"		1	1	Cohen op. cit.	
1	"		0	1	H. H. Smith, Op. Surg, 1852.	
1	"		0	1	ditto.	
(5)	"		(1)	(4)		

Total No. Cases, 863.

Total Deaths, 685.

Total Cures, 178.

I have been fully mindful of the great difference existing among the profession as to the identity of diphtheritic and croupous laryngitis, and whilst I shall speak in the text of these only under the general term of Croup, I will give in foot-notes those cases which refer to diphtheria and membranous croup separately.*

To this end, I have been very particular, in classing the cases, to put together only those well marked and distinctive of each variety; since, in diphtheria undoubted evidences of the constitutional nature of the disorder (the very full assurance of the physician in attendance, or epidemic influences in the same house or near neighborhood) were required before incorporating the case among this variety; and the same precautions being followed in pseudo-membranous croup, has, I hope, excluded all error.

Again, the majority of statistics of this operation have, heretofore, been based for the most part upon cases collected from hospital life or from practice in large and crowded cities; and as it is very evident that hospitals and the ill-ventilated apartments, as seen in the allies and by-streets of our larger cities, where numbers of persons are

* It is a question, far from being settled, whether or not membranous croup in its pure form occurs further south than a certain latitude; and considerable doubt has been expressed as to its ever being seen in the Southern States. That we do have, however, a *membranous* laryngitis, which cannot be called pure *diphtheritic*, is certain; and during the winter months in Mobile, there occasionally occurs a disorder which is characterized by first attacking the larynx and soon followed by the effusion of a pseudo-membrane; a sthenic condition of the system; without glandular involvement; no constitutional infection; very seldom pharyngeal complication; no evidence of contagion or infection—the cases being more generally single; and in those cases which have recovered, none of the sequelæ of diphtheria have supervened. This certainly looks like *croupous laryngitis*! The profession of this city will, I think, bear me out in this opinion; for Dr. Geo. A. Ketchum, of this city, tells me that, at a recent meeting of the Mobile Medical Society, this subject of croup and diphtheria being under discussion, it was the unanimous expression of the members that *true pseudo-membranous croup* does *occasionally* occur in this climate. I think, then, that whilst we never have it with anything like the frequency with which it is seen further North, we do see it in the South in about the proportion which would be expected to be found in other throat and lung affections—all pulmonary and laryngeal troubles being much less frequent with us than in a colder latitude.

confined in the same room, breathing a poisoned atmosphere, furnish the worst class of cases upon which to base the proper appreciation of an operation, it is readily seen that a true percentage of the mortality is very difficult to obtain. The cases here presented were collected from all conditions of life—from the hospital and city practice, and many from villages and rural districts, and so will give a somewhat more correct idea of the results to be obtained from the operation.

In examining these statistics, I shall dwell upon those points of inquiry and interest alone, which present themselves in the cases collected,—comparing them with the expressed views of men recognized as authorities on surgical subjects, and endeavor to impress the fact that the operation of opening the wind-pipe for croup only requires a more general resort, early operative interference, and a closer attention to the details of the same, to bring forth the success which must attend its performance in the future; for, like other successful procedures, as lithotomy and ovariotomy, it is destined to attain a most prominent position in the surgical field of our art.

Pursuing the analysis of these statistics, then, the question of prime importance seems to be, Is the operation of tracheotomy in itself of great danger to life?

We all know that the trachea is a cylinder composed of cartilaginous rings, and lying in the median line of the neck; that it is crossed by vessels at some points; surrounded in some positions by venous plexuses; and has lying across its front surface an intensely vascular gland; but anatomy has taught us the position of all of these structures, and their relation to the trachea at different periods of life; and I can scarcely see, after a careful consideration of the wind-pipe, the tissues divided in opening it, and the relation of the tube to more important ones, how any one will venture to say that tracheotomy is *per se* of particular danger. Yet by some the operation is so considered; and in many of the surgical works of both late and modern date, much stress is laid upon the difficulties attending it, the danger from direct loss of blood, and suffocation from intra-tracheal hemorrhage.

Let us glance briefly at the dangers set forth* by some of these authorities, and compare them with the results and complications of the operation as shown in the present statistics.

In examining this list of dangers they all seem about to resolve themselves into the single one of hemorrhage, and an idea of the fear of this—both from the direct loss of blood and bleeding into the trachea—can be quickly obtained by referring to some of the methods proposed for its prevention.

The subcutaneous operation of Guérin, the galvano and thermo cauteries (Amussat, Verneuil, Berger, Palaillon, Krishaber, Auger), the use of caustic paste (proposed by La Clerc and practised by Dujardin), the actual cautery, and the other various instruments and modified operations, attest to the fear of blood felt by a large number of men.

Of deaths from direct loss of blood, however, but few instances are recorded.

Gross* has heard of a half dozen fatal results from hemorrhage, but has never seen it himself; and, although he regards hemorrhage as a danger in the operation from both regular and anomalous distribution of arteries, he thinks the quantity of blood lost is usually insignificant.†

Gibson‡ evidently feared the complication of bleeding, since he says, it may be dangerous from the wounding of important blood-vessels. In over 200 cases Trousseau met with but *one* fatal accident from this complication. Liston writes: "This operation, as I said before, is one not attended with great difficulty or danger. The wound can be made down upon the wind-pipe without involving any vessel of importance. There are sometimes arterial branches running across the wind-pipe; but this is very rare."§

Dr. Joseph Pancoast, || of Philadelphia, in many cases,

* System Surg., 5th Ed., Vol. II., p. 412, Phila.

† NOTE.—Cases are recorded where death has resulted from wounding of the innominate and carotid arteries, but this need not occupy us here.

‡ Institutes and Prac. Surgery, Vol. II., p. 55, Phila., 1845.

§ Lectures on the Operations of Surgery, by Liston & Mütter, Phila., 1846.

|| Meigs & Pepper's Diseases of Children, Art. Croup., Phila., 1877.

has never met with any serious difficulty, and sees nothing to endanger life in the mere manipulation. Dr. Pilcher, in his excellent brochure,* found hemorrhage the chief complication, and notes 19 instances out of 121 operations where it was troublesome, but does not mention one single death from that source. Chelius believes dangerous hemorrhage to be feared from the thyroidean arteries and venous plexuses, when the tube is incised below the cricoid membrane.

Professors D. Hayes Agnew† and John Ashhurst,† and Drs. J. H. Packard† and R. J. Levis† of Philadelphia, each of whom have repeatedly performed the operation of tracheotomy, all say that, there is very little risk attending it; and neither of them refer to any dangerous complication.

In the last edition of his great work on Surgery, Gant,‡ advises that care be taken to avoid wounding the thyroid gland, lest troublesome hemorrhage be the result; and directs that it, with any crossing vessel, be drawn out of the line of the cut, but does not speak of any *particular* danger from bleeding. Velpeau, Townsend, Boyer, Skey, and, indeed, all surgical writers, dwell especially upon the dangers of hemorrhage in the operation. That greater danger exists, however, from blood passing into the trachea—causing apnœa of the patient—is more especially referred to; and all surgeons agree that blood flowing into the windpipe is to be seriously apprehended. This is most frequently venous, and is to be more especially considered in tracheotomy behind the thyroid isthmus, and in cases where the obstruction to respiration is very great and of long duration,—causing intense venous congestion. That the same danger does not obtain equally in the higher cut, where the cricoid cartilage and first ring of the trachea are divided (laryngo-tracheotomy), is, at once, apparent. However, in a collection of 979 cases (including 116 cases of extraneous bodies and obstructions other than Croupous), with

* Croup and Trach. in the City of Brooklyn, Exrac. from the Proceed. Med. Soc., Co. Kings, N. Y., May, 1877.

† M. S. letter to writer.

‡ Edition 2nd, 1878., London.

the exception of the 19 cases of Dr. Pilcher, above noted, I have not received the slightest mention of these complications, but on the contrary many of the operators wrote that their operations were easily executed.

From these histories then, the legitimate conclusion is that, such dangers have been overrated—that fatal hemorrhage is *very rare*, that suffocation from intra-tracheal bleeding is not frequent,—and that a slow and careful dissection—tearing rather than cutting,*—pushing aside all important vessels and tissues, and securing perfect dryness of the wound before opening the tracheal wall, which can usually be done with comparative ease under an anæsthetic, † will absolutely prevent the first, and reduce the second complication of hemorrhage to a minimum.

In further proof, then, that tracheotomy is a procedure attended with little or no immediate danger to life, if properly and carefully performed, one has but to examine the published statistics of the operation for foreign bodies. Without referring to these numerous statistical tables, I will only mention 116 cases for foreign bodies and localized laryngeal diseases, which have incidentally fallen under my observation, and hence taken indiscriminately. Of these 116 cases there was a mortality of but 9 (1 in every $12\frac{2}{3}$); and death in these was due to other causes than the operation, such as lateness of the operation, slipping of the

* Nélaton at first opened the trachea by two strokes of the knife—one down to the tube, the other through it,—but as several deaths resulted from blood entering the wind-pipe, he discarded it, and incised the trachea by a more careful dissection. (Clin. Lec. on Surgery, from notes by W. F. Atlee.)

† Anæsthesia is as a rule employed in this country, and of course the troubles attending the operation are much lessened by its use. The patient is quieted; respiration is made more regular; spasms and convulsive movements reduced; the operation can be carefully and slowly performed, and without adding to the dangers of the case, if properly and judiciously administered. The conclusion on this point by Dr. Cohen (op. cit.), after the analysis of a number of cases and reference to many authorities, is, that an anæsthetic should be employed in early cases where asphyxia is not imminent (in the latter case the patient is already unconscious, and hence insensible to pain.) In 67 cases where chloroform or ether were given, Dr. Pilcher found dangerous symptoms in only *two* instances. In the preceding table it will be seen that death was *twice* caused by chloroform.

extraneous body down into the bronchi, disease of the tube low down, and pulmonary complications.

The number of impediments and diseases for which it was here performed are as follows ; Foreign bodies (97) ; syphilitic laryngitis (4) ; perichondrial abscess (1) ; œdema larynx (6) ; laryngeal growths (5) ; Epithelial cancer (1) ; Spasmodic laryngitis (1) ; Tonsilitis (1). These comprise most of the local troubles necessitating tracheotomy, and, as will be seen, include a trouble (epithelioma) which under any circumstance would have ended fatally.

Of other complications rendering the operation dangerous or difficult, as cutting through the posterior wall of the trachea, slipping the canula * into the cellular tissue outside the wind-pipe in short, thick necks ; pushing a dense false membrane before the point of the knife etc., etc., nothing need be said, since these should not be classed among the attending dangers of the operation, but are the result usually, of carelessness, haste or fear, and should scarcely ever occur to seriously embarrass the operator and be the cause of a fatal termination.

Danger from shock and also secondary hemorrhage require no mention, for they may complicate the most trivial operation, and do not obtain particularly in tracheotomy.

Seeing that merely opening the wind-pipe very seldom of itself produces death, we very naturally ask, What is the cause of death in tracheotomy for diphtheritic and croupous laryngitis ?

Without doubt among the earlier operations to a want of appreciation of the systemic condition, of which the laryngeal inflammation was but frequently an expression, with an ignorance of the exact pathological lesion of the disease,

* It is well known that occasionally the introduction of the Canula is attended with some difficulty. In a recent tracheotomy for diphtheritic croup, Dr. C. H. Mastin, of this city, found the introduction of the Canula much facilitated by first opening the cut in the trachea by a Frenkle's Nasal speculum, and then sliding the tube between its blades. This instrument when closed is easily inserted into the wound--being flat and of small compass,—and then can be quickly separated by a thumb-screw to allow the passage of the tracheal tube.

and regarding tracheotomy as a *curative measure*, must be attributed the large mortality attending the operation.

But the death rate is much lessened since more thorough investigation has given us a better knowledge of these points. We have come to know that the laryngeal lesion is often the result of, or complicated with a constitutional or blood poison, and the obstruction to free respiration is not the only factor in the case; and that tracheotomy is not intended to cure the affection, but must be viewed simply in the light of an auxiliary to other measures—to prevent death from suffocation, admit pure air for the proper æration of the blood, and to *gain time* in the further treatment of the malady. Concluding that the operation of tracheotomy is one fraught with little risk, we can at once decide that the cause of death must be dependent upon the disease itself for which the operation was required—a persistence of the original disease or obstruction,—or sequelæ, or intercurrent complications.

Without adducing quotations from numerous authorities and traversing ground which has been so often passed over, we will look to the causes of death in the present cases.

The causes of death here about correspond to the causes as given by other published statistics.

Of the 863 operations collected, I have succeeded in finding out the causes of the fatal termination in 313,* which will be seen in the subjoined table.

TABLE OF MORTALITY CAUSES IN 313 CASES.

CAUSE.	NO. CASES.
Cardiac paralysis.....	2
Pneumonitis.....	30
Pulmonary Congestion.....	4
Exten. Mem. Causing Obstruction.....	103
Asthenia.....	57
Capillary Bronchitis.....	46

* NOTE.—Among these, 117 belong to *diphtheritic croup*, and the largest mortality was due to the diphtheritic poison (asthenia) (57); the next being Exten. of Mem., causing obstruction and apnœa (36). To *pseudo-mem.* croup belong 71 cases; the highest mortality being due to Extension of Membrane (27). *Croup in general* claims 125 cases, and the most fertile causes here of death were Extension of the Membrane (40. and Bronchitis (37).

• Pulmonary œdema.....	1
Exhaustion.....	18
Accumulation below tube.....	4
Asphyxia.....	13
Suffocation on table.....	2
In Artic-Mortis.....	6
Accidental Displacement of Canula.....	3
Scarlatina.....	2
Carbonic Acid Poison.....	7
Plugging of Canula... ..	4
Convulsions.....	3
Erysipelas.....	1
Miliary tubercle.....	1
Emphy sema.....	2
Tracheae granulations.....	1
Anæsthetics.....	3

It will be proper to mention that of these, two (2) deaths were due to chloroform, one (1) to ether, two (2) to plugging of the Canula through the carelessness of the nurse ; nine (9) were moribund at the time of the operation, three (3) to outside causes not connected with the original disease or operation, three (3) to accidental displacement of the Canula through extreme carelessness, one (1) to convulsions due to indigestible food, two (2) to pneumonia caused by leaky roof and *unusually* bad hygienic surroundings, two (2) to scarlatinal poison, and one (1) to the choking of a very poor "home-made" tube.

By referring to the above table it will be seen, as would be expected, that the greatest mortality cause was the *extension of the membrane*, having produced death in 103 instances. The next in order was *Asthenia*, or blood-poisoning, which caused a fatal issue in 57 cases ; then rank *Capillary bronchitis* (46), *pneumonia* (30), *exhaustion* (18), *asphyxia* (13), etc.

The large preponderance of the extension of the pseudo-membrane as a death cause, may be reasonably explained, I think, by concluding that the morbid process had already extended beyond the larynx into the trachea before the knife was resorted to ;—or, in other words, that the exudation had begun to form some distance down the trachea itself, and in a number of cases was below the opening made by the operation. This point, of course, would be hard to determine, but as we know the exudative process first begins in the larynx and goes downward, and that it most proba-

bly confines itself to the larynx during the first stage of the disorder, we next feel most interested in the *Stage* at which the operation offers the best chances of success.

Upon this point a number of surgeons positively assert that the operation should be regarded as a *dernier ressort*, and hence performed in the very last stage, when death from suffocation is impending.

In confirmation of *late* operations Guersant, in 1835, * advised that tracheotomy be resorted to when the disease was approaching its *last stage* (suffocation); and again in 1873, † among general indications for the operation, he expresses the same belief, viz, that the dyspnœa shall be *permanent* and not intermitting.

M. Bouchut‡ recommends it when a state is reached tending to asphyxia, when a single *paroxysm* might cause death. Skey¶ writes that, when the symptoms are *imminent* an artificial opening should be made. Syme** believed that only *desperate* cases call for the operation. Velpeau§ said, tracheotomy is required when a mechanical obstruction, of whatever source, exists, which is *about producing suffocation*.

Dr. J. Lewis Smith, of New York, in a discussion at a meeting of the N. Y. Academy of Medicine, March 15, 1877, professed himself an advocate of tracheotomy when there was great lividity from the *embarrassment to breathing*, since it *rendered death more easy*. Wm. Squire|| proposes tracheotomy when *suffocation is threatened*.

These are the expressed views of some of the advocates for postponing the operation to the last moment: but the tendency, however, towards *early* operative interference is decidedly increasing; and in opposition to the opinions of the men just named, are the expressions of the majority of

* Croup—Dictionnaire de Médecine 1835. Translated by R. H. Semple, Sydenham Soc. publication.

† Surg. Dis. Children, Chap. V, p. 47-48. Translation.

‡ Trait. des Mal. des Nouv. Nés.

¶ Oper. Surg., Phila., 1851, pp. 421-22.

** Princip. Surg., p. 288, Phila., 1866.

§ Oper. Surg., Amer. Ed., N. Y., 1847.

|| Reynold's System Medicine, Vol. I.

surgeons, especially those who have lately written on the subject.

Steiner, one of the most recent contributors to the subject of croup, advises, in decided terms, that the windpipe be opened at an early stage. He writes,** “*As to the time when tracheotomy is to be performed, I agree with those writers who urge an early operation, and do not defer it until urgent symptoms of carbonic acid poisoning have manifested themselves.*” Further on he gives the *beginning of the third stage*—when remissions in the paroxysms of dyspnœa begin to grow less frequent—as the proper one for the operation.

In a clinical lecture on the Surgery of the larynx, lately delivered,†† Prof. S. D. Gross said, “speaking of tracheotomy, the operation is almost always performed too late in cases of diphtheria. The system is allowed to become thoroughly poisoned by the morbid element before tracheotomy is proposed. If it were done early in this disease the probability is that life would much more frequently be saved.” West, in 1859, declared that, “my chief anxiety is to make out the indications which may justify me in having more timely recourse to it in future.” Hardy and Beheir* say it is to be performed whenever, notwithstanding an appropriate treatment, the symptoms indicate extension of the false membrane. M. Ollivier *decidedly* favors *early* operations. Trousseau laid particular stress upon an early operation, and says, “It must be performed *as soon as possible.*” † And again, in a more recent publication ‡ writes, “*the chances of the success of the operation are so much the greater in proportion as it has been the earlier performed.*” Thomas Bryant, § follows, he says, Trousseau, in advocating the procedure at an early date. By Niemeyer || an early period for

** Zeimmsen` Cyclop. Prac. Med. Vol IV, p. 269.

†† Hosp. Gazette, April 5, 1879.

* Trait de Path. Int. 1850, from Meigs & Pepper, Dis. Chil.

† Diction. de Mèd. 1835, Transl. Syden. publication.

‡ Clin. Med. 2nd Ed. t. i. p. 450.

§ Prac. of Surgery.

|| Prac. Med. 1873.

operating is also advised, and he says, if after twelve hours trial of the usual remedies the symptoms remain unabated, do not lose further time, "but proceed at once to tracheotomy." Again he writes,—“the only hope of success depends upon an early operation.” Roberts * in his articles on diphtheria and croup says, when there is much obstruction to the breathing, and the membrane is increasing—as shown by a continuance of dyspnoea,—notwithstanding the medicinal treatment, tracheotomy should be performed without delay. Aitken in his work on the Practice of Medicine † states that, tracheotomy should be resorted to “*at a much earlier period in the disease,—not as a last resource, when death from asphyxia appears imminent, and after treatment of the most depressing kind.*” He thinks the proper moment for the operation is, when the child clutches at its throat and is anxious and restless.

In a MS. letter from Prof. D. Hayes Agnew is expressed the belief that “the great difficulty lies in late operations;” and Dr. Jno. H. Packard ‡ says, “My firm belief is that we are too slow to resort to the operation.”

The last quotation I will use in substantiation of operations at an early period in croup, is the eloquent language of Dr. Pilcher,§ who thus expressed himself: “*Justice to my patient, justice to myself, fidelity to the profession I represent, all unite in demanding that Now, early, before the development of conditions which will make any interference but a forlorn hope, tracheotomy should be done.*”

But statistics speak in the loudest tones!

Out of 863 tracheotomies I have succeeded in tabulating the dates at which $\frac{250}{450}$ operations were performed after the onset of the disease.

* Hand Book of the Theory and Prac. Med., Phila., 1874.

† London, 1868, Vol. I., p. 587.

‡ MS letter, Phila.

§ Loc. cit.

|| Of these 119 were diphtheritic croup; 98 Pseudo-mem. croup, and 33 croup in general.

Table showing Time of Operation after Invasion of the Disease in 250 Cases.

No. CASES.	PERIOD.	DEATHS.		CURES.	
10	From 1 to 24 hours inclusive.....	7	3		
45	" 24 to 48 hours inclusive.....	30	15		
32	" 48 hours to 3rd day inclusive.....	22	10		
25	" 3rd to 4th " ".....	18	7		
24	" 4th to 5th " ".....	19	5		
20	" 5th to 6th " ".....	13	7		
13	" 6th to 7th " ".....	8	5		
7	" 7th to 8th " ".....	6	1		
12	" 8th to 10th " ".....	9	3		
62	Very late.....	46	16		

Referring to this table it will be seen that the exact period of each operation is given up to the *tenth* day inclusive, and all those occurring after that date and those where the operation was executed in cases on the border of suffocation (the period not being known) are classed as occurring *late*. It will also be found that the largest number, by far, were operated upon *late*—when suffocation was threatening—having been performed 62 times in that stage. The next most frequent period was from 24 to 48 hours; then 48 hours to the 3rd day; then 4th to 5th day, and so on.

Steiner* divides croup into three stages; the *first* stage begins, of course, with the early symptoms, and lasts from 24 to 36 hours, or from 2 to 5 days; the *second* stage commences when paroxysms of dyspnœa begin, and gradually increase in frequency until the *third* stage, or that of continuous dyspnœa, (when complete asphyxia is imminent) is reached.

Following this division, which is the one usually employed, we find that in the *first* stage (see above table), from 24 hours to the 5th day, the ratio of successes was 1 in every $3\frac{2}{3}$ cases; and considering in this table the *second* stage to be from the fifth to the tenth day (since in but few instances was it noted that suffocation was here impending) we find the cures amounting to 1 in every $3\frac{1}{4}$ cases; in the *third*

* Loc. cit.

stage (put down in the table as *very late*) the recoveries were as 1 to every $3\frac{7}{8}$ operations.

This shows the most fortunate period to be that of the *second stage* (1 cure in every $3\frac{1}{4}$ cases), but by a little care it will be seen that in proportion to the number of operations done (1 to $2\frac{3}{8}$) the first stage and *early* beginning of the second was attended by the best results.

Again, in combining the first two stages and comparing them with the last stage, or that where the operation was proposed as a last resort, we find that in proportion* (3 to $1\frac{1}{31}$) to the tracheotomies performed, the successful period is decidedly in favor of the *first two* stages.

This table by no means shows the correct successful period; for, in proportion to the number of operations performed, the number of cases at which the time of the operation was noted is comparatively small; and hence to come even near the ratio of cures the stage where the knife was used should be known in *every single case of the entire collection*.

There is a sufficient number, however, to establish beyond a cavil the expediency of early operations; and as soon as it is broadly accepted that the mere incision, required in opening the wind-pipe, does not add to the dangers of the existing disease, then the operation will be resorted to at the moment the practitioner feels convinced that a pseudo-membrane is beginning to form, and the results will then give the true percentage of cures which are to be derived from the operation.

At any rate, when tracheotomy is performed as frequently in the early stages of croup as it is now resorted to in the last or stage of asphyxia, the successes will, I feel assured, place the procedure among that class of operations which are considered *successful*.

* The proportion here is considered in just the reverse of the usual designation of the term—the greater the number of operations performed being regarded as giving the best idea of the successful percentage,—since in many operations where we know the percentage of cures is very small, many surgeons may have had but 2 or 3 operations and saved them all, thus giving 100 per cent. of successes.

Before passing on to another point it will be well to mention that some few men have suggested that, if performed at an early period in the disease, tracheotomy might go further and have some claims to being a direct curative measure. The most emphatic among these, of which I know, is Steiner, * who expresses himself thus : “ All the indications are in favor of early operations ; in fact, I venture to say that, when properly performed, tracheotomy may be a safeguard against the further spread of the croupous process.”

This, to my mind, has quite a degree of probability attached to it. No one will venture to deny that one of the prime factors in the treatment of an inflammation is *rest*. What one of us who is called upon to manage a gastritis will not first attend to putting the stomach at rest by reducing or entirely forbidding the ingestion of food ? or to treat a cystitis or an enteritis and not strictly enforce rest of the inflamed viscus ? Why then should not rest be of considerable importance in the treatment of membranous laryngitis ? The muscular apparatus of the larynx is, in a measure, kept in constant action by the process of normal respiration, and when an inflammation exists, and particularly when it becomes obstructive, greater action of the laryngeal muscles are produced by the efforts at breathing ; and, by a prior reasoning, the morbid process is increased. The passage of a stream of air, too, over the inflamed membrane, may act as an irritant, and assist to keep up or increase the distress. Hence, opening the trachea at an early date—when the membrane is just forming and before the trachea is invaded,—may, by giving *rest* to the larynx, limit the further spread of the croupous deposit.

The next point which should engage us, is the *ages* at which the operation is attend with the greatest success.

The following list gives the ages at which 320 tracheotomies † were performed, with the number of cures and deaths at each year.

* Loc. cit.

† Of these there were Diphtheritic Croup 127 cases.

Psuedo-mem. Croup 103 cases.

Croup in general 90 cases.

TABLE OF AGES IN 320 OPERATIONS.

No. CASES.	AGES.		
		SUCCESS.	UNSUCCESS.
1	From birth to 6 months inclusive.....	0	1
21	“ 6 months to 18 months inclusive.....	4	17
25	“ 18 months to 2 years “.....	6	19
23	“ 2 years to 2½ years “.....	6	17
36	“ 2½ years to 3 years “.....	9	27
11	“ 3 years to 3½ years “.....	2	9
40	“ 3½ years to 4 years “.....	12	28
18	“ 3 years to 4 years “.....	4	14
62	“ 4 years to 5 years “.....	25	37
30	“ 5 years to 6 years “.....	8	22
7	“ 2 years to 6 years “.....	0	7
13	“ 6 years to 7 years “.....	5	8
12	“ 7 years to 8 years “.....	7	5
7	“ 8 years to 9 years “.....	2	5
5	“ 9 years to 10 years “.....	0	5
1	“ 10 years to 11 years “.....	0	1
2	“ 11 years to 12 years “.....	0	2
2	At 14 years.....	2	0
1	“ 19 years.....	0	1
1	“ 35 years.....	1	0
1	“ 40 years.....	0	1
1	“ 52 years.....	1	0

It is generally believed that the most favorable age for the operation of tracheotomy in Croup is between the years of three and five, the successes gradually decreasing after the seventh year. This may be partially accounted for in that Croup is most frequent between the first named periods, and a greater number of operations being then necessarily performed, the contrast between that period and a later one is made more apparent. In other words, were there as many tracheotomies after the seventh year as before that time, the relative ratio of successful issues might be the same.

Among my cases it will be seen that the most successful period was between the ages of 7 and 8 years inclusive, being 7 cures in 12 cases (1 cure in $1\frac{5}{6}$ operations). Then comes the period of from 6 to 7 years, where there were 13 operations and 5 cures, or 1 recovery in $2\frac{3}{5}$ cases. Then the period, generally regarded as the most favorable, between 3 and 5 years inclusive, in which there were 131 operations and 43 recoveries (about 1 cure in every $3\frac{1}{3}$ operations).

From 2 years to 3 years inclusive, there were noted 59 operations with 15 successes, being as 1 cure to every 4 operations *nearly*.

From birth to 2 years inclusive, there were 47 operations and 10 successful ones, being in the ratio of 1 in every $4\frac{7}{10}$ cases.

Again, below 6 months there was one case, which resulted in death, viz, an infant of 4 months ; and from 6 months to 18 months inclusive, the ratio was 1 cure in $5\frac{1}{4}$ cases.

This last ratio should be compared with the proportion between the ages of 3 years and $3\frac{1}{2}$ years inclusive (which is as 1 to $5\frac{1}{2}$), since the operation is usually condemned before 2 years of age, and we here find that even between 6 months and 18 months, the proportion is better than at, (the time which is considered the period of selection) 3 to $3\frac{1}{2}$ years.

From 8 to 9 years again, the proportion is comparatively good (directly opposed to most statistical reports, which show poor success after the 8th year) being 1 in $3\frac{1}{2}$, but the cases are so few that only very imperfect results can be obtained.

From 9 to 10 years, 10 to 11 years, 11 to 12 years, and at 19 years, there were five, one, two, and one cases respectively, all of which were of an unsuccessful termination. At 14 years, however, there occurred two cases, both ending in perfect recovery.

It is the universally accepted belief, I think, that tracheotomy for croup is scarcely ever successful below two years of age, notwithstanding the many published successes below that period of life, * and as there are some few recoveries in the above table, I desire to call especial attention to this point ; and hence have arranged in tabular form those cases which have been noted as performed below the *second* year of infancy.

* NOTE.—I have collected from various sources, (several of which were taken from Cohen's [Tracheotomy in its relation to Croup] table) twenty-six cases of tracheotomy for Croup, ranging from 6 weeks to 23 months, principally the operations of French Surgeons, all of which were of a successful issue.

TABLE OF OPERATIONS BELOW 2 YEARS OF AGE.

No. Cases.	State.	Operator.	Age.	Results.		Authorities.	Remarks.
				Cures.	Deaths.		
4	New York.....	A. Jacobi.....	12 Mos. 15 Mos. 19 Mos. 22 Mos.	0	4	Am. Jour. Obstet., May, 1868.....	
3	"	Lathar Voss.....	20 Mos. 13 Mos. 11 Mos.	0	3	Jacobi, Am. Jour. Obstet. May, 1868.	
2	"	Geo. W. Rachel ...	18 Mos. 22 Mos.	1	1	Am. Jour. Med. Science, July, 1877, Letter from operator.....	
1	Alabama.....	C. J. Clarke..	16 Mos.	0	1	ditto.	
1	Mississippi.....	E. P. Sale.....	18 Mos.	0	1	ditto.	
3	Vermont.....	A. T. Woodward...	12 Mos. 4 Mos. 9 Mos.	1	2	ditto.	One died from exceedingly bad hygi- ene surroundings.
1	Pennsylvania...	De F. Willard.....	15 Mos.	0	1	ditto.	
1	Virginia	J. N. Upshur.....	22 Mos.	0	1	Va. Med. Monthly, March 19, 1879..	
2	New York.....	Guden.....	15 Mos. 18 Mos.	0	2	Rachel, loc. cit.....	

TABLE OF OPERATIONS BELOW 2 YEARS OF AGE.—Continued.

No. Cases.	State.	Operator.	Age.	Results.		Authorities.	Remarks.
				Cures.	Deaths.		
1	New York.....	Lilienthal.....	22 Mos.	0	1	Rachel, loc. cit.....	
1	Pennsylvania..	H. Lenox Hodge..	21 Mos.	0	1	Letter from operator.....	
1	Massachusetts..	Clarkson T. Collins.	18 Mos.	1	0	ditto.	
1	Illinois.....	H. Wardner.....	13 Mos.	1	0	ditto.	
1	Pennsylvania...	J. Pancoast.....	19 Mos.	1	0	Meigs, Am. Jour. Med. Science, April, 1849.....	
1	Texas, ..	Jno. H. Pope.....	19 Mos.	0	1	Letter from operator.....	
1	Alabama.....	B. H. Riggs.....	8 Mos.	0	1	ditto.	
1	New York.....	L. S. Pilcher.....	18 Mos.	0	1	Tracheot in Croup in city of Brooklyn.	
2	"	F. W. Rockwell....	18 Mos.	0	2	Letter from operator.....	One death due to plugging of tube from carelessness of the nurse.
1	Michigan.....	J. H. Beech.....	11 Mos.	0	1	ditto.	
1	Indiana.....	M. J. Bray.....	8 Mos.	0	1	ditto.	
1	Maryland.....	C. Johnston.....	14 Mos.	0	1	Md. Med. Jour., Feb., 1878.....	
1	South Carolina.	S. Baruch.....	16 Mos.	0	1	M. S. letter from operator.....	Died from choking of a "home-made" tube.
1			18 Mos.	0	1		

These range (see table) from 4 months to 22 months, and number 32 operations with 5 cures and 27 deaths, making a proportion of 1 cure to $6\frac{2}{3}$ cases.

But as *one* of these deaths was due to the carelessness of the nurse, allowing the tube to be plugged, *one* to choking of a "home-made" Canula, and *one* to pneumonia from unusually bad hygienic surroundings, the proportion should be regarded as one cure to twenty-nine cases (1 recovery in every $5\frac{4}{5}$ cases) which makes the average success somewhat better. In either case there are a sufficient number of recoveries to substantiate the opinions of those men who advocate the operation *at any age*.

Middle life and beyond that period have been also considered as offering very great objections to tracheotomy in croup, the majority of authorities stating that adults were seldom or never saved by the operation. In the table there will be found *three* cases which were at *full* adult age, namely, one case of 52 years, female, operated upon by Dr. Wm. Wallace, of Brooklyn, which recovered; one at 35 years, male, the case of Prof. D. Haynes Agnew, Philadelphia, resulting also successfully; and one at 40 years, male, operated upon by Dr. J. H. Beech, Coldwater, Mich., which died. These cases with those at 19 years and 14 years of age (shown in the table) only go to prove that there are exceptions to this rule of death nearly always occurring in adult life, and that age presents no *contra-indications* to opening the trachea in croup.

As to the susceptibility of *sex* to croup authorities are divided. Some give the male sex as most susceptible, and others believe both sexes equally liable to the invasion of the disease.

Of 355 cases of the operation where the sex was recorded, 204 were males, and 151 females, which seems to incline slightly to the greater susceptibility of the male sex.

Of the 204 males there were 146 deaths and 58 recoveries; and out of the 151 females 112 died, and 39 were successful; thus giving to the male sex the greater proportion of successes.

Of the 863 tracheotomies collected, the *Season* at which

the operation was performed was determined in 336 instances, as Spring 79; Summer 40; Fall 123; and Winter 94.

This preponderance of Fall and Winter over Spring and Summer would be looked for, since all experience has taught that in Fall and Winter is found the most fertile causes for the development of this disease, as well as all pulmonary disorders, and hence the greater increase of operations in those seasons. But the proportion of successful issues, however, should be looked for in those seasons when croup is *less prevalent* and there are fewer pulmonary complications; and I have found that during the Fall months the cures were as 1 to a little more than $4\frac{1}{2}$ cases; in the Winter months as 1 to not quite every 4 operations; in the Spring months 1 in every $4\frac{2}{3}$ cases; whereas in the Summer there was the best average, being 1 in not quite every three cases.

The *method* of operating has been, by a few, thought to exercise some influence over the termination of tracheotomy.

The method of operating in this collection was determined in 343 instances. Of these 321 were *division* of the trachea by the usual vertical incision; and 22 were *excision*, where a piece of the trachea is excised (employed by Brainard and others). The number of cases of the latter method, however, are entirely too meagre to add anything to the merits of either procedure; but it is worthy of mention that out of eleven operations, by Dr. H. Lenox Hodge (see first table) the *only two* successful ones were those in which the *excision* method had been employed.

It is beyond question, however, that that operation which dispenses with the introduction of all instruments into the trachea, is, theoretically, the proper procedure; for, besides the trouble frequently produced by a long residence of the canula in the windpipe, the canula may at first be sufficiently irritating to produce a deposit of pseudo-membrane at the points where it impinges upon the mucus coat, and from these points a new spread of membrane may take place.

The *hygienic* surroundings were obtained in 290 cases, of which 184 were good, and 106 bad. This large number of

bad surroundings had, most certainly, a marked influence upon the success of the operation, and in *many* instances the immediate cause of death was directly traceable to improper shelter, inadequate food, and lack of general attention.

Finally, the *type* of disease in which the operation was performed, was noted in 125 cases, being *Epidemic* in 57 cases, and *sporadic* in 68 instances. The proportion of recoveries in the two types was about the same; but the number is so small in which the type was reported that it should be scarcely referred to. However, by numerous statistical tables and nearly all individual experience, it is conclusively shown that the type has a marked influence over the termination of the operation; for as all diseases are more fatal usually in epidemic form, tracheotomy for croupous laryngitis in that form is attended with less success than when the cases occur singly.

Remarks. It has been shown that this collection embodies eight hundred and sixty-three operations, with six hundred and eighty-five deaths and one hundred and seventy-eight recoveries, making the proportion of cures as one to every four and three-fourths cases; but the proportion of deaths is unnecessarily increased by *forty* cases which should be excluded, since death in them was attended by such complications that their exclusion from the list seems warrantable. The complications of which I speak are, namely: Death by anæsthetics (3); moribund at operation (21); death from scarlatinal poison (4), from choking of a "home-made" tube (1), from carelessness of the nurse—letting Canula become displaced (3), from tube getting plugged through carelessness of the nurse (2), from erysipelas (1), from outside complication (4), and from convulsions due to indigestible food (1).

This makes the proportion as one hundred and seventy-eight cures to eight hundred and twenty-three operations (one in a little over every four), instead of one hundred and seventy-eight recoveries to eight hundred and sixty-eight

tracheotomies ; which I regard as the correct average of success.

Again, an estimation of the recoveries, in proportion to the operations performed, between the Northern and Southern States was made, but only negative results were obtained on account of the insufficient data,—the proportion of course being nearly equal in the two sections.

From this somewhat hurried analysis of these statistics, with the generally received opinions on the subject of tracheotomy, the annexed conclusions are deducible.

First.—That tracheotomy is *per se* almost devoid of danger ;

Second.—That fatal hemorrhage should almost never occur ; and care with coolness will nearly always prevent apnœa from intracheal bleeding ;

Third.—That age offers no contra-indications, although the average of success is less in early infancy and adult life ;

Fourth.—That early operative interference—whenever the paroxysms of dyspnœa become at all lengthened—is demanded, since delay only adds to the suffering of the patient, and materially lessens the chances of recovery ; and

Fifth.—That the after attention is of prime importance ; careful attention of the wound, proper treatment of the disease, and proper nursing with fair hygienic surroundings, being the essentials to a successful issue.

110 ST. FRANCIS STREET,

December 3, 1879.

(NOTE.—The writer has been engaged for some months in collecting the histories of these cases of tracheotomy, with the expectation of making an elaborate publication on the subject ; but circumstances have compelled him to put together the material *very hurriedly* in the *last few days*, and hence he must apologize for the *crude* form in which it is presented.)

ART. II. *Interesting Fact in Regard to Chloroform.* By
E. S. GAILLARD, M.D., New York.

Without entering, in any manner whatever, upon a discussion as to the comparative safety and merits of chloroform and ether, I will briefly report an interesting fact which occurred while I was administering the former.

Having been asked by Dr. A. B. Cook, of Louisville, Ky., to be present while he performed the operation of lithotomy, I was asked to administer chloroform to the patient.—The patient was an old man and materially broken down by suffering, loss of sleep, food, etc. In commencing the administration of the chloroform, I noticed that his inspirations were shallow and frequent, indeed, so much so, that after a trial of a half hour's duration, I found it impossible to introduce a sufficient amount of chloroform into the circulation to produce anæsthesia; unless the administration was so long continued that the amount introduced would slowly and gradually be a source of serious danger. I therefore desisted, and refused to give more chloroform, when just at that time it occurred to me, that if the inspirations could by medication be made strong and deep, all difficulties in the way would disappear. I suggested to Dr. Cook the subcutaneous administration of the sulphate of atropia, which acting upon the medulla oblongata, would produce the effect desired. The patient at once received hypodermically $\frac{1}{70}$ th of a grain of atropia, and this dose was repeated in twenty minutes. The effect was beautiful indeed. The shallow respirations disappeared and the breathing became strong, full and deep. The chloroform was at once successfully and quickly administered, and the operation was handsomely performed. The patient made an excellent recovery and had no more difficulties.

These facts are mentioned, as they may be of use to many. Whenever in administering chloroform the inspirations of the patient are so shallow as to make the induction of anæsthesia difficult or dangerous, the administration of atropia hypodermically will cause every difficulty to vanish, and anæsthesia can be produced with ease and safety.

ECLECTIC DEPARTMENT.

“Carpere et colligere.”

ART. I.—*The Functions and Disorders of the Liver, and their Management in Accordance with the Results of Modern Discovery.** By HORACE DOBELL, M.D., Consulting Physician (late Senior Physician) to the Royal Hospital for Diseases of the Chest, London.†

The practical sagacity of the ancient physicians and the common sense of humanity for ages kept up a widespread belief that the most conspicuous viscus in the body must play a somewhat proportionately conspicuous part in the organism. Hence an endless variety of ills were attributed to derangements and diseases of the liver. For many years these ideas were smiled at by those who thought themselves so much more enlightened than their predecessors as to have learned that the liver was made for nothing but the secretion of bile, and that bile was nothing but a waste product of the body. Recent scientific discovery, however, has turned the smile against the skeptics, amply confirming the impressions of our ancestors, and placing the liver on the very pinnacle of clinical, physiological, and pathological importance.‡

In reading over my own book in its first edition, I am impressed with the feeling that it does not represent to the full extent the importance which those who are familiar with

* Being the new chapter about to appear in the forthcoming second edition of “Loss of Weight, Blood-Spitting, and Lung Disease.”—*New York Medical Journal*.

† This very superior paper will be enjoyed by all readers.—E. S. G.

‡ Among modern laborers in this field, the following may be specially mentioned. Kiernan, Budd, Rokitansky, Frerichs, (whose work has been popularized in English by the valuable translations and *rechauffés* of Murchison), Bernard (whose discoveries have been subjected to important correction by Pavy), Wickham Legg, Parkes, Habershon, Harley, Rolleston, Rutherford, Warburton Begbie, Gilbert, Morehead, Waring, Wilks, Gamgee, Brunton, Grünewald, Krueger, Schiff, Röhrig, Nasse, Bocker, Radziejewski, Kuhne, Recklinghausen, Klein, Staedeler, Neukomm, Eulenberg, Brown-Séquard, Rouis, etc.

my daily practice well know that I attach to the liver, in connection with loss of weight, blood-spitting, and lung disease. I have therefore added this supplementary chapter to supply the deficiency. At pp. 215, 217, 249, I have spoken of the importance of attending to the action of the liver, and at p. 152 I have referred to some laborious investigations which I made so long ago as 1853 with reference to fatty liver in consumption. But in all these places the liver is only referred to in its subsidiary connection with the general argument regarding the action of the pancreas. In this chapter I shall reverse the order and give precedence to the liver. The importance of the liver in connection with our present subject may be considered under six principal headings :

1. Its connection with digestion and assimilation of the fat elements of food (hydro-carbons).

2. Its connection with the digestion and assimilation of the saccharine and amylaceous elements of food (carbo-hydrates).

3. Its connection with the digestion and assimilation of nitrogenous elements of food (albuminoids).

4. Its connection with the disintegration of nitrogenous matter.

5. Its liability to congestion when the pulmonary circulation is obstructed in front, with consequent disturbance of its functions ; this retrograde congestion and disturbance of functions extending in due course to all the organs which contribute to the portal circulation.

6. The apparently anomalous and puzzling fact that fatty enlargement of the liver is especially apt to occur when all the rest of the organism is wasted by consumption.

This remarkable combination of circumstances seems to invest the liver with so much interest in relation to loss of weight, blood-spitting, and lung disease, that we are astonished to find how little is said about it in any of the existing works on consumption.

If we take a bird's-eye view of the organism—with its general plan of venous system separated inviolably from an arterial system by the lungs, and a great food-supplying

apparatus for the generation of blood and tissues, and for the evolution of heat and other modes of motion—the liver strikingly attracts our notice, as a huge machine placed as peremptorily between the food supply and the pulmonary circulation as are the lungs between the veins and the arteries, intercepting every particle of new food that can be absorbed by veins. So jealously is this shut off from the lungs, that the blood of the hepatic artery, after ministering to the nutrition of the liver itself, and even that of the vasa vasorum of the hepatic veins, is returned to the portal vein before it is allowed to reach the lungs. We can not for a moment doubt, when we regard this imperative arrangement for interception, that it has some most vital purpose.

The next thing that most forcibly strikes us in this bird's-eye view is a similarly peremptory arrangement, by which everything absorbable by lacteals and lymphatics is scrupulously kept out of the way of the liver, and, after passing through a system of glands, is conveyed by the thoracic duct directly to the lungs. And again we are struck by the definite arrangement by which all the venous blood of the body, other than that charged with new food, is, like the contents of the thoracic duct, kept out of reach of the liver, and conveyed directly to the lungs.

We find that, by these mechanical arrangements, all worn-out tissues, all fats not absorbed by the portal system of veins, all the products of interstitial nutrition, are submitted directly to the pulmonary circulation, but that all the other elements of nutrition *must be submitted to the operations of the liver* before they are fit for use in the organism.

What, then, are the effects of these important operations?

I. First and foremost in every way is the conversion of the carbo-hydrates of the food, and probably some of the albuminoids, into a material called Bernardin,* amyloid matter, or glycogen. It matters not by which of these names it is called, but I prefer the first, so that it is clearly

* After Professor Bernard, the discoverer of this material (at the suggestion of Dr. Pavy.)

understood that, from the time the food is converted into this body, it becomes utilizable as a source of force and nutrition, and that—so long as the functions of the liver are normal, and the quantity of carbo-hydrate food introduced is not in excess of the maximum capacity of these functions—only a trace of sugar *per se* escapes conversion into Bernardin, and is allowed to reach the pulmonary blood, any excess of this being rapidly excreted by the kidneys constituting diabetes.

2. The second effect is the interception of so much of the fats as are absorbed by the portal system of veins (almost entirely oleine) for the manufacture of bile, only the surplus over and above what is employed for this purpose being allowed to reach the lungs by the hepatic veins. All the solid fats, and the bulk of all fats, are saved from the liver—being emulsioned by the pancreatic secretion, and conveyed to the lungs by the lacteal route.

3. The albuminoid materials of food absorbable by the portal system of veins are disintegrated in the liver, leading to the formation of urea and other nitrogenous products, afterward excreted by the kidneys. In the performance of this and other chemical processes, the liver becomes a great center of animal heat, the temperature of the liver reaching 104° to 106° Fahr., when all the rest of the body is at 98° and 99° . It is important to remember that the blood of the portal vein when it enters the liver contains the blood from the spleen, and that probably in connection with this is the fact that the worn-out red blood-disks are cast into the liver—forming part of that copious supply of nitrogenous matter poured into the liver, the disintegration of which has already been referred to as a source of animal heat, and in the course of which blood pigment is probably converted into bile pigment, and bile pigment into urinary pigment. It is not certain, however, that bile pigment and the biliary acids are not secreted from the blood of the hepatic artery. But, as I have already mentioned, the venous return of the hepatic artery is into the portal circulation.

4. We come next to the special secretion of the liver, that rich, complex, abundant, and important fluid, THE BILE,

poured out at the rate of about two pints every twenty-four hours, not less than thirty-nine fortieths of which is returned to the blood during its passage through the biliary and intestinal tract—in the course of that great and important osmotic circulation constantly going on between the fluid contents of the bowel and the blood. The amount of fluid poured into the intestines and reabsorbed in twenty-four hours, says Professor Parkes, “is almost incredible, and constitutes of itself a secondary or intermediate circulation never dreamt of by Harvey. The amount of gastric juice alone passing into the stomach and then reabsorbed amounted, in a case lately examined, . . . to nearly twenty-three imperial pints (if we put it twelve we shall certainly be within the mark.) The pancreas . . . furnishes twelve pints and a half in twenty-four hours, while the salivary glands pour out at least three pints . . . The amount of the bile is probably over two pints. . . . The amount given out by the intestinal mucous membrane cannot be guessed at, but must be enormous. Altogether the quantity of fluid infused into the alimentary canal in twenty-four hours amounts to more than the whole amount of blood in the body. . . . The effect of this continual outflowing is supposed to be to aid metamorphosis; the same substance, more or less changed, seems to be thrown out and reabsorbed until it is either adapted for the repair of tissue or has become effete.”

As regards that small proportion of the bile (not more than one fortieth of the whole) which is excreted through the intestines, it acts as a potent antiseptic upon the contents of the bowel, stimulates peristaltic action, and in this way, as well as by giving a proper consistence to the fæces, assists in their regular discharge, and it rids the system of those waste products of blood and tissue which can no longer yield up nutriment or force to the organism. It is a striking fact that all the digestive fluids, from the saliva downward, promote decomposition until we come to the bile, which, for the first time, reverses the action and interposes an antiseptic, thus maintaining the *status quo* of the proceeds of digestion until they are absorbed or cast off as

waste, and staying the evolution of gases in the passage of this waste out of the body.

In diseases attended with copious expectoration, a special importance attaches to the antiseptic properties of bile ; for it is inevitable that a considerable portion, in some cases the whole, of the matter intended for expectoration will pass from the respiratory down the alimentary tract, where it will decompose and act as a septic poison, unless this is prevented by some antiseptic agent. I have laid so much stress in other parts of this work upon the vital importance of antiseptic treatment in tuberculous blood-poisoning, or tuberculæmia, that I need not do more in this place than call attention to this as another reason for promoting a proper flow of normal bile.

It is that large proportion of bile (about thirty-nine fortieths) which is reabsorbed with which we are more especially concerned in considering the question of loss of weight. We can not fail to be struck with the consideration of how largely the nutrition of the body must be interfered with, if, through faulty action of the liver, this enormous daily contribution to the new formative materials of the body is either cut off or ill elaborated, or if, after being duly elaborated and poured into the intestines, it is cast out of the body instead of being absorbed. (See p. 152.)

But in addition to the direct supply of nutriment by the action of the liver, the bile has an indirect influence on nutrition equally important. Not only is its passage into the intestines in some way essential to that formation of Bernardin (amyloid substance or glycogen) out of the carbohydrates, about which I have already spoken, and instrumental in facilitating the digestion of the albuminoid constituents of food, but experiments have shown that the presence of a weak solution of soda or potass in the pores of an animal membrane materially assists the passage through it of emulsionized oil and fat ; and we find in the alkaline bile, diluted with the other digestive fluids, exactly what is wanted to saturate in this manner the lining membrane of the alimentary canal, and thus to facilitate the important process of absorption of fat. There can no longer

be any doubt that one of the great purposes of the liver is to assist by these means in the supply of fats to the blood by the lacteal route.

It will be recollected that in the course of this work I have again and again pointed out the importance, in all cases of wasting and especially in tuberculosis, of supplying an abundance of carbo-hydrates in the diet, partly as a means of contributing to the formation of fat from this source, but still more with a view to supplying materials for the evolution of animal heat and other modes of motion in the form of carbo-hydrates, and thus reserving all the hydrocarbons possible for histogenesis and other purposes for which fat, and fat only, can suffice. (See pp. 154, 158, 217, 222, 223, 229.) And now that I have shown that the liver is the organ principally concerned in converting these carbo-hydrates into Bernardin, and thus fitting them for utilization in the organism, we shall again be impressed with the necessity of securing a proper performance of this essential function.

We come now to consider more minutely the relation of the liver to the fat absorbed from the food into the *portal venous system*, and then its relation to fat absorbed during interstitial nutrition into the *systemic venous system* so intimately connected with those wasting processes attended with loss of weight. We shall then be in a position to understand "the apparently anomalous and puzzling fact that fatty enlargement of the liver is especially apt to occur when all the rest of the organism is wasted by consumption" (see *ante*, p. 596.)

We have seen that the liver must be regarded as a great interceptor of sugar and of oil from the lungs, and that when it is in full possession of its functions, only a trace of sugar *per se* or of oil *per se* reaches the hepatic vein unless it is introduced in the portal system in greater quantity or at a greater rate than the maximum normal functions of the liver can manage to deal with ; that thus the presence of either sugar or oil (*per se*) in any quantity in the hepatic vein must be regarded in the *light of an overflow*, indicating that the functions of the liver are either defective or overtaxed.

Now, with regard to overtaxing the liver with oil, which is the part of the subject which concerns us at present, experiment and investigation show that a large margin for variation has been allowed within the bounds of health. No harm to the system results from an overflow of oil from the liver into the pulmonary blood, for it only augments that much larger quantity purposely conducted there directly by the lacteal route, although there is this important difference between the fat overflowing from the liver and that conducted by the thoracic duct, that the former has not been emulsified by the pancreatic fluid or elaborated by the mesenteric glands. Still it does not appear to do any harm that a certain amount of oil should in this way overflow from the liver into the lungs, but on the contrary, as I have pointed out more than once in this book, and especially at p. 221, it is in this way that under the circumstances of impending danger, where tuberculosis is imminent through the stoppage of fat by the lacteal route, "in this emergency, in the hurry of this moment, cod-liver oil is such a god-send to the patient. It is the kind of fat that can be hurried most rapidly into the pulmonary circulation; it is the fluid oleinous kind of fat that can pass by the portal instead of by the lacteal route." Yet what we have to consider in this place is that it does so in the character of an overflow at the expense of overtaxed functions.

As a large margin is allowed within the bounds of health for this overflow of unpancreatized oil into the lungs, so also is there a large margin allowed within the bounds of health for the oil-intercepting functions of the liver. Although it is most probable that, under normal conditions, the only object with which fat enters the portal circulation is as a contribution to the biliary secretion, yet it also appears probable that provision has been made within the bounds of health for enabling the liver to become a channel, in the manner I have indicated, by which oil may be temporarily supplied to the pulmonary blood, and to bear this overtax and overflow without permanent disease being produced in the organ. As a matter of fact, it is found that, under temporary overtax, a fatty condition of the liver may occur, such

as morbid anatomists would recognize as disease, and yet the organ resume a perfectly healthy condition when relieved of this overtax of its functions.

But this power of restoration depends upon the duration and amount of the overtax, and is lost in proportion as the morbid condition is prolonged or excessive. It is this combination of circumstances which has been so cruelly and loathsomely taken advantage of for the artificial production of fatty liver in the Strasburg geese for the sake of manufacturing *pâté de foie gras*.

In the normal state the oil which enters the liver with the portal blood is deposited in the hepatic cells, whence it is absorbed for the formation of bile; but in the abnormal state, produced by prolonged or excessive overtax, the accumulation of oil in the cells becomes so great that it compresses or excludes their contents, thus stopping their secreting functions, obstructing the portal circulation, and leading to the well-known consequence of portal congestion—loss of appetite, depraved or arrested digestion and assimilation, gastro-intestinal catarrh, hæmorrhoidal affections, etc.

It is in this way that troubles arise from the incautious use of cod-liver oil, especially when the lacteal absorption is at a standstill. I pointed this out at p. 223. When speaking of the value of cod-liver oil, I said: "As a temporary substitute for natural fats introduced by the natural route, it answers admirably, but sooner or later, in some cases very soon indeed, the portal system becomes choked, and refuses to absorb more oil; the oil disagrees with the stomach, it rises, it spoils the appetite, and thus not only ceases to do good, but does positive harm, by preventing the patient from taking as much food as the stomach might otherwise call for and digest"; and at p. 217 I said: "The stomach has often suffered by an attempt to supplement the deficiencies of the small intestines, by digesting an undue amount of albuminoid material; and, by the forced absorption of fluid fats, the portal system has been overloaded and the condition of the liver deranged. Hence it commonly happens that, when cases of early consumption

first come under our treatment, all this has to be set right before proper digestion and absorption would be possible, even if the pancreas could be made to resume its functions at once." And I added at p. 249: "Our treatment of consumption only becomes curative in proportion as it includes the means for restoring the healthy functions of the stomach, liver, and pancreas."

We can not doubt then, after what we have seen, that although the liver route may be resorted to in an emergency for the supply of fat to the pulmonary blood, *it can not be permanently depended upon* and that, in proportion as we force on this over tax of the organ, we entail secondary abnormal conditions which more than counterbalance any good we can obtain.

But still we have not fully demonstrated or explained how it is that fatty liver so often progresses *pari passu* with the wasting of the rest of the body in consumption.

This question has long been a stumbling-block both to physiologists and physicians, but I think that now we shall not find it difficult to answer. It, of course, involves a question which physiologists have not completely settled, viz., the mode and course by which the tissue fat is removed during the process of wasting—whether it is taken up by the lymphatics or by the veins. But there is no longer much room for doubt that the systemic veins are the principal channels by which fat is conveyed from the adipose-tissue cells to the blood, while the lymphatics take up the worn-out tissue of the cells themselves. If the fat were all taken up by the lymphatics, it would be conveyed directly to the lymphatic glands, and thence to the lungs, and none of it could be waylaid by the liver. That which is absorbed by the blood-vessels is conveyed by the *venæ cavæ* to the lungs, and thus the liver would still be eluded, were it not that, when the supply of fat to the pulmonary blood by the natural lacteal route is cut off or materially diminished, the call upon the adipose tissues for fat is so urgent that the blood becomes surcharged with absorbed tissue fat so long as any can be obtained, and this fat, not having undergone pancreatization or elaboration in the glands, is utilized with

difficulty, and therefore passes and repasses through the organism in the general circulation before it is consumed. In this way the arterial blood of the whole system, and therefore that of all the chylopoietic organs, is surcharged with ill elaborated fats ; and, as the venous return of all these organs is into the portal system, it is evident that in this way a constant overloading of fat is kept up in the liver cells while all the rest of the organism is losing it by interstitial absorption.

If this were the beginning of the series of morbid phenomena in consumption, we might expect from what we have learned of the elastic character of the function of the liver as an interceptor of the fat, that it might simply become a channel for the passage of absorbed fat to the lungs, as it is capable of becoming for a temporary purpose, when overtaxed with oil from the food (see *ante*, p. 602); but we must remember that before emaciation begins, the liver functions have been long taxed far beyond their healthy margin ; the liver cells have already overflowed with oil and become choked with it, the portal circulation is blocked up, and the secretion of bile prevented or arrested.

But, still more, as the stage of emaciation arrives, in the majority of cases, the digestive organs have been overflowed with fatty and amylaceous foods in attempts to keep up nutrition, by which all the functions of the liver have been overstrained and spoilt ; the powers of locomotion have become limited by illness ; and, in the necessary protections against colds, the patient has been shut in warm, close rooms ; and thus the difficulty of maintaining healthy digestion and assimilation, especially healthy liver action, has been still further complicated. Hence we can not be surprised when Dr. Warburton Begbie says, as the result of his large experience, " the most fatty livers as well as the largest organs which have fallen under my observation have been in cases of chronic phthisis attended by extreme emaciation, in which cod-liver oil, either in large or moderate amount, had been daily consumed, for a period of many months." And when we consider that, in the words of Rokitansky, " fatty liver is an essential constituent, or

pathognomonic combination of the tubercular dyscrasia, inasmuch as it allies itself with tubercular affections of every kind, with tubercle of the intestinal mucous membrane, of the bronchial glands, the serous membranes, the bones," we shall see that attempts so often made to explain the connection between fatty liver and phthisis, by referring it to the effect of interrupted oxygenation through the destruction of lung substance, are completely beside the question, even if they were not, as they are, easily controverted on other grounds. In fact, we are brought back to the important conclusion so often insisted upon in this work, and for which these phenomena add an argument not previously made use of, viz., that the supply of fat by its natural lacteal route is cut off as the starting-point in the whole series of morbid changes in constitutional consumption.*

The fifth item in my list of circumstances which give importance to the liver in connection with loss of weight and lung disease (see *ante*, p. 595) is "its liability to congestion when the pulmonary circulation is obstructed in front, with consequent disturbance of functions; this retrograde congestion and disturbance of function extending in due course to all the organs which contribute to the portal circulation.

This congestion—which is only a part of that wider retrograde venous congestion which, through obstructing the *venæ cavæ*, extends to the whole venous system—is too well known, in connection with heart and lung diseases generally, to need that I should do more than refer to it here, as a condition which creeps on coincidentally with the advancing destruction of lung substance and consequent impediment to the onward current of blood from the right to the left heart, through the pulmonary circulation, leading to certain forms of blood-spitting (see Part II.), and encroaching by slow but certain steps upon the already damaged capability of the digestive and assimilative organs to continue the functions essential to life.

Having now fully reviewed the position of the liver as a

* It must be always borne in mind that this applies to constitutional consumption. (See pp. 8, 194, 202, in which this distinction is explained.)

contingent in the general array of forces with which we have to contend in our battle with "loss of weight, blood-spitting, and lung disease," let us consider what special weapons, or special applications of weapons, are necessary and obtainable for this part of our fight, and with what special aims we are to direct our attack with most promise of success.

If we restrict our view of the liver to its functions as an interceptor of fat for the secretion of bile (see *ante*, p. 602), and to its capability of permitting an overflow of oil into the pulmonary circulation, when this function is arrested or overtaxed, it may not unreasonably occur to us that, under circumstances in which fat is cut off from the organism at the lacteal route, it might be wise to encourage rather than to prevent an arrest or an overtax of the fat-destroying function of the liver, and so to allow the fat to reach the pulmonary blood by the hepatic veins. And I have already pointed out (see *ante*, p. 602) that, in a certain limited sense, this is a wise course to pursue (see pp. 221, 233).

But, when we take a general instead of a restricted view of the subject, we find that the continuance of overtax or arrest of the oil-intercepting function of the liver entails a perversion or arrest of all those other functions which we have found to be so essential to healthy nutrition, and it becomes clear that, even if we could secure a continuance of the passage of the fat to the lungs through the hepatic route, the gain would be more than counterbalanced by what is lost in the arrest of the other functions of the organ. But we have seen that arrest or overtax of the fat-intercepting functions will only for a limited time secure the overflow of oil to the lungs, and that, sooner or later, in most cases very soon, this perversion of function induces a general deadlock.

There can be no doubt, therefore, that we are theoretically right in following the course which practical experience has most unquestionably dictated and justified, viz., to maintain by every means in our power the full integrity of all the functions of the liver.

With this end in view, we must cautiously avoid overtax-

ing the liver beyond a certain point by carefully arranging the distribution of hydro-carbons, carbo-hydrates, and albuminoids in the diet; and, so long as normal pancreatic action is defective, all food should be submitted to artificial pancreatization by the administration of pancreatine, which emulsionizes the fats, and thus assists their passage by the lacteal route instead of through the liver, and assists the conversion of the carbo-hydrates into Bernardian (see *ante*, p. 597). These objects may be still further promoted by submitting some portion of the food to pancreatization in the form of pancreatic emulsion (see Part V.) before it is taken into the stomach, and thus making sure that it is fitted at once for lacteal absorption; and, by the administration of peptodyn (pepsine, pancreatine, and diastase), and of malt extracts, we may still further assist the liver in the conversion of the carbo-hydrates into Bernardin.

This treatment has the additional advantage that the fats which enter the portal system, as well as those absorbed by the lacteals, will have been submitted to the influence of the pancreatic juice.

Having thus eased and saved the defective functions of the liver by these dietetic manœuvres, we must attempt to stimulate the secreting powers when they flag, and to relieve that hepatic congestion which hampers the proper action of the digestive organs. This is best done, without weakening the patient, by giving small, repeated doses of podophyllin or euonymin; and we must recollect that all our remedies should have a restorative rather than an exhaustive character.

The best way by far of administering podophyllin is to dissolve it in spirits of wine in the proportion of gr. j. to the ounce, and combine it with essence of ginger in the proportion of 3 jss to an ounce; a teaspoonful of this given in a wineglass full of water, every night or every second or third night, will secure all the advantages of podophyllin without any chance of incurring those disadvantages which so often result when it is given in pills (see my note in the "British Medical Journal," May 24. 1879). Euonymin, which is a weak form of podophyllin, may be given in the

same way, but the properties and strength of the drug as at present obtained are too variable to be relied upon.

One of our most valuable liver medicines is chloride of ammonium. It has proved invaluable in Indian practice in all those cases for which formerly large doses of mercury were thought essential. It is absolutely harmless, and in chest diseases has the additional advantage of being a valuable sedative to catarrhal mucous membranes at the same time that it relieves their congestion and facilitates expectoration. (See my work on Winter Cough, 3d edition, p. 193.) Its action on the liver is especially indicated when congestion is the prominent condition, and it should be given in doses of from 5 to 20 grains, after food, combined either with acids or alkalis according to the special indications of the case in this respect. Benzoate of soda is another hepatic stimulant of considerable value; and ipecacuanha has long been known to be another.

I have pointed out the important action of the liver on nitrogenous matter (see *ante*, p. 597), by which urea is formed and animal heat evolved; and as it is known that one influence of the introduction of chlorides into the organism is to promote the disintegration of albuminoids and materially to increase the excretion of urea by the kidneys, and as we know that the presence of an excess of uric acid in the urine is a sign of a defect in the oxygenation of the waste nitrogenous materials which ought to be disintegrated by the liver; when we find the urine overcharged with uric acid, our first care should be to restore or to increase the disintegrating functions of the liver, and thus to remedy the defect at the fountain-head.

In this way gouty and rheumatic affections and their attendant dyspepsia may be far more permanently treated by the administration of podophyllin, chloride of ammonium, benzoate of soda, ipecacuanha, and the like, than by merely resorting to antidotes for the over-acid condition; but it is usually advisable to do both.

I may mention here the powerful influence which I have long found to be possessed by chloride of potass in removing from the skin those brown and brownish-green discolora-

tions so characteristic of torpid cachectic states, and which are due to the presence in the blood not of bile, but of those waste materials which should be taken from the blood for the formation of biliary and ordinary pigments—probably, at least in part, the débris of worn-out blood-corpuscles. When these deposits are present in the skin, the combination of chlorate of potass and with the chloride of ammonium has a remarkably satisfactory effect.

It sometimes happens that neither podophyllin nor chloride of ammonium will act with sufficient promptitude for an emergency, and in this case a dose of some mercurial should be given at once, after which it will not be necessary to repeat it if the other remedies are judiciously given and long enough continued.

But in advising means to be used to stimulate the functions of the liver in loss of weight and lung disease, I must emphatically point out that great caution is needed not to overdo this treatment—not to hurry on these functions beyond a normal rate, except for a very limited time—for it has been learned by experiment that over-excitement of the hepatic circulation soon leads to paralysis of function instead of the reverse, sugar being allowed to pass unchanged into the blood in abnormal quantities until temporary or even permanent diabetes results. The connection between tuberculosis and diabetes has been already referred to more than once in this work in other lights, and must not be forgotten.* (See pp. 200, 201, 266.)

Equal caution is necessary that, in our attempts to reëstablish normal liver action, we do not irritate the intestinal mucous membrane, and thus, by hurrying the secretions too rapidly through the alimentary canal, stop that great osmotic circulation between the intestinal contents and the blood the great importance of which in nutrition I have already impressed. (See *ante*, p. 598.)

The effects of such arrested osmosis into the blood on loss of weight are forcibly illustrated by the rapid and disastrous

* Some remarkable and permanent recoveries from diabetes have occurred to me under treatment dictated by the facts now in our possession concerning the functions of the liver and pancreas.

descent, which diarrhœa always produces in a tuberculous patient. (See pp. 151-2.) It ought always to be peremptorily stopped. This may generally be done by giving 20 grains of compound aromatic chalk powder in a wineglass-full of brandy and water after each motion ; after which an excellent and agreeable way of restoring the tone of the intestines is to administer the "St. Raphael Tannin Wine" as a diet drink for a few days.

I have already called attention to the important influence which the healthy bile exerts upon the lacteal absorption of fats, already emulsioned by the pancreatic juice, in its character as an alkaline fluid saturating the membranous lining of the alimentary tract. This must never be lost sight of in our treatment of derangements of the liver in wasting diseases.

If we have reason to believe that the quantity of alkalia thrown into the bowel by the liver is deficient, either from the over-acidity of other secretions or through deficient or defective secretion of bile, we must of course endeavor to rectify this defect by restoring the normal action of the liver ; but, while waiting for this or in addition to this, we must at once supply the deficient alkali artificially. This will best be done by giving Vals water of the spring "Précieuse" as a drink with meals, combined or not with wine or spirits according to circumstances, and by a powder of soda, calumba, and ginger rapidly mixed in water and taken a quarter of an hour before food. Acid dyspepsia is one of the commonest forms of deranged digestion in consumption, and immense advantage is obtained by correcting this condition. But in doing this care is necessary to combine the alkalies with stomachic tonics so as to restore and maintain the tone of the stomach. It will be found that this is much more satisfactorily done by giving the stomachic tonic in a powder as just directed than in that of infusion or tincture, and I believe this is explained by the simple fact that, when given in infusion or tincture, it is absorbed into the blood at once, and its local effect on the stomach soon lost ; whereas, when given in a powder just mixed in water, the virtues of the drug are gradually given out while in the

digestive organs, and its beneficial effect is thus prolonged. However simple such distinctions may appear, it is by attention to them that we secure a successful treatment.

The same means of treatment which promotes the normal action of the liver in the disintegration of albuminoids and the assimilation of fats, prove equally advantageous in promoting its all-important *rôle* as the only medium through which the carbo-hydrate constituents of food are made available in the system as sources of heat and mechanical force. (See p. 229, and p. 597, *ante*.) We need not, therefore, recapitulate them, but the fact can not be too forcibly impressed.

If, as there is reason at present to believe, worn-out red blood-corpuscles are disintegrated in the liver, it may partly explain the fact that IRON, which is known to increase the number of red corpuscles in the blood, and therefore the amount of *débris* for disintegration, never agrees when liver action is perverted or arrested. Iron, therefore, is to be avoided in many cases of consumption on these grounds, as well as for those much more vital reasons which I have already pointed out at pp. 130, 234, and which can never be too often repeated.

The disastrous effects of the ill-judged administration of iron in consumption are, I regret to say, constantly coming before me in practice.

We can not review what has been said of the relations between the portal circulation and the pulmonary circulation, and between the systemic blood and the fluids poured out by the liver and other digestive organs in the great osmotic circulation, described on p. 598, *ante*, without recognizing the fact that pulmonary hyperæmia and congestion may be most signally controlled by putting a drain upon the biliary and other intestinal fluids. This is most effectually done, as I have pointed out when speaking of the treatment of hæmoptysis, by saline aperients. (See page 128.) And these may be well combined when necessary with the special hepatic stimulants already mentioned. But, while calling attention to the value of this treatment, I can not too strongly impress the importance of remembering how

exceedingly powerful are these means of depletion—second only to blood-letting itself—and hence the necessity for corresponding caution in their employment.

It is evident, from all that has been here said of the functions of the liver and of its disorders, that the greatest care and consideration are necessary to see that, when good is resulting from a certain amount of compensatory overtax of normal liver functions, we are not in too great hurry to interfere ; that, when these functions are arrested or perverted, we do not drive them to excess in our endeavors to reinstate them ; and that, when we have been called upon to make use of the remedial effects of their temporary overstimulation, we cautiously and promptly restore them to their normal proportions.

For the purpose of stopping liver action, when this is urgently required, we have a most potent armament in opium, so potent that its power to do harm in this direction should always make us avoid its use in loss of weight and lung disease, except when its power of stopping the action of the liver is either peremptorily called for or at the least is certain not to do more harm than good.

On the other hand, if the liver obstinately refuses to answer to our remedies for increasing its functions, or if the passage of its secretions is shut off from the intestinal canal by obstructive diseases, we can do something to supply its place by passing into the bowel fresh ox-gall sufficiently diluted to promote its osmosis into the blood. A quarter of a pint of fresh ox-gall diluted with a pint of water at a sufficient temperature to raise the mixture to 90° Fahr. should be slowly passed into the bowel every day through a long tube connected with a douche reservoir, so that it may enter only by hydrostatic pressure, and may be retained as long as possible in the intestine. To secure this the patient should be kept recumbent on the back, with the hips raised above the level of the chest. Pepsine, pancreatine, and diastase (peptodyn) should be given with the food, to assist the several digestive processes as before directed.

We have, then, ample means at our command for increas-

ing hepatic function, for assisting hepatic function, for supplementing hepatic function, for utilizing excessive, or over-taxed, or perverted hepatic function, and for the treatment of disease ; and, in proportion as we employ these means with skill and judgment, we may find in the liver a most powerful ally or a dangerous enemy in our wars with Loss of Weight, Blood-spitting, and Lung Disease.*

*Professor Rutherford ("British Medical Journal") has made elaborate reports of a vast number of experiments to determine the exact action of so-called cholagogues on the biliary secretion of the dog. (But it must always be remembered, in reading his results, that the ways of man are not exactly those of the dog ! See p. 67.) They may be thus epitomized : 1. He has found that, in a curarized dog which has fasted eighteen hours, the secretion of bile is tolerably uniform during the first four or five hours after the commencement of the experiment, but falls slightly as a longer period elapses. Its composition is unaltered. 2. Croton oil is an hepatic stimulant of very feeble power. 3. Podophyllin is a very powerful stimulant of the liver. During the increased secretion of bile the percentage amount of the special bile solids is not diminished. If the dose be too large, the secretion of the bile is not increased. It is a powerful intestinal irritant. 4. Aloes is a powerful hepatic stimulant. It renders the bile more watery, but at the same time increases the excretion of biliary matter by the liver. 5. Rhubarb is a certain though not a powerful hepatic stimulant. The bile secreted under its influence has the normal composition. 6. Senna is an hepatic stimulant of very feeble power. It renders the bile more watery. 7. Colchicum increases to a considerable extent the amount of biliary matter excreted by the liver, although it renders the bile more watery. 8. Taraxacum is a very feeble hepatic stimulant. 9. Scammony is a feeble hepatic stimulant. 10. Gamboge is an intestinal but not an hepatic stimulant. 11. Castor-oil stimulates the intestinal glands but not the liver. 12. Calomel has no power to increase the biliary secretion, but stimulates the intestinal glands. 13. Euonymin is a powerful hepatic stimulant. It is not nearly so powerful an irritant of the intestine as podophyllin. 14. Sanguinarin is a powerful hepatic stimulant. It also stimulates the intestines, but not nearly so powerfully as podophyllin. 15. Iridin is a powerful hepatic stimulant. It stimulates the intestines less powerfully than podophyllin. 16. Lep-tandrin is an hepatic stimulant of moderate power. It is also a feeble intestinal stimulant. 17. Inpecacuanha is a powerful hepatic stimulant. It increases slightly the secretion of intestinal mucus, but has no other apparent stimulant effect on the intestine. The bile secreted under the influence of ipecacuanha has the normal composition. 18. Colocynth is a powerful hepatic as well as intestinal stimulant. It renders bile more watery, but increases the secretion of biliary matter. 19. Jalap is a powerful hepatic as well as intestinal stimulant. 20. Sodium sulphate is an hepatic stimulant of considerable power. It also stimulates the intestinal glands. 21. Magnesium sulphate is an intestinal but not an hepatic stimulant. 22. Potassium sulphate is an hepatic and in-

ART. II. *Remarks on Twenty-five Cases of Splenotomy.*

[In connection with Dr. J. F. Miner's recent operation, for removal of an enlarged spleen, an article by Prof. Czerney, translated by Prof. A. Barkaw, M.D., will undoubtedly be interesting to many readers of the JOURNAL; we therefore copy it from the *Pacific Medical and Surgical Journal*.—ED.]

PROF. CZERNEY, who succeeded the late Simon in the chair of surgery, at the University of Heidelberg, and may be considered as one of the foremost of young German surgeons, has recently published a monograph on lapar-splenotomy, which contains the history of two cases operated on by himself, and some interesting remarks regarding the

testinal stimulant of considerable power. Its action on the liver is, however, uncertain, probably owing to its sparing solubility. 23. Sodium phosphate is a powerful hepatic and a moderately powerful intestinal stimulant. 24. Rochelle salt is a feeble hepatic but a powerful intestinal stimulant. 25. Ammonium chloride stimulates the intestinal glands but not the liver. 26. Dilute nitro-hydrochloric acid is an hepatic stimulant of considerable power. 27. Corrosive sublimate is a powerful hepatic stimulant, while it is a feeble intestinal stimulant. 28. Calabar bean stimulates the liver, but powerful only in large doses. 29. Atropia sulphate antagonizes the effect of Calabar bean on the liver, and thereby reduces the hypersecretion of bile produced by that substance. It does not, however, arrest the secretion of bile, and when given alone does not notably affect it. 30. Menispermis does not stimulate the liver. It slightly stimulates the intestinal glands. 31. Baptistin is an hepatic and also intestinal stimulant of considerable power. 32. Phytolaccin is an hepatic stimulant of considerable power. It also slightly stimulates the intestinal glands. 33. Acetate of lead in large doses somewhat diminishes the secretion of bile, probably by a direct action on the liver. 34. Ammonium phosphate is a moderately powerful stimulant of the liver. It does not stimulate the intestinal glands. 35. Tannic acid does not affect the secretion of bile. 36. Hydrastin is a moderately powerful hepatic stimulant and a feeble intestinal stimulant. 37. Juglandin is a moderately powerful hepatic and mild intestinal stimulant. 38. Sodium benzoate is a powerful hepatic stimulant. It is not an intestinal stimulant. 39. Ammonium benzoate stimulates the liver, but not quite so powerfully as the sodium salt of benzoic acid. It does not stimulate the intestinal glands. 40. Benzoic acid stimulates the liver, but owing to its insolubility its action is less rapid and much less powerful than that of its alkaline salts. 41. Sodium salicylate is a very powerful hepatic stimulant. It does not notably stimulate the intestinal glands. 42. Sodium chloride is a very feeble hepatic stimulant. 43. Sodium bicarbonate has scarcely any appreciable effect as an hepatic stimulant, even when given in large doses. 44. Potassium bicarbonate feebly excites the liver, and that only when given in very large doses. 45. Potassium iodide has no notable effect on the biliary secretion. 46. Sulphate of manganese does not excite the liver, though it is a powerful excitant of the intestinal glands.

operation itself. Of twenty-five cases on record, six recovered (Zaccarelli, Forreri, Pean (2), Martin, Czerney). Speaking of the condition of the patients, whose state of health was shown for a long period after the successfully performed operations, Czerney remarks : " The cases again prove the well-known fact that man is able to live without a spleen, without his functions undergoing an essential disturbance. The changes in the constitution of the blood are of such trifling nature, and soon pass away so completely, that they may be considered simply as caused by the operative proceeding. The passing swelling of the lymph-glands does not seem either to be a constant sequel of excision of the spleen, nor is there a constant anomaly to be found as regards the digestion of the patients. Neither bread and butter, nor potatoes, agree with my patient ; whilst to the second patient of Pean, meat is distasteful. His first patient, as well as Martin's case, had normal digestion. If, then, the spleen possesses the great significance in the pancreatic digestion, as Schiff supposes, it is replaced through supplemental organs, in a way similar to that in which the excluded stomachic digestion is supplanted in the living dog. A striking feature is the greatly excited nervous condition of these patients. As to the benefit conferred by the operation, there seems to be no doubt that in these four cases the trouble and dangers caused by the movable or enlarged and painful spleen have been lastingly removed.

" The diagnosis of splenic tumor may offer considerable difficulties as regards the indication ; the migration of spleen (Undermilz), according to present experiences, undoubtedly, demands removal of that organ as soon as the symptoms grow to be very troublesome, and not to be removed by bandages. So far as leukæmic tumors of the spleen are concerned, we will now show, after thirteen sad experiences, that we should be very cautious. The latter stages when a hemorrhagic diathesis, a highly cachetic condition and an affection of the organs by the same disease, can be ascertained, are in the future to be excluded from an operation. The details of the operation can alone be decided by the results of the still rarely occurring cases of

extirpation ; the principles adopted in other abdominal operations, especially in ovariectomy, must be observed in laparo-splenotomy. I regard it as of the utmost importance to strictly enforce antiseptic rules ; first, by using carbolic acid constantly but sufficiently, according to Lister's principles, to have an increased temperature of the rooms used for the operation, and to observe the general measures common in abdominal operation. Although surgeons of great experience, as Kuchler, Spencer Wells, and Ph. Bryant, make the abdominal section toward the side, yet I am in favor of Pean's cut in the median line. One has in that way the free field for action, as regards the possible presence of adhesions between the tumor and the concavity of the diaphragm. In such a case I would rather not give up the operation, but should consider it surgically justifiable to do as Tussenbauer did in his case of resection of the intestines, to make another incision through the abdominal walls, which, starting from the umbilicus at right angles with the median incision, should be carried into the left lumbar region.

“ As to the second part of the operation, the drawing forth of the spleen from the abdominal cavity, Martin's case proves that one may meet with considerable difficulty with a small migrating spleen. Slight adhesions can easily be separated by the hand. The separation of firmer adhesions may easily lead to laceration of the splenic tissue. I have, therefore, in my second case, first ligated the vessels in situ, and only after that detached the adhesions. Notwithstanding that the hemorrhagic diathesis being present, death ensued from loss of blood from the torn blood-vessel. If, therefore, the abdominal cavity has been opened at all in a case where there is hemorrhagic diathesis, and firm adhesions of the spleen are found, one will act wisely, in following Nedopil's advise, to close the abdominal cavity again. It is best not to open it at all where there is such a condition present.

“ If the spleen has been delivered from the abdominal cavity, one must take care not to pull the pedicle too forcibly, as the thin-coated veins may easily be torn. For this reason I do not think a torsion of the pedicle (which

caused the tearing of a strong vein in Spencer Well's first case), or the application of an *écraseur*, advisable. Pean's second fortunate case, however, proves that, with great care, even an *écraseur* may be used successfully. Nevertheless, it is my opinion that the best treatment of the pedicle consists in the ligature of the gastro-splenic ligament in mass, using well-disinfected silk, and sinking the shortly cut ligatures.

“Martin and myself were successful with this method. Pean also sinks, in his first case, the pedicle, which he had tied with four ligatures of silver wire. Martin correctly remarks that the extraperitoneal treatment of the pedicle is objectionable, because the traction of the stomach and large blood-vessels of the pedicle may lead to disagreeable consequences. If the silk which is to be used for ligature is previously coiled for half an hour in carbolated water, then cleansed in carbolated oil, it heals in the abdominal cavity without reaction. I have some reason to be pleased with this way of disposing of the pedicle in my ovariectomies. It depends upon the width of the pedicle in how many portions the filus vessels should be ligated. If, previous to detaching the spleen, all of the blood-vessels of the pedicle cannot be ligated, one must also apply peripheric ligatures, in order to prevent loss of blood from the lienal veins. If the pedicle be very short, I should not hesitate, as Billroth has proposed, to get the tail of the pancreas into a ligature. Martin recommends in such a case, rather to leave behind a (button) part of the lienal tissue, in order to prevent the sliding off of the ligature. The treatment of the other adhesions, the management of the peritoneum, the abdominal suture, and after treatment, differ in no way from the same process in ovariectomy.”

NITRITE OF AMYL IN AGUE.—Dr. W. E. Saunders, of Indore, calls attention to the value of nitrite of amyl in ague, and records a number of cases in which advantage has been derived from its use. The drug itself, he remarks, is inexpensive, and goes a long way.

He now uses *amyl nitrite* mixed with an equal part of *oil*

of *coriander* to render it less volatile, and at the same time to cover its odor. He regards it as the most powerful diaphoretic he has seen, and he uses it in all cases of fever to produce diaphoresis.

The following is one of his cases : Mr. F. C. came for treatment about 7 P.M., in the cold stage of ague. Two minims of nitrite of amyle were administered. Sweating came on in seven minutes. He lay down for half an hour to get cool, and then walked home well. He, next morning, took a dose of quinine, and has had but one attack of fever without the cold stage since. Previous to this he had fever every day for one month, during which he took large doses of quinine.

Dr. Saunders observes that he does not mean to say that quinine should not be used in these cases, for there is ample proof that it tends to check the return of the attacks, and removes to some extent the septic condition of the blood, induced by the malarial poison, and this more especially if small doses of opium are combined with it. In no case did the amyl fail to remove the attack in about one-third the usual time, and in most cases the fever did not return. His method of administration is this : Four drops of the above mixture, or two of amyl, are poured on a small piece of lint, which is given into the hands of the patient, and he is told to inhale it freely. He soon becomes flushed, and both his pulse and respiration are much accelerated. When he feels warm all over, the inhalation is discontinued, as the symptoms continue to increase for sometime afterwards. A profuse perspiration now sets in, which speedily ends the attack. In some cases, however, the cold stage passes off without any hot or sweating stage.—*Indian Medical Gazette in the Practitioner.*

VEHICLES OF MALARIA.—Ague is commonly supposed to be due to the entrance of a miasmatic organism into the system. But no microscope has ever seen this organism, neither can we account for the intermittance of the ague paroxysms, nor can we say for certain through what way it finds its way into the system.

The majority of writers hold the opinion that *the air of marshes* is the sole cause of intermittent fever. But there exists strong evidence going to show that water, too, is a carrier of the poison. Take for instance two or three cases cited in the *Lancet*. First, the case recorded by Boudin, of three vessels sailing from Algiers to Marseilles, conveying 800 soldiers, who on shore had all been exposed to the same atmospheric condition. Two of these vessels were supplied with good water, but the third with water from a marsh. The two former arrived at Marseilles without a sick man, but the third ship lost thirteen men and had 120 sick, nine-tenths of whom were affected with malaria. Again, there is the outbreak of ague at Tilbury Fort, cited in Parkes' *Hygiene*, where thirty-four men out of a garrison of 103 were seized with ague, while the people at the railway station, and the coast guard men and their families just outside the fort, entirely escaped. The troops had been supplied with water stored in tanks, collected from the rain water of the roofs, while the people outside obtained theirs from a spring, the atmospheric condition in both cases being identical.—*Popular Science Monthly*.

THE FIRST INSENSIBILITY FROM ETHER.—For the short operations of minor surgery, and the reduction of dislocations, or opening of abscesses, it is extremely useful and of every-day application. Such a patient wishes to be operated upon without pain, or from being incapacitated from attending to business during the remainder of the day. He lies down upon the sofa, and with one hand places the ether inhaler, on a sponge wet with ether, over his face, mouth and nose, and holds the other arm and hand up in the air.

This arm, after the ether has been breathed for a few minutes, will drop, and from thirty to fifty seconds of unconsciousness will be had, in which to operate. The sponge being removed, the patient is ready to go about his business. It gives rise to no headache, nausea, or other unpleasant symptoms, and is particularly useful in children. The chief source of disappointment is in not recognizing the right moment, for if this is allowed to pass, unconsciousness will

not occur until full etherization. The first insensibility is sure to come. When the arm moves, be ready, and as soon as it drops perform the operation ; no pain will be felt.—*Medical Times*.

VINEGAR AS A POST PARTUM HEMOSTATIC.—At a meeting of the American Gynecological Society, Dr. Penrose, in a paper on vinegar as a remedy in the treatment of post partum hemorrhage, presented the following advantages :

1. It could be easily obtained.
2. It could be easily applied, and instantly, without special apparatus.
3. It always cured the hemorrhage, at least it had not failed in his practice.
4. It was sufficiently irritating to excite the most sluggish uterus to contraction, and yet not so irritating as to be subsequently injurious.
5. It was an admirable antiseptic.
6. It acted on the lining membrane of the uterus as an astringent.

The remedy was applied as follows : saturate a rag with vinegar, carry it into the cavity of the uterus and squeeze it.

In the vast majority of cases the hemorrhage ceased as if by magic, when the vinegar passing over the surface of the uterus and vagina. It could be easily repeated if the first application failed.—*Cincinnati Medical News*.

ABSTRACT DEPARTMENT.

“ Qui e nuce nucleum esse vult, frangit nucem.”

CONTRIBUTED BY PROF. EDWARD MILLER, M.D., LOUISVILLE, KY.

Operations in Individuals Suffering from Constitutional Diseases.

Prof. Derneint, at the late meeting of the International Medical Congress, spoke at length concerning operations on persons suffering from constitutional diseases. He says :

1. Surgical operations are not formally contraindicated in

such cases, but are often useful and in some cases necessary. 2. Their prognosis is less favorable than in healthy individuals. It is more difficult to make, as we have no clue whatever as to the effect the traumatic lesion may have on the health of the patient nor in what way the disease will effect the local process of healing. 3. The prognosis varies with the different constitutional diseases and for each of them individually and also according to the alterations that have taken place in the different parts of the body. 4. The danger is not great as long as the disease is confined within the boundaries of dyscrasia. It increases with the chemical and histological lesions. It becomes alarming when the principal viscera become extensively affected. 5. It is not right to deprive diathetic individuals of the benefit of surgical intervention. The surgeon should aim to render the prognosis less serious, and he will be enabled to do this if he is careful to choose the most favorable moment for operating, adopt the best method of performing it and apply the most efficient dressing. He should also adopt the medical treatment which is best adapted to the constitutional disease. 6. The surgeon should be thoroughly acquainted with the disease so that he can judge whether he should perform the operation or not and be able to calculate what the chances are. Such knowledge tends rather to prevent surgical operations than to encourage them, and inspires a greater confidence in the efforts of nature supported by a comparatively mild therapeutic treatment. 7. An examination of these operations destroys many of the illusions respecting surgical art. It is sad to say, although true, that complete and lasting favorable results are very rare. The operation may be successful but the therapeutic results are not. The manifestation of the diathesis may be suppressed but the constitutional disease increases in severity. Many persons suffering from scrofula or cancer would live longer if they did not forsake the physician for the surgeon. 8. Although many of these operations are rather palliative than curative they are nevertheless sometimes extremely useful. In extreme cases they may prolong life and give the patient a gleam of hope.

In less serious cases, where the constitutional disease may be successfully treated, the operation has a good effect upon the treatment, by allowing the medical man to gain time, suppressing an immediate cause of danger and giving the therapeutic treatment greater scope.—*British Medical Journal*.

On Lithotomy. By REGINALD HARRISON, F.R.C.S.

Mr. Harrison in his lecture on lithotomy mentions three cases upon which he operated. The first, a boy sixteen years of age suffered from the more prominent symptoms of stone for only a few weeks, that is, to say, pain at the end of the penis and after micturition, together with an irritable condition of the bladder; but on inquiry it was found, he had had nocturnal incontinence of urine from childhood. It is probable that the patient in this case had had stone from childhood, and that it was the cause of the incontinence of urine. The calculus was a mulberry one, and the oxalates are known to concrete slowly. Incontinence of urine in children is frequently occasioned by other causes than stone. It may be symptomatic of worms, or of irritation produced by an elongated or adherent prepuce, or by tubercular deposits within the bladder. When incontinence of urine continues in spite of treatment, and in the absence of the above mentioned causes, the bladder should be sounded for stone. To perform the operation of sounding, an anæsthetic should always be used, as it is sometimes more difficult to find a stone than to remove one. When a patient is writhing or struggling with you it is impossible to make your observations so precise as when he is unresisting. The second case, a boy of fourteen, also suffered from incontinence at times and painful micturition. The pain in this case was chiefly referred to the end of the penis, to relieve which the patient had been in the habit of dragging at his prepuce until he had greatly elongated and hypertrophied it. When you find a child continually pulling the end of his penis, whilst at the same time he suffers from incontinence of urine, you may with confidence predict that he has a stone in the bladder. This patient had had retention of

urine for which catheterism was employed and a false passage had been formed. When Mr. Harrison first attempted to operate on this patient, the sound entered the false passage, and rather than incur the risk of doing damage, by attempting to get the staff in its proper position, or operate with any uncertainty as to its position, Mr. Harrison sent him back to his bed. On a second attempt he was more successful and removed the stone. No one would be justified in proceeding to lithotomize if he had any doubt as to the position of the staff. Something wrong in the introduction or manipulation of the staff has more frequently led to embarrassment than anything else in performing lithotomy; either the staff has been wrongly passed or it has been withdrawn too soon, or the knife has not been kept steadily in the staff, are sources of error which occasionally even competent surgeons have had to regret. From the third case Mr. Harrison removed the largest cystic oxide calculus hitherto described. The stone weighed 1050 grains, and its great size was accurately determined by the lithotrite before operating, and Mr. Harrison was prepared beforehand to make the bilateral section of the prostate as advised by Dupuytren.—*The Lancet*.

Renal Inadequacy. By DR. ANDREW CLARK.

At a late meeting of the Medical Society of London, Dr. Clark read a paper on "Renal Inadequacy." He said he was often painfully struck by the number of people in ill-health of which no sufficient explanation could be given. The progress of knowledge was steadily lessening this ignorance and explaining cases supposed to have their origin in a distant ancestry. Some of these cases were due to a feeble and disorderly nervous system, some to a vicious digestion, some to an imperfectly acting skin, some to abuse of tea, alcohol, etc., and some to the derangements of assimilation and deassimilation. Many of these cases are due to deficient excretion, as anæmia and chlorosis are due to facial poisoning and curable by purgatives. A far larger number, Dr. Clark believes, are due to a deficient excretion of urinary solids. Dr. Clark means by renal inadequacy

that state of the kidney in which it is unable, without material diminution of quantity, to produce a urine containing the average amount of solids and of a specific gravity greater than 1014. The urea and uric acid are deficient and the urine is pale, usually free from albumen and deposits no casts. The pathological condition of the kidney is unknown but it is conjectured to be slightly withered and indurated. The symptoms are not characteristic and are usually those of flatulent dyspepsia; palpitation with a feeble capillary circulation; a dry, shiny, waxy skin; numbness, tingling, cramps and pain in the limbs; occasional flushes, worry of brain and general nervousness; sometimes thickening of the terminal joints of the finger, and sometimes, but rarely, evidences of gout. That these symptoms are due to renal inadequacy is known, not merely because there was a deficiency in the excretion of urinary solids, but because whatever diminished that secretion, or whatever added to the amount of solids to be excreted, invariably in a short time aggravated the patient's sufferings. Patients in this condition are exceedingly vulnerable; they repair very slowly the damage done by accident or disease; they bear very badly the shock, however slight, of surgical operations. As to prognosis, this state seemed capable of indefinite prolongation. Death might occur from some local inflammation, from cerebral or other hemorrhage or from pyæmia, the result probably of some slight injury. Patients suffering from renal inadequacy for four or five years, have a marked and striking physiognomy; they increase in flesh; they become puffy without being distinctly œdematous; the skin becomes drier, more shiny and yellow; the features swollen almost to distension; the pupils are dilated; the tips and cheeks of a bluish red; the articulation deliberate and somewhat difficult, and the whole intellectual tone and manner subdued and slow. The treatment consists in adjusting the quantity and quality of the food to the diminished excrementitious activity, the withholding of such agents as lessen the power of the kidney and in exciting the activity of the supplementary excreting organs. The use of the tepid bath with friction of the skin, the use of warm cloth-

ing together with gentle exercise are indicated. The diet should be light, bitters taken occasionally, but most useful medicines are small doses of arsenic with reduced iron at meals and an occasional mercurial alterative.—*The Lancet*.

Influence of Sayre's Treatment on the Spinal Muscles. By
BERNARD ROTH, F.R.C.S.

Sufficient attention has not been directed to the effects produced on the nutrition of the spinal muscles, by Sayre's plaster jacket in slight and moderate cases of lateral curvatures of the spine. Mr. Golding Bird was the first surgeon to point out the fact so unaccountably overlooked that "the dorsal muscles invariably waste from want of use under the jacket." There is a decided wasting of the muscles of a limb kept on a splint for six *weeks*, and there must be still greater wasting of the erector spinal and other dorsal muscles when a Sayre's jacket has been worn for six *months* or longer. Mr. Golding-Bird says "the muscles are called upon the moment the jacket comes off; so that if they are wasted, the patient will be often unable to keep himself erect on the removal of the jacket till his muscles are again in working order." Mr. Roth maintains that the dorsal muscles were not "in working order" before the jacket was applied, inasmuch as muscular weakness is a potent, if not the chief factor in the production of lateral curvature. Now, would it not be more in accordance with common sense to strengthen these weak muscles in cases of slight or moderate lateral curvature, than to apply Sayre's bandage, under which they "invariably waste." In severe cases of lateral curvature, and in Pott's disease (caries) of the spine, the plaster jacket is the only possible and the best treatment, because whether the muscles waste or not is of little or no importance. The daily extension recommended by Drs. Sayre and Bird has no effect whatever in strengthening the muscles. Cases of upper dorsal lateral curvature are directed to have a "jury mast." Now as a large proportion of slight cases of lateral curvature present that deformity, these patients would have to submit to great discomfort for

an indefinite time as this extension does not strengthen the muscles. A simple method of correcting that deformity is to direct the patient to stretch the arm corresponding to the concavity of the curvature upwards by the side of the head, and to make himself tall as possible. This position will restore the normal outline of the spine in slight cases, and is a better means for strengthening weak muscles than any amount of passive extensions by hanging. Besides this posture frequently repeated, medical gymnastics, methodical rubbing and faradisation should be employed to strengthen the muscles. Dr. Sayre himself says that his plaster jacket is the 'only treatment for spinal caries and bad lateral curvature, but that for slight lateral curvature he quite agreed to a treatment for strengthening the spinal muscles without the use of the plaster jacket.—*The British Med. Journal.*

Dilatation of the Cervix Uteri by Continuous Elastic Pressure. By LAWSON TAIT, F.R.C.S.

Mr. Tait has had such unsatisfactory results with all kinds of tents in dilating the cervix uteri, that he has long desired something which would accomplish this more safely, more speedily and with less pain. Having been struck with the case in which an inverted uterus can be returned by continuous elastic pressure, Mr. Tait applied this method with complete satisfaction. The dilators are arranged in a set of four sizes made to screw on to a common stem. The only precaution necessary in their employment is to use extremely gentle pressure. In exceptionable cases of flexion the stem is bent, but in the majority of cases the straight stem answers every purpose. The dilatation requires from ten to sixteen hours. The smaller sizes suited to the case are first used for six or eight hours and then the larger. It is occasionally necessary to notch the cervix. Mr. Tait gives an account of twelve cases, in which he employed these dilators and refers to twelve more in the practice of himself and colleagues. In all of these cases the results were perfectly satisfactory. The advantages of the plan are that it is absolutely free from smell and septic risks, in these mat-

ters contrasting most favorably with the sponge tents. It is also almost free from pain, and here it has a most incontestable advantage over sea-tangle tents. It is likewise superior to either of these methods of dilating the cervix, in that the plugs, being of vulcanite can be used indefinitely, and that their use is therefore less costly. Mr. Tait says also, that he has never obtained from sponge, tangle or tupelo tents, the complete dilatation of the whole canal which these plugs produce.—*The Lancet*.

A New Method for Arresting Hemorrhage when Amputating at the Shoulder-joint. By EDWIN MOORE, M.D.

The chief difficulty in amputating at the shoulder-joint consists in controlling the hemorrhage, necessitating the aid of a quick and competent assistant. Dr. Moore has twice adopted a method in performing this operation which rendered it a bloodless one. He lays a piece of calico bandage across the chest and upper part of the shoulder, and then fixes an india rubber cord or tourniquet round the shoulder over the bandage; this effectually compresses the axillary artery. In order to prevent the india rubber cord from slipping, an assistant takes both ends of the bandage and holds them across the chest. Dr. Moore advises as an improvement, that a calico bandage be passed under the india rubber cord *behind* as well as in front of the shoulder then tie the four ends together on the opposite side of the thorax and thus dispense with the help of an assistant.—*The Lancet*.

The Use of the Hypodermic Syringe as an Aid to Diagnosis.
By W. S. GREENFIELD, M.D., F.R.C.P.

The employment of some instrument as an aid to the diagnosis of the nature of fluid effusions, and their distinction from solid tumors has long been a habit in surgery. The old grooved needle has given away to more delicate hollow needles. The aspirator has abolished the dread of puncturing the internal organs. Dr. Greenfield has long been in the habit of employing the hypodermic syringes as an every day aid to diagnosis, more especially in chest diseases.

He has never seen any ill-result follow its use, whilst in many cases invaluable information has been furnished by it. It is especially in cases of pleural effusion that it comes into requisition. There may be signs pointing to the presence of fluid, or we may be certain there is fluid but uncertain whether it is serous, purulent or sanguineous. Our doubts are immediately settled by a puncture. Further it may be employed as an aid to treatment or for actual treatment of such cases. By its means you can determine precisely the lowest point at which fluid readily flows, and in cases of loculated effusions, fix exactly the site of puncture. In the case of small effusions, and also in the empyema of infants, we may use the hypodermic syringe alone, repeatedly removing small quantities of fluid. In the case of abscesses seated near the surface of the body, such as some of the hepatic abscesses, perityphilitic abscesses, and the like, and in a large number of swellings of the limbs, etc., of doubtful nature, we may gain most valuable information. The needles should be fine, with a grooved and very sharp point, of polished steel, well tempered and scrupulously clean. The syringe should be large, made of glass, with metal fitting, and the piston well soaked. When it is desired to remove only a small quantity of fluid, as in the empyema of infants, a larger syringe holding about an ounce may be screwed on to the needle *in situ* after screwing off the small syringe. The site of the puncture having been determined upon, the ball of the left forefinger is pressed into the intercostal space and the needle plunged boldly in close to the point of the nail. The pressure deadens the sensibility of the skin and the finger serves as a guide to prevent puncture of a rib. The small size of the instrument causes no apprehension to a nervous patient which might otherwise be prejudicial. The possible dangers Dr. Greenfield has never known to occur. The smaller size is a guarantee against some of the evils which may arise from the aspirator. With ordinary cleanliness there is no danger of septal-infection, nor can air enter the pleura, nor suppuration be set up. Puncture of the breast or intestines might be serious, and such could only happen from unjustifiable ignorance. Dr.

Greenfield has repeatedly punctured the peritoneum without any ill-effects. The intestine may sometimes be punctured without harm, though not without risk, but with the heart there is always danger. But Dr. Greenfield does not think that any harm could result from the puncture of an aneurismal or of an intercostal artery or vein, with a fine needle.—*The Lancet*.

Treatment of Fractured Patella.

At the October meeting of the Medical Society of London, Mr. Bell described a case of ununited Fracture of the patella, with two inches and a half of depression between the fragments, operated on antiseptically. The patient had been treated in the ordinary manner and discharged in seven weeks with the fragments in apposition. Afterwards the union gave way, the fragments became separated, and the limb practically useless. The fragments could be approximated to about one inch; the skin was adherent to the fibrous tissue connecting them and the outline of the condyles was plainly seen. An incision four or five inches long was made in the long axis of the limb over the fractured patella, and the skin dissected off from the parts beneath; the fibrous extension between the ends of the bone was then dissected off from the condyles of the femur, a slice of bone taken off from the free margins of the patella, two holes were bored through each fragment at a little distance from the margin, and strong silver wire passed through them. Feeble traction failing to bring the ends together, even when the lateral attachments of the patella were divided, the whole of the rectus femoris muscle and tendon were divided subcutaneously three inches above the patella. By twisting the wires the fragments were then brought in contact. Bleeding vessels were tied with catgut, incisions were made into the joint on each side above the patella, for the passage of drain tubes, and the limb was placed on a splint and inclined plane. A very small drain tube was passed under the long incision, which was carefully brought together by carbolized silk suture holes being left to allow the silver wires to pass. All the minutiae of the antiseptic

system were employed and the case progressed favorably. There was no pain, the temperature only reached 100° F. neither opium nor stimulants were required, and the wounds remained perfectly antiseptic. The sutures were removed in nine days, the drain tubes in three weeks when passive suction was commenced and the silver wire was taken out in ten weeks. The patient can now flex and extend the limb and the joint is daily becoming more useful. Where the rectus was divided a depression may be felt and a slight groove on one side marks the point of fracture in the patella which has united with perfect bony union. Prof. Lister and Mr. Rose believed the operation was perfectly justifiable in all cases though it should not be adopted by any surgeon who did not thoroughly understand the antiseptic treatment. Mr. Bryant and the majority of the Society believed the operation suitable for old cases where the limb was useless and nothing else could be done, but believed the ordinary treatment the best for recent cases. The plan of dividing the quadriceps tendon, in these cases, Mr. Bryant thought very useful.—*The Lancet*.

CLINICAL RECORDS.

“Ex principiis, nascitur probabilitas: ex factis, vero veritas.”

A Clinical-Surgical Lecture. Delivered in Bellevue Hospital Amphitheatre, December 24th, 1879, by LEWIS A. SAYRE, M.D. Professor of Orthœpedic Surgery in Bellevue Hospital Medical College, New York. Stenographically Reported for this Journal.

LATERAL CURVATURE OF THE SPINE.

GENTLEMEN :—On account of the stormy weather we will not have as many patients to illustrate our subject as we had expected.

Lateral curvature is a deformity exceedingly common in all countries, and particularly so in this. It occurs most frequently in young girls about the age of puberty, and it is a result, commonly, of unequal contraction of the muscles of the two sides of the body. The spinal column is acted

upon by the muscles of either side, and if these act in harmony with each other it retains its normal outline ; but if certain muscles on one side of the trunk become paralyzed, or if on the other hand they become unduly developed by exercise, the harmony of action between the muscles of the two sides is destroyed, and this is a sufficient cause to produce rotation of the spine.

Another cause is inequality in the length of the lower limbs, due for instance to a fracture of the femur or tibia union having taken place with shortening of the leg ; or to disease of the hipjoint from which recovery took place with shortening, causing, when the patient stands upright, obliquity of the pelvis and a corresponding curve of the spine. If you put a book two inches in thickness under one foot, and stand with the other foot upon the floor, you will observe an obliquity of the pelvis, the right side—if the book be under the right foot—being more elevated than the left, with a curve to the left in the lumbar portion of the spine, and a compensating curve in the opposite direction in the dorsal region. This position of the spine is assumed in obedience to the laws of gravity, for if, while one limb is shorter than the other, you should try to keep the spine in a vertical position, resisting the instinctive tendency to the formation of a compensating curve, you would lose your balance and fall. Now, take your foot off of the book and put it upon the floor on a level with the other, and you have gotten rid of the lateral curvature ; and in the treatment of lateral curvature which is due merely to inequality in the length of the limbs, all that is necessary is to put the soles of the shoes on a level with each other, and this can be done by thickening the sole of the shoe worn upon the foot of the shortened limb.

Carelessness on the part of young girls in assuming awkward positions is an ordinary cause of lateral curvature ; the simple habit of standing on one limb more than on the other is sometimes a starting point for the development of lateral curvature of the spine.

Usually the first sign of spinal curvature, called rotary or rotatory lateral curvature, that is noticed is the prominence

of one shoulder blade and the apparent general deformity ; but often, long before this attracts attention a measurement of the distance from the umbilicus to either nipple would show one to be nearer the median line than the other, a result of the rotation which is taking place. As this rotation takes place the latissimus dorsi of one side is put upon the stretch and by contraction tends to bring the spine into a lateral curve. As the deformity goes on, the muscles which act in opposition to its progress become weaker and weaker and the muscles producing it, by constant exercise grow stronger and until in some cases the ribs descend even into the ventrum of the ilium, and the angles become much more prominent.

A great variety of mechanical contrivances for the cure of the deformity have been tried, as you may judge from the number and variety of the instruments which I here show you. More inventive genius has been displayed by surgeons in trying to construct apparatus for the relief of this deformity than of any other deformity of the human body. I have here only a sample of the different kinds of instruments which have been invented for this purpose, of which I have a cart load or two at home. They are all constructed on the general principle of exerting lateral pressure against the projecting processes with the object of forcing the spine into a vertical position. This pressure upon the projecting points has been so great at times as to gall and make sore a spot equal in size to that of the compressing plate. Here is an instrument that I took from a young girl in Amsterdam. You can see the marks of the blood still upon the side of the plate which exerted pressure against one of the projecting processes. She had worn it for years without being straightened by it ; and, indeed, it is impossible to straighten the spine of these patients by such lateral pressure so long as there is a band, such as you see on these instruments, passing over the shoulders and keeping them pressed down. If the lateral pressure be sufficient even to fracture the ribs, you cannot extend the spine while these straps press down on the clavicle, preventing elongation of the spine. Dr. Judson demon-

strated by this articulated vertebræ I now show you that by extension of the spine the rotation was more or less completely overcome (according to the length of time it had existed,) and the lateral curvature almost entirely disappeared. Dr. Mitchell of Philadelphia, many years ago tried extension in the treatment of lateral curvature of the spine, but to Dr. Benjamin Lee, of Philadelphia, is due the credit of suggesting self-suspension in the treatment of this deformity, and if he had applied to the body in this improved position, an accurately fitting mould to retain it, he would have accomplished the object desired. In the majority of moderate cases, where the bones have not become permanently changed in form and structure, self-suspension and proper gymnastic exercises alone will suffice to overcome the deformity ; but if the deformity have reached a stage in which the ligaments are changed in form, and the angles of the ribs have changed, this simple method of treatment is not sufficient to effect a cure.

Here you see a case previous to suspension ; mark how great the deformity. After suspension, what a change ! How great the improvement in the position of the patient ! There is no amount of screw or lever power,—there is no mechanical treatment whatever that can make so great a change in this figure as self-suspension has done.

Now, as soon as self-suspension is discontinued they will, of course, relapse into their former shape, and something is necessary to retain them in the improved position which self-suspension gives them. For this purpose I have found nothing that will bear comparison in usefulness with the plaster-paris Jacket applied over a closely skin-fitting shirt. I have explained to you at former lectures how to apply the Jacket, and I will not take time to repeat it here. In young ladies a pad should be put over the breast, under the skin-fitting shirt, and removed after the application of the plaster jacket. The object of this is to allow development of the mammæ. The dinner pad, as you know, should not be omitted in either girls or boys. If there be any sores on bony prominences, as on the crest of the ilium, caused by the pressure or chafing of the instrument which the patient had

been wearing, a pad of cotton should be put over them, outside the shirt, before applying the plaster jacket. Self-suspension should then be continued twice daily, the patient, after applying the head gear, pulling himself up by a rope which passes over a pulley, until *he feels comfortable*, and never go beyond that point, no matter whether he be lifted sufficiently for the toes alone to touch the floor, or not. Under no circumstances permit him to be pulled up while his arms are by his side, for it might strain the ligaments of the neck and cause serious injury. But by extending the arms full length, and applying one hand over the other he can pull himself up until he feels comfortable, and stop as soon as he begins to experience the slightest *feeling of discomfort*.

A surgeon of this city, in a recent lecture says that he approves of the plaster jacket treatment, but that he thinks the hanging of the patient in applying the jacket, a very serious objection; but if you observe what I have said and strictly follow the rules I have given I think you will find no such objection to exist. Mr. Miller, of London, devised a way to apply the jacket with the patient in a horizontal position, but the spine is not sufficiently straightened by the horizontal position alone; it must be farther straightened by extension applied to the arms and legs. In order to prevent the plaster from setting too quickly when applied with the patient in a horizontal position, a gum has to be put with it, which makes it impervious to air, a very objectionable fact; but the plaster applied during suspension of the patient does not require to have any ingredient added to make it "set," and is perfectly porous and pervious to air after becoming set.

Some surgeons have tried to overcome the deformity of lateral curvature by keeping the patient in a horizontal position for some time, and it may be said that this method of treatment has been carried to its perfection; yet I have seen patients kept in that position for thirteen years, and yet the deformity was not relieved; and in many cases according to the statements of the patients and their friends—the deformity has steadily increased notwithstanding the horizontal posture had been preserved.

When a person comes to you to have a plaster jacket applied for the first time in a case of lateral curvature you should have him suspend himself day by day for a while, before you apply the jacket, so that the spine may become as straight as it may by this means, and save you the work of applying a new jacket every two or three days at first, because of the continued improvement in the shape of the spine. The jacket having been applied the patient then continues practicing daily self-suspension until he "pulls himself out of his jacket," so to speak, and it has been my custom, heretofore, then to put on a new one ; but within the past month I have adopted what I consider a more preferable way than to remove the entire jacket and apply a new one. When the deformity becomes so far diminished that I can put my hand between the body and the jacket at the projecting or bulging point over the deformity, I simply cut this much out, leaving the remainder of the jacket in position, and, during suspension, apply new material in the space thus cut out, and which fits snugly to the projecting deformity. The old jacket should be dampened around the part which has been cut out, before applying the new plaster bandage, so that they will adhere to each other. On applying the new bandage, it should be passed around the body once in order to give good leverage, after which you merely carry it across the chasm, and two or three inches to either side, when it is folded back upon itself, over-lapping the lower portion, thus continuing until the chasm is filled. This, as I said before, I consider a great improvement on the old method, for it is more easily done, and saves time and expense, and seems to be much more efficient.

Now, I wish to impress upon your minds this fact, that the object of the plaster jacket is not to strengthen the muscles ; it is simply to retain the spinal column in the improved position which it assumes during self-suspension, and after applying it the muscles are to be strengthened by continued daily self-suspension, as I have already explained. But the statement has been made by some, and recently by Mr. Bernard Roth, of Brighton, England, in the British Medical

Journal for December 6th, 1879, that in lateral curvature the muscles become weakened under Dr. Sayre's method of treatment. Mr. Roth says :—"Sufficient attention has not been directed to the effects produced on the nutrition of the spinal muscles by the application of Sayre's plaster jacket in slight and moderate cases of lateral curvature of the spine. As far as I know, Mr. Golding Bird is the first surgeon who has pointed out (see British Medical Journal, Oct. 11th, 1879), that 'the dorsal muscles invariably waste from want of use under the jacket.' I can not understand how this important fact can have been overlooked so long. It is well-known that a limb kept immoveably fixed in a splint for six *weeks* or longer will show, at the end of that period, a decided amount of wasting of its muscles from want of use. How much greater must be the wasting in the erector spinal and other dorsal muscles when a Sayre's jacket has been worn for six *months* or longer! Mr. Golding Bird goes on to say that, in lateral curvature 'the muscles are called upon the moment the jacket comes off; so that, if they are wasted the patient will be often utterly unable to keep himself erect on the removal of the jacket until his muscles are *again* in working order.' I maintain that the dorsal muscles were not 'in working order' before the plaster jacket was put on. Muscular weakness is a potent, if not the chief cause in the production of lateral curvature. Now, would it not be more in accordance with common sense to strengthen these weak muscles in cases of slight or moderate lateral curvature, than to apply Sayre's bandage, under which they invariably waste,' as Mr. Golding Bird admits? In severe cases of lateral curvature, and in Pott's disease (caries) of the spine, the plaster jacket is the only possible and the best treatment, because whether the muscles continue to waste or not is of little or no importance here. "Dr. Sayre advises daily extension of the patient, and Mr. Golding Bird appears to consider this an efficient means for exercising the spinal muscles. I do not think this can be at all proved. *

* * *

"To sum up, I can only re-echo a remark made by Dr. Sayre during his recent visit to Brighton, 'that his plaster

jacket was the only treatment for spinal caries and *bad* lateral curvature, but that for slight lateral curvature he quite agreed to a treatment for strengthening the spinal muscles without the use of his plaster bandage.'” I not only made this remark at Brighton; but have also taught the same in all my lectures and writings on this subject.

Now, the only real objection to my plan of treatment of lateral curvature, which Mr. Roth would make in this criticism, amounts to this, that the muscles waste from want of use under the jacket, notwithstanding self-suspension is made daily. I will not ask you to accept my statement alone in proof that they do not waste, but will read to you a letter from Dr. Skene, of Brooklyn, in which he gives the history of a case of lateral curvature that he sent to me for treatment. It is as follows :

BROOKLYN, DEC. 3d, 1879.

My Dear Dr. Sayre :—Our mutual friend and patient Miss ——, enjoyed good health until 1875, when she was 21 years of age. At that time she was placed under the care of a dentist who undertook to straighten her teeth that were irregularly placed. This treatment was continued for two years, and during that time she suffered almost constant pain. Her strength gradually failed, and during the last half of 1877 she had slight pains in her back. These pains increased gradually until February, 1878, when she was then obliged to rest most of the time on her back. About the end of February, 1879, she consulted me about her health and I found a well marked double-lateral curvature of her spine. Before being aware of her spinal trouble, I tried to improve her general health by treatment, but without the slightest benefit. The rest of her history is well known to you, and I now only add that from the day that you dressed her in the plaster jacket (April 16th, 1879) she was completely relieved from all pain and resumed her usual habits of happy activity. She gained flesh and strength with astonishing rapidity. The jacket was worn from April 16th to Decemeber 1st, 1879, and during that time she has been perfectly comfortable and well. She has spent much of her time in my family and among my friends,

many of them doctors, and no one has ever observed that she either had spinal disease or wore a plaster jacket, and some have doubted the fact when I have told them.

“When I say that she has been comfortable, I do not mean simply that she was free from pain, but that the jacket caused her no more trouble than her corsets would have done. She changed the vest *worn even under the jacket* with facility whenever she desired to do so, a very important item in the summer weather.

“I have just examined her to-day, December 3d, 1879, and find that she is *perfectly cured* and dashes around without her jacket with all the elasticity and grace of her girlhood. The treatment has astonished me, and the result is perfection. I would congratulate you, but that is unnecessary, the young lady is a monument, more valuable than a marble one, to the honor of your art. Permit me, my dear Doctor, to offer my sincere thanks for the kindness bestowed upon my friend and patient, and believe me to be gratefully yours,
ALEXANDER J. C. SKENE.”

That, gentlemen, is a medical man's testimony in regard to the non-wasting of the muscles under the jacket, and this is a matter of daily experience with me. Many cases become perfectly cured inside of a year, and are not compelled to use any jacket at all afterwards.

I now show you a case which has been under treatment for sometime, and will read to you the history as it was taken by Dr. Roberts.

DOUBLE ROTARY LATERAL CURVATURE OF THE SPINE.

Chas. A. Rice, 246 West 43d Street, New York. Patient was 20 years and 4 months of age when he came under the treatment of Dr. Sayre, which was on the 23d of January, 1879. Parents of patient, two brothers and a sister, are healthy, and so far as known, have no abnormal curvature of the spine.

Patient was a healthy child up to two years of age, when he had an attack of diphtheria. Sometime after his recovery parents detected lateral curvature of his spine. At this time he also had paralysis of his left lower extremity. No treatment was directed to the spine at first, but electricity

was applied to his leg for a short time. Subsequently his leg was rubbed and manipulated by a nurse. At seven years of age he fell out of the open door of the second story of a barn, to the ground, striking somewhat upon his side. The result was, he was laid up for two months. After this his lameness was more apparent, and he was obliged to use a cane to aid him in walking. His lameness, and the lateral distortion of the spine, gradually grew worse.

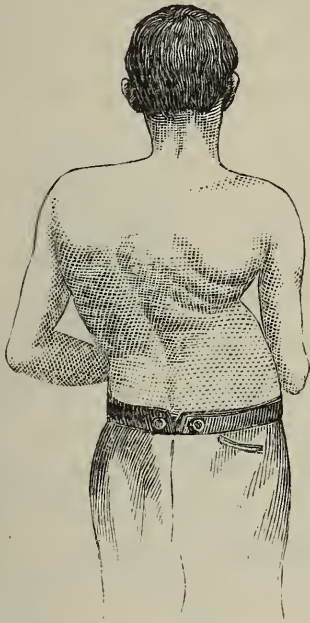
Between the ages of 10 and 12, electricity was applied to his leg with some regularity. At twelve years of age he went to an Orthopedic Institution in this city. A splint was first applied to his left leg, extending from the hip all the way down, so as to keep the limb stiff when walking, but so arranged that it could be bent when sitting down. This was worn for two years. About the same time a brace was applied for the relief of the spinal deformity, but patient could not wear it, as it did not support the projecting portion of the spine and pressed too much upon his sides.

Patient left off all treatment before he was quite thirteen years of age, but continued to wear the leg splint applied by him until he was fourteen. He then entered another hospital in this city on June 23, 1873, at the age of fourteen years.

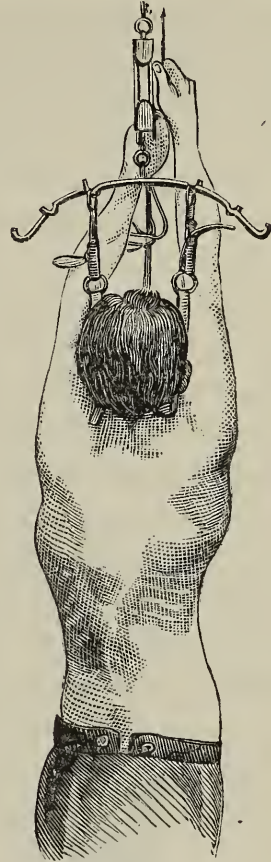
Long leg splint was removed and a short ankle splint applied in its stead. A cork sole and heel an inch and a half thick which had been worn on the shoe of the left foot, was also removed. A spinal brace of the pattern in general use at this hospital was now applied, and worn night and day, except when removed for sores to heal up. Patient remained in the hospital a year, but continued to wear the spinal brace after he came out, although he soon abandoned the ankle splint and has since never worn one. He went to the country and remained three years. When he returned to the city he went to the hospital and had another brace applied which was made after the same pattern as the one previously worn. From this time until patient consulted Dr. Sayre, he continued to attend the hospital as an out patient.

January 23d, 1879. Patient seen for the first time, and presents a greatly exaggerated double rotary lateral

curvature of the spine, as shown in the accompanying photograph. (Fig 1.) There are several sores due to pressure of brace; one upon left scapular, one over top of each shoulder, and one or two minor ones.



(Fig. 1.)



(Fig. 2.)

Self-suspension diminishes deformity considerably as seen in photograph No. 2. But as soon as it is discontinued he says he feels pain in his back and left side, with great discomfort, and a sense of weakness. He was recommended to practice self-suspension twice daily until the sores were healed up, and then to have the plaster jacket applied.

In the latter part of February, 1879, the first plaster jacket was applied while the patient was self-suspended before the class at Bellevue Hospital. This increased his height two and one-half inches; but as it did not fit him comfortably, it was removed in a few days and a new one applied which gave him perfect ease.

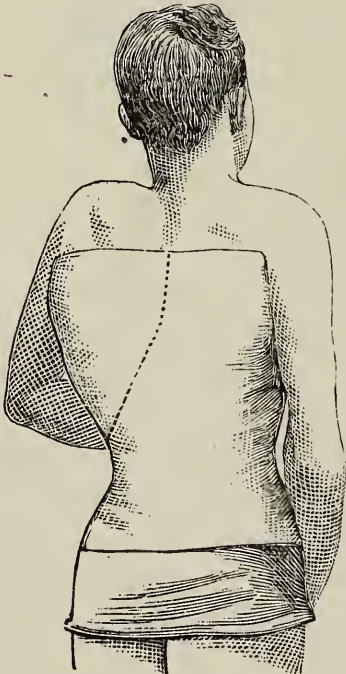
April 11th, 1879. Patient returned, very much improved in general health, and the daily self-suspension had so im-

proved his form that the jacket gave him no support, and a new one was required to retain his improved position. He says he feels better than when he came under treatment, and the sense of pressure or weight on his left shoulder has entirely disappeared. The crutch of the brace which came up under the right axilla had always been a source of great discomfort to him ; but now as there was no under pressure in this locality he felt greatly relieved. New jacket applied.

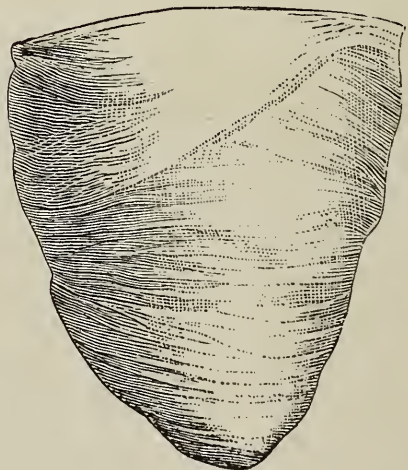
September 24th, 1879. Patient returned greatly improved. After a bath a new jacket was applied by Dr. L. H. Sayre.

December 20th. New jacket applied by Dr. C. H. H. Sayre, general health greatly improved, says he can now walk and work nearly all day. As the projection is still very great over angle of ribs on left side, I propose to remove a portion of the jacket over this part and then when he is self-suspended apply a fresh roller bandage of plaster paris over the vacuum thus using the old jacket as a fulcrum to aid in removing the deformity instead of applying a new jacket.

You see his present position with the projecting hump



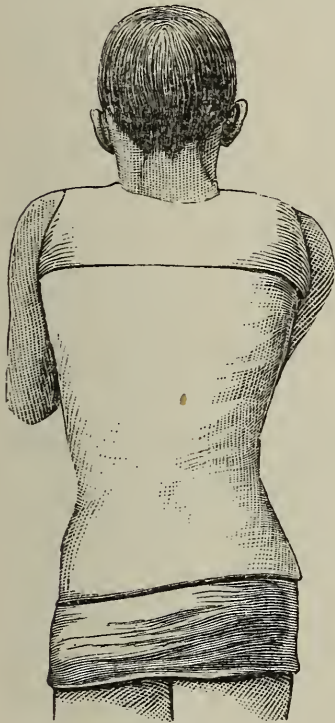
(Fig. 3.)



(Fig. 5.)

over the angles of the ribs on the left side. (See Fig. 3.)

We now cut out this projecting bulge, as seen in dotted line beginning at the upper border of the jacket a little to the right of the median line, and continue downward and outward, a distance of ten inches, then curve upward and forward, and cut back to the top of the jacket again, taking a triangle piece out about ten inches in length and ten inches across its base, which is above. (See Fig. 5.) We now let the patient suspend himself, when we wet the plaster jacket a few inches on either side of the opening that has been made in it, take freshly prepared plaster bandage roller, and carry it completely around the body once at the lower end of the opening, after which we carry it but two or three inches beyond the opening, when it is reversed and carried the same distance on the opposite side. This we continue to do until the opening is completely covered. On removing the bandage to carry it to the opposite side it is held in position by an assistant, who at the same time rubs it with his hand to smooth it, and make it set. Now observe how marked the change in the shape of the patient. (See Fig. 4.)* The patient states that this application gives him a degree of comfort greater than ever before.†



(Fig. 4.)

* December 29, 1879, Mr. Rice again presented himself at the Lecture room, and stated that the improvement in his last jacket had given him more comfort than he had had for many years.

† These figures are all cut from photographs by Mr. Mason, Photographer to Bellevue Hospital. The cuts are made by Mr. R. S. Bross, 14 and 16 Ann Street, New York.

PROCEEDINGS OF SOCIETIES.

“Etsi non prosunt singula, juncta juvant.”

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL SOCIETY.—*Continued.*

The next paper was by Dr. C. Heitzmann, of New York, on “Microscopical Studies on Inflammation of the Skin,” which was illustrated by numerous drawings, and of which the following is an abstract :

In looking over the history of the Doctrine of Inflammation in general, we are struck by the fact, that since the time of the use of the microscope, repeated revolutions have occurred. In the fifth decade of our century the so-called “humoral pathology” being the leading doctrine,—its founder was the late C. Rokitansky of Vienna,—the whole process of inflammation was thought to be caused by an anomalous mixture of the blood, and to run almost exclusively in the vascular system. Even the newly formed elements, the so-called “exudation and pus cells,” were considered as products of the fluid exudation, almost nothing being known about the changes in the inflamed tissues themselves. At that time the process of inflammation was demonstrated with low powers of the microscope on the web-membrane of the frog. In the sixth decade the “cellular pathology” became the leading doctrine, its chief representative being R. Virchow of Berlin. This doctrine neglected the blood-vessels, and the product therefrom, viz.: the exudation to such an extent, that based upon observations on the cornea and the cartilage, on which a vascular tissue inflammation could be produced, the blood-vessels were thought to be irrelevant ingredients of the process of inflammation. In the seventh decade Cohnheim of Leipzig, came forward with the assertion, based upon observations on the mesentery and the tongue of the frog, that in the course of inflammation the colorless blood-corpuscles participate almost exclusively through emigration from the blood-vessels (capillaries and small veins), while the so-called cells of the tissues simply perished. In this

view all newly appearing elements, the inflammatory new formation and the pus-corpuscles, were emigrated blood-corpuscles.

Each of these leading doctrines had in its time a crowd of followers and believers. Rockitansky himself in turn adopted the cellular pathology in its main features, which holds good even in our day for the majority of pathologists; so much so, indeed, that the emigration theory in its full perfection was taken up but by a few observers. Some of these, indeed, admit, that besides the colorless blood-corpuscles, the "cells" of the tissues also share in the inflammatory process.

Toward the end of the last and the beginning of the present decade of our century S. Stricker, of Vienna, was the strongest opposer of the emigration theory; asserting that in each of the former doctrines there was a partial truth. Stricker studied inflammation mainly on the cornea, and the conclusions, he arrived at, were, that blood-vessels and nerves are necessary ingredients of the inflammatory process, that the inflammatory new formation is almost completely a product of the "cells" of the tissues, and their offshoots, and that the emigration of colorless blood-corpuscles is beyond the proof of our present methods of observation, so far as its participation in the inflammatory new formation is concerned. Stricker was the first to prove the correctness of the hypothesis of John Hunter, that the essential change of an inflamed tissue consists in its reduction to a premature embryonal condition.

Such was the standing of the doctrine of inflammation, when I took up its study in 1872, in Vienna. I chose first the cartilage, which is by no means a non-vascular tissue, as was thought in former times; but is provided with medullary spaces, which hold a complete vascular system, though in relatively great distances from each other, in such a way that large territories of the cartilaginous tissue are devoid of blood-vessels. Next I studied the bone, which is far better fitted for this purpose than any other tissue, and by and by I extended my observations over pretty nearly all the tissues and origins of the animal body, including also the

complicated organ, termed skin. The results of these observations are laid down in a number of publications, both in German and English, partly originating from gentlemen of the medical profession, who worked in my laboratory under my supervision. I can freely corroborate the assertions of S. Stricker, above quoted. At the same time I stepped forward and farther than any investigator did before, so much so, that I venture to say that the inflammatory process is perfectly plain to-day in its minutest features, so far as our best modern microscopes allow of a definite conclusion. More than that, the present results of researches are in full accordance with clinical observation, an accordance which was impossible with all former doctrines. My researches also explain the constitutional influence upon the inflammatory process in a quite satisfactory way.

Let us briefly recapitulate the minute anatomy of the two main tissues entering into the structure of the skin, viz : Epithelium and connective tissue.

The epithelium represents a continuous layer of living matter on the surface of the body and on all cavities and elongations, which are in direct or indirect communication with the outer surface. The elements of this layer are protoplasmic bodies, flattening on each other ; separated from each other by a coat of horny cement-substance and uninterruptedly united with each other by means of delicate spokes, traversing the cement-substance, the formerly so called "thorns." The living matter, which produces a delicate reticulum in each protoplasmic body, its points of intersection being termed nucleoli, nuclei and granules, traverse the cement-substance in the shape of "thorns," and thus produces continuity all through the living layers of the epithelial elements, as well, as with the underlying layers of the connective tissue. Epithelium is devoid of blood-and-lymph-vessels ; but, where it is living, supplied with a large amount of nerves, which, in the shape of very minute beaded fibers, run through the cement-substance and are here in direct connection with the fibrillæ of living matter ; indirectly therefore, with the reticulum of the living matter within the protoplasmic bodies themselves. Delicate exca-

vations in the cement-substance, analogous to the well known bile-capillaries in the liver and evidently destined to carry the nutritive material to the epithelia, have been recently discovered by Arnold of Heidelberg.

The connective tissue of that variety which enters into the structure of the derma, is built up by bundles of fibers which through manifold decussations produce a very dense feltwork, coarsest toward the subcutaneous fat-tissue and finest in the outermost, so-called papillary layer of the derma. The main directions, in which the bundles of the fibrous connective tissue cross each other in different portions of the skin, have been accurately studied by C. Langer, of Vienna, and Tomsa of Kiew. The bundles are bounded in many instances by a very dense basis-substance, representing the elastic fibres, and separated from each other by narrow layers of a cement-substance (Tomsa), which in its chemical features is kindred to the glue-giving basis-substance of the fibrous connective tissue in general. In this cement-substance there are imbedded delicate formations of protoplasm, greatly varying in amount in the derma of persons of different age. They represent formations analogous to formerly so-called, "connective tissue-cells," at present considered as compact masses of living matter; or delicate, reticular layers of living matter, which with a power of 500 diameters of the microscope look finely granular. The whole glue-giving basis-substance of the bundles is traversed by a delicate reticulum of living matter, in direct union with all protoplasmic formations between the bundles, with all blood and lymph-vessels, with all nerves, and with the columnar epithelia, nearest to the papillary layer. The reticulum of living matter, which I first discovered in 1873, is invisible in the fresh condition of the connective tissue or in specimens obtained after hardening in alcohol or chemical acid solutions, owing evidently to the refracting power of the basis-substance; but can be distinctly brought to view through staining methods, such as nitrate of silver stain in a negative, and chloride of gold stain in a positive way, and through observation in all instances, when the refracting power of the basis-substance is increased (deposi-

tion of lime-salts) or decreased (liquefaction, dissolution) in different normal and morbid conditions of the connective tissue. Only the meshes of the network of the living matter contain the glue-giving basis-substance, which, as the history of the development of the connective tissue demonstrates, is produced by a chemical alteration of the lifeless protoplasmic fluid itself. The bundles of the connective tissue of the derma accompany all elongations of an epithelial nature. The bundles produce the follicle around the root sheaths of the hair, the capsule around the sudoriparous glands and the accompanying layers around their ducts. The bundles of the connective tissue are traversed in oblique direction by bundles of smooth muscle-fibres; viz: the arrector pili, the numerous muscle-bundles in the derma in and around the nipples, the scrotum and the labia majora. The connective tissue, furthermore, is traversed by relatively scanty blood-vessels in the derma, by numerous capillaries in the papillary layer, and by lymph-vessels, which produce a perfectly closed system, as proved by Teichman of Krakau and Sappey of Paris. Lastly, numerous nerves run through the connective tissue of the medullated and non-medullated variety. The former mainly produce the tactile corpuscles within the papilla, the latter being partly sensitive, terminate in the epithelial layer, partly motor, terminating in the bundles of smooth muscle-fibers; partly vasomotor, spun around the blood-vessels (Tomsa); or secretory and trophic, supplying the sebaceous and sudoriparous glands and all protoplasmic formations of the skin. About the termination of the latter varieties of the nerves almost nothing is known.

The process of inflammation of the skin I have studied on specimens from a syphilitic papule, from small-pox, from an ulcerating sac of the umbilical rupture of a cat; in its terminations on specimens of elephantiasis of the scrotum and the labia majora; as an accompanying process on the skin of the female breast in mastitis and cancer, and on the skin covering different benign and malignant tumors, or directly engaged in the formation of such tumors, all types and varieties of which are represented in my collection.

The results being almost identical in regard to the essential changes in the tissues of the skin, I can confine myself to the description of the inflammatory process in small-pox, of which I obtained six different specimens from the Blackwell's Island hospital, two of them being from patients suffering from hæmorrhagic small-pox. In these specimens are represented all stages of the disease in the most satisfactory manner.

The coarser microscopical relations in the formation of small-pox have been accurately studied by Auspitz and Basch of Vienna. The minute features, observable with high magnifying powers of the microscope (800-1200 diam.) only and based upon the knowledge of the normal anatomy of the engaged tissues, are as follows :

First the epithelial layer, termed rete mucosum, appears slightly thickened in circumscribed spots ; the swelling being due to a coarse granulation of the epithelia themselves. The coarse granulation is produced by an increase of living matter within the protoplasmic bodies ; evidently through an augmented afflux of nutritive material in the stage of hyperæmia. The points of intersection of the network of living matter, formerly so-called granules, become enlarged, many of the nuclei shining and solid, and at the same time the threads, traversing the cement-substance, the formerly so-called thorns, become thickened. The underlying papillæ are slightly enlarged in all diameters, partly owing to a dilatation and enlargement of their capillary blood-vessels, partly through a peculiar change of the bundles of the connective tissue and the protoplasmic bodies between them. The latter look slightly enlarged and in many instances coarsely granular ; the former are partly transformed into protoplasm. In other words, where before there were present bundles, built up by a glue-giving basis-substance, at present the reticulum of the living matter, formerly hidden in the relatively solid basis-substance, through a liquefaction or dissolution of this substance, became visible again. No other proof of the presence of an exudation in this stage is obtainable, except the liquefaction of the gluey basis-substance. This stage of the inflammation is termed " papular."

Next, in the midst of the papule in one or in several spots the exudation makes its appearance, the outer or epidermal layer at no time participating in the morbid process. In some epithelia we notice an enlargement of the meshes of the living reticulum ; the latter is first stretched, afterward torn apart, the granules being now suspended in the liquid exudation. Where there were present epithelia before, a small irregular cavity is visible. If several such cavities have formed in a papule, through a continuously increased accumulation of the exudation and destruction of the epithelia, the separating layers of the epithelia become compressed and produce septa, traversing the cavities. Such septa vary greatly in number and width. The neighboring epithelia look very coarsely granular ; and many of them have lost the inclosing cement-substance, and are thus transformed into protoplasmic clusters, in which through a considerable increase of the living matter, new shining lumps of different size have appeared, still in continuity with the neighboring reticulum, by means of delicate threads,—the so-called endogenous formation of new elements. The result of this process is the formation of an irregular cavity in the midst of the greatly widened rete mucosum, traversed by septa of compressed epithelia, filled with an exudation, in which there are suspended numerous delicate granules, generally termed coagulated albumen, and a varying amount of irregular threads in the shape of a feltwork,—the coagulated fibrin. Scanty protoplasmic bodies are suspended in the exudation also—perhaps remnants of the destroyed epithelia, perhaps immigrated inflammatory or colorless blood-corpuscles.

In this condition of the rete mucosum also the underlying connective tissue exhibits considerable changes. The papillæ have disappeared, evidently through the pressure from above ; the transformation of the connective tissue into the protoplasm has advanced in some instances to such a degree that the uppermost layers of the derma are replaced by numerous indifferent medullary or inflammatory elements, as a rule clustered together. All these elements, however, are in uninterrupted connection with each other, through delicate threads of living matter, fully analagous to those

of the epithelia ; and thus the inflamed tissue, though reduced to its medullary condition, still represents a tissue. The stage of the disease, in which the changes just described, have taken place, is known as the vesicular stage of the small-pox.

Lastly, pus-corpuscles appear in the cavity within the rete mucosum, which doubtless arise in their main mass from the epithelia, traversing and bounding the cavity. Through the increase of living matter in a large number of epithelia shining lumps appear, first homogenous, afterward through the intermediate stage of vacuolation transformed into nucleated protoplasmic bodies, with a fully developed reticulum of living matter,—the pus-corpuscles. The main source of pus-corpuscles therefore are the epithelia themselves, the endogenous new formation. How many of the pus-corpuscles have appeared through an immigration from below, from the inflamed connective tissue or from the blood-vessels, no one can tell. The immigration is a sensible hypothesis only, without direct proof or foundation ; while the endogenous formation can directly be traced in all its stages. The pus-corpuscles look coarsely granular, viz : are supplied with a large amount of living matter at the points of intersection of the living reticulum, in persons of a good, strong constitution ; on the contrary, they are finely granular, that is, scantily provided with living matter in persons of a weak, so-called scrophulous or tuberculous constitution, or in persons debilitated by different acute or chronic diseases. In the former instance the pus is thick and yellow, in the latter instance watery, serous and pale. The subjacent connective tissue in many instances does not advance beyond its reduction into a medullary tissue. In some cases, however, also the newly appeared and newly formed medullary elements, which produce the infiltration of the derma in a varying depth, are torn asunder, and thus represent pus-corpuscles, which commingle with the pus that has arisen from the epithelia, and share in the formation of the abscess.

This stage of the inflammation is known by the terms : pustular small-pox, and represents the typical termination

of the whole process. The pustule either bursts or its contents dry up and produce the crust. As long as the inflamed derma remain in the condition of a medullary tissue, as long therefore, as the medullary or inflammatory elements remain connected with each other, the reformation of a glue-giving basis-substance in the shape of bundles of fibrous connective tissue will be accomplished, without the formation of a scar. If, on the contrary, a part of the connective tissue has been transformed into pus, and thus completely destroyed, the result will be a cicatrix. Mere epithelial suppuration heals *without*, suppuration of the connective tissue *with* the formation of a scar. The pigmentation of the skin, so common after small-pox, is due to the imbibition by the reticulum of living matter of the epithelia without the coloring matter of the red blood-corpuscles ; or by changes of directly extravasated red blood-corpuscles both in the rete mucosum and the derma. Such extravasations occur in all severe cases of small-pox ; but in the highest degree, of course, in hæmorrhagic small-pox.

My observations on inflamed portions of skin have led me to the following conclusions :

1. In epithelium the first step of the inflammatory process consists in an increase of the living matter both in the protoplasmic bodies and between them ; the former produces the coarse granulation of the epithelia, the latter the thickening of the so-called "thorns" in the cement-substance. Any particle of living matter both in the epithelia and between them, through continuous growth, may lead to a new formation of epithelial elements, with the termination in hyperplasia of epithelium. (psoriasis, squamous eczema, horny formations etc.)

2. In connective tissue the first manifestation of the inflammatory process is the dissolution of the basis-substance and re-appearance of the protoplasmic condition ; by which process and the new formation of medullary elements, which may start from any particle of living matter, the inflammatory infiltration is established. The sum total of the inflammatory elements, which remain united with each other by means of delicate offshoots, represent an embryo-

nal or medullary tissue. If the new formation of medullary elements be scanty, the resolution is accomplished by reformation of basis-substance, (erythema, erysipelas, etc.) If, on the contrary, the new formation of medullary elements be profuse, a new formation of connective tissue will result, called hyderplasia (scleroderma, elephantiasis etc.)

3. Plastic (formative) inflammation may be accompanied by the accumulation of a larger amount of a serous or albuminous exudation in the epithelial layer (miliaria, sudamina herpes, etc.), or in the connective tissue of the derma (Urticaria). In both instances complete resolution will ensue.

4. Suppuration in the epithelial layer of the rete mucosum is produced by an accumulation of an albuminous or fibrinous exudation, by which a number of epithelia are destroyed, and by new formation of pus corpuscles from the living matter of the epithelial elements themselves. Epithelial suppuration heals without the formation of a cicatrix (eczema madidans and pustulosum impetigo, semphigus, variola.)

5. Suppuration in the connective tissue of the derma results from the breaking apart of the newly formed medullary elements, which being suspended in an albuminous or fibrinous exudation, now represent pus-corpuscles. Pus is a product of the inflamed connective tissue itself, and always a result of destruction of this tissue. Suppuration of the derma invariably heals through cicatrization, (abscess, furuncle acne, ecthyma, variola, etc.)

Dr. Sherwell asked how Dr. Heitzmann could distinguish the poorest pus corpuscles derived from a healthy individual from those from a patient with marked cachexia, and the latter replied, that pus which had been in the body for some time always presented peculiar characteristics. Ordinarily it underwent fatty degeneration, but cheesy transformation sometimes took place in it too. Again, if crystals of hæmatoidin were found in the pus, it showed that it came from an old abscess.

After a few other remarks on Dr. Heitzmann's paper, the committee appointed in the morning, (consisting of Drs.

Bulkley and Taylor,) reported that they had selected the New York Hospital for the clinical meeting of the Association for the examination of cases, and that they thought that the large amphitheatre there could be obtained for the purpose. On motion, the recommendation of the committee was adopted.

A letter from Dr. Faneuil D. Weisse was then read by the Chair, which contained the following communication:

It has occurred to me that it would be well for the members of the Association to assign to themselves a year's work in special directions, so that at the end of the year they may be able to contribute their collection of clinical experience. I would move that the Association, (by its President,) appoint working committees of one or more on special (clinical) subjects, to report in writing at the next annual meeting; each report to constitute a paper to be read at said meeting, and each member will be expected to contribute his year's experience on the subject. As samples of the work which could be done in this way, I would suggest the following subjects:

The Therapeutics of Acne.

The Therapeutics of Infantile Eczema.

The Association will, however, of course select such subjects as it may deem most appropriate; but it seems to me that the work should be of a clinical nature. Adjournment at 6 P.M.

SECOND DAY.—AUGUST 27TH.

At a business meeting with closed doors, the Report of the Treasurer and Auditing Committee, and of the Nominating Committee were offered and adopted, and other business was transacted.

The first paper was by Dr. H. G. Piffard, on "Viola Tricolor." The first part of it was devoted to a historical sketch of the various references to the plant (the wild pansy) by old writers, and the writer then went on to quote largely from Bazin in regard to it. It was stated that the fresh herb in full doses slightly increased the perspiration and urine, and gave to the latter the odor of cats urine. Dr. Piffard then quoted as follows from a brief article on the

drug written by himself for the American edition of Phillips' *Materia Medica and Therapeutics* :

Action. Ingredients. Little known. Bulkley failed to find violine in the plant. (Gubler.) *Physiological Action.* A strong infusion made from one-half to one ounce of the herb, without the root, does not give rise to any suspicion that it contains violine or emetine. Its action is exceedingly mild, sometimes proving slightly laxative, at other times diuretic ; as a rule, giving rise to very little disturbance.

Therapeutic Action. *Viola tricolor* has long been a favorite in France in the treatment of *eczema capitis et faciei*, and the editor has employed it many years with great satisfaction in chronic cases of this affection. The watery preparations have appeared to answer better than the alcoholic, and our usual procedure is to give it in infusion, combined with purgative doses of senna for the first few days. Afterwards the violet is continued alone. * * * For children Bazin macerates one to two drachms in half a pint of cold water for twelve hours, then boils the infusion, and adds a little milk and sugar. This amount to be taken daily. *Viola tricolor* is not found wild in this country, and the cultivated plant is not to be relied upon. The imported herb should be employed, and care taken to procure a good quality. Most of it in the market is inferior.

Since the above was written Dr. Piffard said that he had learned from Prof. Gray, through Prof. Baird, of the Smithsonian Institution, that a variety of the plant was sparingly naturalized in the eastern part of the United States ; but it was a small and insignificant form. Dr. Piffard exhibited different specimens of the herb to show how difficult it was to get any two alike, and also showed a fluid extract made from it. He then went on to say that he believed it to be eminently useful in *eczema* about the upper part of the body, and especially the head. In *eczema* of the lower part of the body, however, it often aggravated the trouble. Children should take 5 or 10 minims of the fluid extract, and adults one fluidrachm. When the drug was used, external applications were rarely employed, or at most, only vaseline or zinc ointment.

Dr. Taylor asked if it was as beneficial in adults as in children, and Dr. Piffard replied that it was chiefly used in children. It was employed originally for *crusta lactea*, which scarcely occurred in adults. To an inquiry of Dr. Hardaway as to whether the homœopaths did not make a mother tincture of it, Dr. Piffard replied that they did, but that he did not like it, as he preferred the watery to the alcoholic preparations.

The writer of the paper having stated that the drug at first sometimes aggravated eczema, Dr. Wigglesworth asked if it tended to cause congestion of the skin. In reply Dr. Piffard said that he could not find any evidence that it did.

Dr. White inquired if any great effect was attributed to the senna employed in connection with it, and Dr. Piffard stated that he was in the habit of using a purgative in eczema, and often resorted to the senna in combination with the violet.

Dr. Heitzmann remarked that the great merit of Hebra was that he showed that skin-disease, like other affections, took its course independently of the interference of the physician. All sorts of drugs were given internally at that time, and Hebra found that the affections remained just the same whether they were taken or not. Hence he was frequently in the habit of ordering some placebo merely for its moral effect upon the patient. All that internal medication was now given up. *Viola tricolor* was once thought to be a very powerful remedy in skin-disease, but he did not believe that many dermatologists had any confidence in it to-day. Personally he did not consider that it had the slightest effect, although thought no injury would result from its use, as it was perfectly harmless.

Dr. Fox stated that he had the greatest possible respect for Hebra's opinion; but he had treated eczema with both local and internal treatment, and while he had faith in the local, he had known some cases to be cured by internal treatment alone. He had found great benefit to be derived in eczema from the administration of a mild purgative for a few days. In regard to the *viola tricolor* he remembered

hearing Hebra speak contemptuously of it, but personally he had seen great results follow its use ; especially in certain cases of erythematous eczema, where the most approved Vienna (local) treatment had failed. He was convinced that Hebra runs to extremes in utterly condemning the use of purgatives in the treatment of eczema.

Dr. Wigglesworth thought Dr. Fox somewhat in error in the last statement that he made. He believed that Hebra taught that purgatives were of great value temporarily in cases with marked congestion ; although he did not regard them as of any permanent value.

Dr. Fox replied that he thought that there could be no doubt that in his writings Hebra strongly condemned the use of purgatives ; although in his lectures he had sometimes expressed the opinion that Dr. Wigglesworth had just stated. He wished to allude to one other point in addition to what he had said before, and this was, that he had not seen eczemas, other than those of the head, relieved by purgatives.

Dr. Hardaway said that with Hebra he believed that any specific for eczema was out of the question, and personally he had always failed in the use of internal remedies. He trusted exclusively to local treatment, as a rule, and the only internal remedy which he thought of the slightest service, (and it was always difficult to decide about such a matter,) was ergot.

Dr. Sherwell agreed with Dr. Fox as to the utility of a certain amount of purgation, and said that he always commenced his treatment of scald head, (which he never had failed to cure,) in this way.

Dr. Piffard did not regard eczema as purely a local affection. Behind it there was as much a constitutional disease as in syphilitic eruptions. Dr. Heitzmann had said that modern dermatologists did not believe in *viola tricolor* ; but the latest French authorities such as Hardy, Bazin and other writers of the highest repute who advocate it very strongly, had not been mentioned by him for the reason that it was supposed that all were familiar with their views. The thought that some cases of eczema would get well

under local treatment alone, some under internal, and some under both combined ; but he was convinced that in general internal treatment was of more service than local.

(*To be Continued in the February Number.*)

ORIGINAL CORRESPONDENCE.

“Sit mihi Fas scribere audita.”

WASHINGTON, D. C., *Jan. 3d, 1880.*

DR. E. S. GAILLARD,

Dear Sir :—I wish to call the attention of your readers to the interesting fact which the National Board of Health here is slowly but certainly developing, viz : that small-pox is reappearing in the United States, and in many cities on the borders of the United States ; the inhabitants of these cities having constant communication with our people.

The disease is certainly spreading in Washington and deaths from it are reported from New York, Philadelphia and San Antonio. It has made its appearance at Montreal, St. Johns, Havana and Matamoras, and there seems to be every probability of our having a fatal epidemic of this plague unless physicians are on the alert and special care is taken by them to keep the authorities informed and to have every possible sanitary precaution adopted. There can be no doubt but that the importation of rags from abroad, and the inter-shipment of these rags between American cities are prime causes of the introduction of this pestilence and of its dissemination among our people. This matter should be closely investigated by all Health Boards.

The chief means however of safety, must rest in a general compulsory vaccination and re-vaccination throughout our towns, cities and villages. Every physician should regard it as a duty now incumbent upon him, to procure the best virus and to protect all who look to him for protection ; not waiting until the disease has actually appeared in his neighborhood.

I cannot too strongly impress these facts upon the read-

ers of your journal, and advise them to at once vaccinate and re-vaccinate all in their neighborhood.

Your friends here are all delighted with the appearance of the December Journal. It is, as all must admit, the handsomest Journal outwardly, in this country, and as to the paper used and the contents, the Journal is really beyond criticism. We are all looking anxiously for the January Journal, and feel certain that it will induce a rapid increase in your subscription list. I shall keep a close watch on all subjects of general interest to the profession here, and will keep your readers fully informed. As I shall criticise freely, I shall take the liberty of writing *perdue*. Truly yours,

H.

PARIS, FRANCE, *Dce. 25, 1879.*

Gaillard's Medical Journal,

DEAR SIR :—I embrace an opportunity offered by an idle hour on this one of the greatest fête days of Paris for sending a few lines to your Journal. Your friends in the American circle here are very glad to hear of your removal to New York, and feel satisfied that it will be a source of great advantage to yourself and your Journal. I will take occasion to write for the Journal when anything unusual occurs, and to mention any facts which may interest your readers.

An operation which has caused much discussion here is that performed by M. Tillaux, the Ablation of the Uterus. He made a section of the abdomen by the long incision and after destroying some adhesions ligated the Fallopian tubes, cut these and leaving the two ovaries in position he removed the entire Uterus. The patient made an entire recovery. Three months after the operation she became sick as usual during the month, and has menstruated regularly ever since. This shows that this monthly manifestation is largely due to ovarian influence, these bodies having been left in situ during this operation.

Many cases have occurred here in which after disease or removal of the Uterus menstruation has regularly occurred, showing the incorrectness of the position taken by many that the monthly flow is due to uterine instead of ovarian influence.

The attendance upon the schools here is unusually large,

but it must be admitted that the number of American students is not as great as formerly. Berlin, Vienna, and London offer now such attractions, that Paris it seems can not surpass them. I do not think that this is due to any failure in the talent of the teachers of this city, or to any diminutions in the advantages offered, but rather to the facilities offered by the French Medical Press in disseminating information in regard to all of interest here and to an increase in the activity of study and research in the English and German schools.

I am disposed to believe that American students can obtain in New York and Philadelphia, most, if not all of the advantages of the French schools. The American Colleges teach what is taught here ; their clinics are very nearly as good as those here, and any unusual facts developed in Paris are very quickly disseminated throughout England and America by the French Journals. The amusements in New York are quite equal to those in the French Capital ; the climate is better and the student has the advantage of familiarity with the language.

These important facts will I am sure, continue to lessen the annual exodus of Medical students from America to Europe—and the day is not far distant, when at your clinics, and in your great laboratories, will be seen German and French faces of those who have sought the United States for special advantages to be found there. I beg you to accept, honored colleague, assurances of my sincere esteem.

BIOT.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

“Judex damnatur cum nocens absolvitur.”

Color-Blindness : Its Dangers and its Detection. By B. JAY JEFFRIES, A.M., M.D., Harvard. Houghton, Osgood and Company, 1879. Boston.

This book is appropriately dedicated to Frithiof Holmgren, M.D., of Upsala, Sweden, for he may be regarded as the father of the subject and the highest authority in regard

to Color Blindness. It is gratifying to mention in connection with this fact that his Majesty the King of Sweden is doing all in his power to foster researches in regard to Color-Blindness, taking much personal interest in the investigations and in disseminating the facts deduced therefrom. It seems that all investigators have abandoned the former technical name for Color-Blindness "Daltonism," and now speak of the defect by the more comprehensive title of "Color-Blindness;" for Dalton was really only blind as to the red colors. Strange to say that with this well-known fact the French prove the one exception and still term Color-Blindness "*Daltonism*."

The author, very judiciously directed his attention to this subject, in connection with schools, universities and colleges, so that while he investigated, he could at the same time disseminate the knowledge gained. He seems to have been anxious not to confine his investigation of color-blindness to any special avocation; and this is a very important fact inasmuch as it demonstrates that color-blindness is not the result of any special pursuit, but simply a condition found in the representatives of all avocations—and while color-blindness is incurable, it is still interesting to know that it exists widely and among that class of persons where color-blindness is a source of extreme danger to life; as among engineers, pilots, watchmen, etc.

The author takes up the varied developments of the subject, and presents them all with great ability. The reader will be most interested in learning the chief conclusions, which are as follows:

"That one male in twenty-five is color-blind in a greater or less degree.

"Of this defect they may even themselves be wholly unconscious.

"This blindness is red, green or violet blindness. Total color-blindness also occurs.

"This defect is congenital. It exists in varying degrees. It is largely hereditary. It may also be temporarily or permanently caused by disease or injury. It is incurable when congenital. Exercising the eyes with colors and the

ears with their names helps the color-blind to supplement their eyes, but does not change or increase their color-perception.

“Experience and experiment show that we are forced to use red and green marine signal lights to designate a vessel's direction of motion and movements, and at least *red* lights on railways to designate danger.

“Form, instead of color, cannot be used for these purposes.

“There are many peculiar conditions under which railroad employés and mariners perform their duty which render colored signals and especially colored lights difficult to be correctly seen.

“These signals can never be correctly seen by the color-blind. There are such among railroad employés.

“There is therefore great danger from color-blindness.

“Railway and marine accidents have occurred from it.

“There is no protection but the elimination from the *personnel* of railways, and vessels, of all persons whose position requires perfect color-perception and who fail to possess this. This can now be readily and speedily done. Therefore, through a law of the legislature, orders from State Railroad Commissioners or by the rules and regulations of the railroad corporations themselves, each and every employé should be carefully tested for color-blindness by an expert competent to detect it. The test and the method of application should be uniform. All deficient should be removed from their posts of danger. Every person offering himself as an employé should be tested for color-blindness, and refused if he has it. Every employé who has had any severe illness or who has been injured should be tested again for color-blindness, before he is allowed to resume his duties. Periodic examinations of the whole *personnel* should also be required. Such regulations are generally in force on the European railroads.

“An International Commission should be called to establish rules for the control of color-blindness on the sea, and for carrying out the same examinations amongst pilots, masters, and crews of steamers and sailing-vessels, in the navies and the merchant marine.”

There is perhaps no book which has been recently issued more interesting than this one. It is so to the physician not only in connection with his profession but because of his interest in science and in a defect which so largely concerns the safety of humanity. Every reader should purchase it. The book is bound in red, green and violet, and while the author does not state the fact, it is probably that so unusual a binding was chosen in order that a test of color-blindness might be afforded to all who read the book and wish to investigate the subject.

It is therefore a singular evidence of mental blindness that some recent reviewers should have ridiculed this very appropriate binding.

Perhaps one of the most curious comments which has been made on this subject of color-blindness is that made by the popular poet and physician Oliver Wendell Holmes. It is as follows :

Why should we look one common faith to find,
Where one in every score is color-blind?
If here on earth they know not red from green
Will they see better into things unseen?

A Clinical Treatise on the Diseases of the Nervous System.

By M. ROSENTHAL, Professor of Diseases of the Nervous System at Vienna. With a Preface by PROFESSOR CHARCOT. Translated from the Author's Revised and Enlarged Edition by L. PUTZEL, M.D., Physician to the Class for Nervous Diseases, Bellevue Hospital Outdoor Department, and Pathologist to the Lunatic Asylum, B. I. 8vo. Vol. I, pp. 278, Vol. II, pp. 284, New York: William Wood & Co., 27 Great Jones Street. 1879. Wood's Library of Standard Medical Authors. Cloth, \$1.00 per volume. Sold only by subscription.

Among the greatest mysteries in the medical literature of the present day, is the appearance in Germany and France, countries in which medicine as a science stands highest, of text-books widely sold, and republished in several editions that like the present work are of a most inferior grade. This

we can explain only on one score, namely that such works are patronized by that class of readers which prefers a bad compilation to a good but voluminous encyclopædia. The tendency in Germany and England has for some time past been to the publication of medical encyclopædias, and the success of this plan has been amply demonstrated by the magnificent collections of Reynolds, Virchow and Ziemmen. It is therefore in such collections that the critical German or English readers are accustomed to seek for information on special branches of medicine like neurology.

The present work contains absolutely nothing new, it is a compilation and a very bad one. On comparing the original German text, the French translation by Charcot and the present volume, one finds that all alike contain the same errors, obscurities and ambiguities. No one can have seen as many errors on any one page in any book as in the present one, or as many contradictions and obscurities unless one excepts the work of a New York author, which may be considered the American homologue of Rosenthal, with one difference, (in justice to Rosenthal), that the latter has taken his authorities from the originals while the New York author, as has been averred, has taken some of his from Hammond.

The work reviewed can not be sufficiently condemned. A writer who pretends to address an audience of medical men and conveys such ideas as that the cranial nerve nuclei and the peduncular tracts are one and the same thing (p. 2), or that the facial nerves pass through the cerebral peduncle (p. 3), or that nerve nuclei give rise to decussations (p. 3), or that hypoglossal nerve fibres are in the Pons Varolii deserves no consideration. The innocent reader may get a false impression which will injure him through a lifetime. So much for the text, as the specimens given must satisfy every reader that no reliance is to be placed on the author's statements. The mere appearance of a work on the other side of the Atlantic is no proof by itself that it merits translation, as some seem to think.

The translation into English is quite well done, the only exceptions that one would take to Dr Putzel's part in the work,

is his somewhat extreme "puffing" in the preface, and introduction of some wood-cuts which are, (the majority of them) quite unrecognizable.

Paralysée Agitante (Maladie de Parkinson) Etude Clinique.

Par PAUL DE SAINT LEGER, Docteur en Médecine de la Faculté de Paris. Paris, 1879, 8vo. pp. 112.

Paralysis agitans is a name which since Parkinson first employed it in 1817—has been applied more or less indiscriminately to several affections characterized by tremor. In consequence a great deal of confusion has arisen; one author for instance designating a disease as being identical with the one described by Parkinson, and calling it paralysis agitans while another applies the term to an entirely different affection, the only resemblance between the two being tremor. The confusion arises from the fact that a symptom is used as the name for a disease, a circumstance, which however excusable when Parkinson wrote, is not to be tolerated now except as a provisional measure. It is not long since that paralysis, hemiplegia and paraplegia, were gravely described in certain text books as diseases—whereas we now regard them as simply symptoms of disease. The name therefore of the monograph before us appears to be objectionable. M. de Saint Léger follows the dictum of Charcot in regarding the affection which he describes as being a neurosis that is without definite and constant pathological lesion. But the idea that so well marked a disease can exist without a morbid anatomical basis is in the highest degree unphysiological and not in accordance with facts.

In reality the disease which the French neurologists designate paralysis agitans, is multiple cerebral sclerosis as has been sufficiently established by post mortem examination; while the affection which Parkinson described embraces two separate and distinct diseases, one of which is slight or functional, showing no tendency to extend and being readily amenable to treatment. The other on the contrary, is organic, invariably progressive and absolutely incurable. This is the paralysis agitans of the French.

The author of the monograph under notice writes clearly and his clinical descriptions as well as his photographic illustrations are particularly good.

The treatment is considered in a chapter of two pages and contains nothing new.

Topische Diagnostik an Gehirnkranke, Eine Klinische Studie.
Von Dr. HERMAN NOTHNAGEL. Berlin, 1879, 8vo. pp. 626.

A general study of this interesting volume of Prof Nothnagel's by those physicians who have the opportunity of making post mortem examinations of patients dying of brain diseases, would be a service not only to themselves, but to those also who have to read their reports. Even distinguished professors in medical colleges, and physicians to hospitals, are most of them though venturing to talk, as they think, learnedly on diseases of the nervous system, ignorant of the present status of neurology and especially of modern neurological terminology and topography. So long as these gentlemen continue to draw on text books of the whole practice of medicine for their information this state of affairs will continue. Careful observation shows that it takes a little over eleven years for the writers of systematic medical text books on the whole science of medicine to become so thoroughly imbued with a new fact as to venture to incorporate it into their treatises,—to these therefore we first recommend Prof. Nothnagel's work.

And we advise those who desire to become acquainted with the differential diagnosis of cerebral affections, to study it thoroughly, not that they will find anything specially new in its pages but that they will certainly meet with as full and as intelligent a synopsis of the recent advances in neurological medicine as will be found anywhere else. Prof. Nothnagel has himself been an industrious worker in the line of cerebral physiology and hence brings qualifications to the successful prosecution of his task which few possess.

The work takes up the several anatomical divisions of the encephalon and gives the symptoms met with when it is the seat of hæmorrhage embolism thrombosis tumors, etc. This section is illustrated with numerous cases.

The second section consists of a review of the various symptoms resulting from the central lesions. In this, motor and sensory paralysis, ataxia, derangements of speech, head ache, vertigo, etc., are considered in their diagnostic prognostic and pathological relations.

It appears to us that a translation of this very valuable volume could not fail to be appreciated by those unable to read the original.

CHEMISTRY AND PHARMACY.

“Diruit ædificat, mutat.”—HOR.

THE ELECTRIC LIGHT IN THE GERMAN ARMY AND NAVY.—The “Year Book for the German Army and Marine” states that the electric light has been employed for military and naval purposes,—among others for lighting up the ground in front of a besieged fortress, for the illumination of ships at sea, and notably for carrying on work under water. A transparent bell with an electric lamp has been immersed to a depth of 60 metres, while a magnetic electrical machine placed at a distance of 100 metres has been able to maintain a strong, unbroken current, so that a brilliant light was maintained for a long time. The same authority states that experiments are now in course of being carried out for the purpose of testing how far the electric light can be usefully employed in marine warfare, and especially as a defence against torpedo attacks.

CAPITAL PUNISHMENT BY ELECTRICITY.—We have already referred in the Journal to the proposition that electricity be employed as a means of capital punishment. The plan has been advocated both in France and Germany. A recent writer in the latter country thus sketches the method of procedure: “In a dark room, draped with black, and which is lighted by a single torch,—the chamber of execution,—there shall stand an iron figure of Justice, with her scales and sword. This goddess will carry a powerful electric battery in her inside; and this battery will be connected with

an arm-chair—the seat of death. In the front of the chair shall stand the judge's tribunal, and only the judge, jury, and other officials shall be present with the condemned during the ceremony of execution. This will consist in the judge reading the story of the crime committed by the prisoner, who will be rigidly manacled to aforesaid chair; and when this has been done the judge will break his rod of office and toss it into one of the scale-pans of the figure of Justice, at the same time extinguishing the solitary torch. The descent of the pan will complete the electric circuit, and shock the wretch into the next world."—*Bost. Chem. Four.*

MISCELLANEOUS.

“Non omnes eadem mirantur ament que.”

GLAD TIDINGS.—The Report of the Havana Yellow Fever Commission has been issued. It will be remembered that the National Board of Health held its session in June last, and appointed Drs. G. M. Sternberg, S. E. Chaillé, J. Guitéras and Col. T. S. Hardee as a Commission to investigate the causes of Yellow Fever in Havana, Matanzas and other cities of Cuba. They were instructed to ascertain the sanitary condition of the chief parts of Cuba, to increase the knowledge then existing as to the pathological changes produced in the human body by Yellow Fever, and to obtain all possible information in regard to the endemicity of this disease.

The preliminary report is drawn up by Dr. Chaillé, Chairman of the Commission, and is intended merely to foreshadow some of the most important results achieved. The examinations were commenced in June and closed in the latter part of September. There has been nothing added of consequence to the knowledge previously existing as to the pathological changes produced in the body by Yellow Fever. The microscopic examinations of the blood fail to show any substance of vegetable or animal character which can be regarded as specific. Dr. Sternberg has supposed

from the manner in which the granules observed in the white corpuscles refract light that this refraction is due to a fatty degeneration occurring in the granules themselves. The examination of the air and dust showed that as a rule, glistening acicular crystals are usually to be found ; the atmosphere being generally alkaline in character. Experiments on animals with a view to ascertaining their susceptibility resulted negatively.

It is in evidence by this Commission that the laws of hygiene are grossly neglected by the officials of all the Cuban Ports. The water supply is defective in quantity, while the quality of the water is very bad. The drainage is bad and there exists a custom of wantonly throwing upon the soil every species of animal and vegetable refuse which by decomposition can taint and poison the air. Though Yellow Fever may exist in any of these Ports, the authorities recklessly give clean Bills of Health to ships about to sail. Government supplies collected in hospitals wherein lie numbers of Yellow Fever patients sick and dying, are wantonly distributed throughout the Island. The paper currency is said to be so foul as absolutely to create a stench, while putrid fish scales are collected on the hands of all who touch such money. Every hygienic law known to civilized people is recklessly set at defiance.

After learning these facts one is prepared for the glad tidings indicated in the caption of this sketch, viz. : that Yellow Fever is not an endemic in Cuba but is to be found almost exclusively in her large cities ; that the rural portions of the Island, while subjected to the same climate, thermometric, hygrometric and meteorological causes, are not affected with this plague ; it is found only in the cities of the Island. For in these, in addition to the forces existing in the country, is to be found that additional force, absolutely created by a neglect of hygienic laws. Those living in the rural districts escape Yellow Fever but generally suffer from it if visiting any of the Cuban cities. Nothing could in this connection, be more interesting than the fact that the Cubans residing in the country and subjected to the same climactic influences as exist in the cities escape

Yellow Fever at home, while they contract the disease when visiting the cities of the Island. In other words the cause of the disease is to be found in the horrible atmospheres of the cities where these atmospheres are rendered poisonous from an entire neglect of hygienic laws.

Such facts on such authority must inevitably be glad tidings to the citizens of the Gulf States of the United States whose homes have been in recent years so generally made desolate ; where sadness was to be found brooding not only around the hearth-stones of this afflicted people, but, through sympathy, pervading the homes of every family in the land.

But this is not all. There had pervaded the minds of the people of the Gulf States, and of all who love them, a firm, sad conviction that the future of that section of the country was one calculated to destroy not only the happiness of all who dwell there, but the value of every species of property which they represented. There was a fear which had nearly become universal that under certain meteorological conditions, existing in the summer, that Yellow Fever might be developed and stalk ruthlessly through every home ; "the pestilence that walketh in darkness and destroyeth at noon-day." How unspeakable is the comfort which has come to all : that even in the climate of Cuba, except in places where the laws of hygiene are utterly repudiated, Yellow Fever does not exist. With reasonable attention to these laws, and with an absolute prohibition of the dissemination of poisonous material coming from Yellow Fever localities, the people of the Gulf States and of the Trans-Mississippi States need no longer have any fear of Yellow Fever.

AMONG THE NEW PUBLICATIONS OF THE NEW YEAR the Profession will welcome the appearance of "The Archives of Comparative Medicine and Surgery : a Quarterly Journal of the Anatomy, Pathology and Therapeutics of the Lower Animals : Edited by Ed. C. Spitzka, M.D., Professor of Comparative Anatomy and Embryology, Columbia Veterinary College. This Journal is an octavo of fifty-six pages and issued by the year for two dollars. It is attractively prepared and will be a source of interest and enjoy-

ment to many a medical reader. The editor is eminently qualified for his work.

THE ABSTRACT DEPARTMENT.—The readers will be glad to learn that Professor Edward Miller will continue in charge of this valuable Department; most difficult work, in the discharge of which Dr. Miller reads in detail the longest articles, and prepares from them a brief summary of all that is valuable. Dr. Miller is the son of the late venerable and distinguished Henry Miller so long known here and in Europe as one of the most profound students and practitioners in Obstetrics and Gynæcology.

THE FIRST ARTICLE IN THIS NUMBER.—It is due to Dr. Wm. M. Mastin, the author of this article, to say that it is the result of years of research, intended ultimately for a volume and is so condensed as to fit it for a Journal article; an article of exceeding value and which will be read with pleasure and profit by all.

AMONG the literary curiosities of the New Year one cannot fail to rank permanently Webster's Unabridged Dictionary. It is not only the largest work published in the English language, but it contains by far the most matter. The edition for 1880 contains four thousand six hundred new words and meanings, and there is added a Biographical Dictionary of over nine thousand seven hundred names. The work is a library in itself.

DR. C. R. AGNEW, so well-known to the Profession, gave at his residence on Fifth Avenue, on the night of the sixth, a handsome and agreeable reception to his friends. As the meeting was intended for a specific object no further particulars will be given at this time.

MEDICAL NEWS.

“Nulla dies sine linea.”

AT the last meeting of the American Gynæcological Society at Baltimore, Dr. J. Marion Sims was elected President, succeeding to the chair vacated by Dr. T. Gaillard Thomas.

THE *New York Medical Record* promises an increase of four pages each month, with an increase of price.

THE *Boston Medical and Surgical Journal* has been changed into a double column, quarto publication. It is very much improved in appearance, in preparation, and more than ever deserves support.

THE latest report from Europe brings the news of the death of Soelberg Wells, the distinguished ophthalmologist.

The English have suffered severely in recent months from the loss of distinguished members of the Profession, Murchison, Maundee, Tilbury Fox, Collender, Leared, Black, and others whose names are equally well-known.

DR. B. LINCOLN RAY, son of Dr. Isaac Ray, the famous Alienist, died in Philadelphia the 11th of December.

DR. C. H. HUGHES, of St. Louis, Mo., is to issue a Quarterly Magazine to be termed the *Alienist and Neurologist*. Judging from its prospectus it will be a valuable addition to the medical literature of the country.

A PROMINENT New York physician is suing one of the medical brethren here for an infringement of the copy-right of his book ; the publishers are included in the suit.

M. BONCHUT has recently presented the Académie of Paris a stronger preparation of pepsine than had before been found. It is prepared from the papaya of Java and South America.

MR. C. A. OSMUN, Chemist and Druggist, No. 13 Seventh Avenue, New York, makes one of the best preparations of Cod Liver Oil and Lacto Phosphate of Lime to be found in this country. It is absolutely free from the smell or taste of cod liver oil, and the patient experiences only the taste of bitter almonds after taking a dose of this preparation. It should be taken in milk and thoroughly mixed.

OZONE has at last been made practical and profitable in its use ; when it is forced through linseed oil, the oil is at once converted into varnish of superior quality.

THE Sanitary Committee appointed to make an inspection of Memphis, have recently made their report. They recommend many changes and improvements, an account of which will appear in the next Journal.

BELLEVUE Hospital Medical College, requires of all applicants to furnish by examination or otherwise, satisfactory evidence of preliminary education sufficient for entering upon the study of medicine ; there will be no preliminary term and the regular term will be extended to six months. Three terms are required for graduation.

THE Medical Department of Yale has arranged a graded course of three years, and all applicants not graduates of a literary College are subjected to an examination. The Detroit Medical College has moved in the same direction ; so has the Syracuse University, and the University at Ann Arbor. The tendency in American Medical Colleges is to increase the number of courses requisite for graduation and to elevate the standard for each school. Dr. J. P. Logan, of Atlanta is, in no respect connected with the Atlanta Medical College and has not been for several years. The Louisville Medical College and the Kentucky School of Medicine have different Faculties and occupy different buildings. This will put an end to many apprehensions, and misconstructions which have existed in the past. Both Institutions deserve success, and will win it.

NEARLY eight hundred Medical Students have matriculated this season in the eleven hundred schools of London. In the same number of American Medical Colleges, the matriculants would be at least twice as many.

MR. H. C. LEA has consolidated the Medical News and Library and the Monthly Abstract, making a valuable monthly volume which will be sold to subscribers at the rate of \$2.50 a year.

THE Buffalo Medical and Surgical Journal has been greatly improved. Its veteran editor, Dr. Miner, retires and a corps of editors takes his place. May they reap an abundant success.

ALEXIS ST. MARTIN, on whose stomachic digestion Dr. Beaumont performed such a beautiful series of experiments still lives at St. Thomas, Province of Quebec, Canada.

MR. ERASTUS WILSON, of London, has made to the Margate Infirmary, the magnificent bequest of twenty thousand

pounds ; this being intended to erect a new Ward, furnish a tepid sea water swimming bath, and a chapel for three hundred persons.

BISMARCK is reported to be suffering from gout, neuralgia, and obstinate sleeplessness. His strong constitution and iron will are succumbing under this fearful trial.

M. CHASSIGNAC, to whom surgery is indebted for the introduction of the drainage tube, died in August last.

THERE seems to be a steady increase of consumption in Southern latitudes. This is observable not only in southern portions of this country, but at the Mediterranean stations and even at the Madeira Islands.

DR. S. P. RICE of Marlin C. H., Texas, was on the 27th of September, married to Miss Mattie J. Anderson, of Milam Co., Texas, by the Rev. J. P. Sneid, the interesting ceremonies taking place at the residence of the bride's grandmother.

PROF. J. A. MEIGS, of the Jefferson Medical College, Philadelphia, died November 9th, at 50 years of age.

PROF. FRANK DONALDSON has resigned the Chair of Physiology and Hygiene in the University of Maryland, and is now Clinical Professor of the diseases of the throat and chest. Prof. F. T. Miles in the same Institution, now fills the Chair of Physiology and Anatomy and diseases of the nervous system.

DR. JAMES G. HYNDMAN has by unanimous vote been elected lecturer on Medical Chemistry in the Medical College of Ohio.

DR. FENWICK, editor of the Canada Medical and Surgical Journal, has retired from his arduous post, and is succeeded by Drs. George Ross and W. A. Molson.

THE Tri-States Medical Society (Indiana, Illinois and Kentucky,) Dr. J. A. Ireland President, met at Evansville, Ind., November 4th, 5th, 6th, and 7th. Dr. Ireland delivered an interesting address, and so also did Dr. J. M. Keller, of Hot Springs.

IT has been ingeniously proposed to give in a frozen condition antiseptic, astringent and nauseous medicine, something well worthy of practical physicians.

EDITORIAL.

“Nullius addictus jurare in verba magistri.”—HOR.

THE NATIONAL BOARD OF HEALTH.—Since Congress has met again and the proceedings of this Board will soon be brought before it, it is proper that the Medical Press of this country should say something in regard to the operations of the Health organization above named.

First there is but one opinion in regard to this Board ; and that is, that it is made up of gentlemen of admitted ability and experience. In this connection, the only suggestion which could be made, is that the Board is not sufficiently numerous in its membership, and that all parts of the country are not represented in it. This fact begets State jealousies, and State indifference, and it is a manifest misnomer to term an organization “National” when its representation is local only, in character. If the Board were purely executive in function, its numerical strength would be a matter of manifest indifference, for one, could, as well as many, carry into effect laws already made ; but the misfortune is, that this Board has but little executive power, and is chiefly legislative and judiciary.

For legislative purposes it is certainly not only a matter of common sense but a matter of necessity that each State should be represented in this Board. This will give to the organization a National character and necessarily increase the actual facts which will be brought before it for legislation.

The executive function of the Board is deplorably deficient ; indeed, it has little or no power to carry into effect the laws which are enacted by its members. A statement of such a condition is sufficient to demonstrate its absurdity.

It becomes then a question as to the manner in which executive power can be conferred upon this organization.

It is idle to suppose that States or Cities will consent to be dominated over and made subordinate to an organization of this character, and yet, unless the views of this Board in regard to States and Cities are carried into effect, its legislation becomes not only puerile but valueless.

It is therefore respectfully suggested that some law be enacted by Congress whereby the laws of this Board may be communicated through its chief resident officer at Washington, to the President of the United States, to be by him and his Cabinet, made efficient and imperative.

It is manifest that by such a method the legislation of the National Board of Health will become not only of National interest, but of National effect. Having each State represented in its Body, and being connected with each State Board of Health, its means of obtaining information would be almost perfect, and after such information had become the subject of legislation, the results would be made effective through the highest powers in this country.

If this be done, all may expect that the National Board of Health will be National, not only in its representation, in its collection of information, in its legislation, but above all in its utility, and in the great results which may be accomplished.

THE "ANSWER" OF THE NEW YORK NEUROLOGICAL SOCIETY TO THE ASYLUM COMMITTEE—A MATTER OF GREAT INTEREST TO THE PUBLIC.—The meeting held on Tuesday, January 5th, by the N. Y. Neurological Society, at the Academy of Medicine, was a memorable one in the history of the medical profession of this State. Probably none of the medical bodies devoted to special branches of medicine exercises such a wide spread influence and can point to such a high scientific record as the N. Y. Neurological Society. But it is not only from a scientific view that it merits commendation, it has also taken an action in regard to a matter of governmental and philanthropic interest that can not but find encouragement from every right thinking medical man. Reference is made here to the agitation of the subject of "asylum reform."

In March, 1878, a paper was read before this Society, entitled "Reform in Scientific Psychiatry," published in the *Journal of Mental and Nervous Diseases*. Its facts were indisputable, its logic irresistible, its language unprecedented (as it seemed to many). Events have since occurred

to show that the strong language of the writer was fully justifiable. This paper, which has led to comment and endorsement from the highest special medical journals of both sides of the Atlantic, was warmly supported by two members well known as the most prominent neurologists of America. The interest excited was such that the Society addressed a respectful and elaborate memorial to the State Legislature, which consisted of a series of questions that the Society wished to see satisfactorily answered. It was a manly and entirely impersonal document, and without any exertions the committee entrusted with its preparation secured the signatures of three hundred of the leading physicians, lawyers and other citizens of the cities of New York and Brooklyn.

This petition was referred to a standing committee of the Senate, known as the Committee on Public Health, composed of two members, Goodwin of Utica and Goebel of this city, and these two names will not be soon forgotten. The celebrity or notoriety which they have attained has culminated in a two fold manner; first in the permanent retirement to private life of both of these gentlemen; second in an editorial of the *Herald* which speaks of the "Answer" of the N. Y. Neurological Society as leaving the Senate Committee, composed of Messrs. Goodwin and Goebel, in a "pretty limp and used up condition."

This Senate Committee immediately held a caucus under the title of a "preliminary investigation," with the State Commissioner in Lunacy, and the Superintendents, Managers and Trustees of asylums. From the great unison manifested in the plan of action between these different elements, a prominent member of the N. Y. Neurological Society did not hesitate to say that, with the exception of two of the medical superintendents present, the whole bevy merited the collective designation of an "asylum ring."

How did they proceed to stifle the investigation which they so much dreaded?

They addressed a summons to all the petitioners requesting them to come to Albany. Four of the petitioners appeared at Albany, and there experienced a treatment

which few medical gentlemen (who had not been seasoned in the cross-examinations to which medical witnesses are submitted in our courts) could have stood so well. Senator Goodwin in examining limited the witnesses to his questions, which were based on what documentary evidence now shows to have been erroneous, and altogether reminded the petitioners of the now happily extinct class of pettifoggers which used to infest the police-courts.

Notwithstanding the character of this cross-examination, the witnesses succeeded in forcing in much that was severely criticized by the Asylum Committee, and when the Senate Committee published its report (Document No. 64 of the Senate) the Senators thought it wise to cut out as much of this evidence as they could and otherwise to garble and falsify it.

Fictitious documents were introduced as the report shows, which several affidavits prove were not introduced at all. Slips of paper were passed from the Superintendents to the Senator, examining and prompting him, in every conceivable way.

To this grossly misleading document, the Neurological Society was ready with its answer as soon as it appeared, and at the meeting referred to this "Answer" was unanimously adopted by the Society. It is an able and skillful document; its arguments are unanswerable; its facts sustained by the strongest legal proof; and this Journal will refer to it once more when it appears in print. Much credit is due to the gentlemen constituting the Committee. They deserve sympathy for the abuse that they have been the unmerited recipients of, and all must congratulate them on the manly and vigorous tone of what must be considered as a most felicitous vindication of their objects.

On reading a few days ago, the document of the Senate Committee to which this report of the Neurological Society is the answer, one could not but feel the utmost astonishment in finding that a contemporary (the *N. Y. Medical Record*) could fail to see its insincere and unjust character. With the appearance of the Neurological Society's reply, that Journal will of course take the opportunity of re-examining its statements in regard to the conduct of the

Neurological Society; statements that one cannot but regard as entirely premature and unjustifiable in any case; and as entirely inconsistent with the tone of its previous editorials.

Animadversions, of this kind are unfortunate, for they lead the impartial reader to the conclusion that the Journal making them is moved by considerations such as should never influence medical journalism; namely, the intention of denying to a Society the credit it has fairly and hardly earned, of having opened a most important question to the entire profession and the whole public.

Among the points of particular interest to those present at the meeting of the Neurological Society, were the documentary exhibits relating to the Commissioners in Lunacy. When the readers of the Report, touched on the extracts of the Commissioner's official report in which this official derived the increase of insanity in New York State from the habit the *farming* population was stated by him to have, of devouring *pork, molasses* and *buckwheat*, the audience was convulsed with laughter.

As intimated, this Journal will again refer and more at length, to this important topic, one of the greatest practical interest to medical science, to the profession, to philanthropists and to the public.

When it is known that the object of the Neurological Society is one entirely philanthropic, viz: to improve the administration in Insane Asylums in all parts of the country; to improve the medical staff and the efficiency of attendants; to improve the fare, the culinary department, the architecture and the ventilation; to put down jobbery and corruption; and move all to promote the comfort and happiness of the unfortunate inmates, their action must induce throughout this land not only interest but the heartiest commendation. And while it is true that so far, they have been buffeted, misconstrued, maligned and abused, it is equally true, that they have overcome every effort to injure and emasculate their philanthropic labors; and that so far they have fully sustained and vindicated themselves. This is a great work; all, everywhere, are interested in it, and

this Journal will keep its readers fully informed upon so interesting a subject.

HOMŒOPATHY.— The attention of the Editor of this Journal has been called to an editorial, which appeared in its pages during his absence from home, and at a time when he was exercising no immediate supervision over the Departments of the Journal. The subject of the Editorial to which allusion is made, was that of Homœopathy, and in this Editorial the writer advocated the expediency of so far recognizing Homœopathy, as that the advocates and the representatives of Rational Medicine should meet them in open rivalry, recognition, and affiliation, and that the stronger should win ; that in other words there should be a “survival of the fittest.”

While the Editor of this Journal has the sincerest respect for the purity of sentiment which dictated the Editorial mentioned, and while he knows that the author of the Editorial believed that the method advocated was the best for securing the triumph of Rational Medicine, and the destruction of Homœopathy ; still the Editor of the Journal feels it only just to the readers, to the work itself, and to himself, to say that he dissents entirely and absolutely from the views advocated.

Between the representatives of Homœopathy, as it was taught and practised by Hahnenann, and between the representatives of scientific Medicine he believes that there should be no Professional affiliation whatever ; for the views advocated are diametrically opposite and any compromise of these would be dishonesty. Between the Representatives of Homœopathy as it is practised to-day, and the Representatives of Rational Medicine, there should be not only no affiliation, but every disciple of scientific Medicine should go beyond this, and should hold up to just vituperation, those who calling themselves Homœopaths, are so only in name ; for it is very well-known that in modern Homœopathy, the disciple practises the Nihilism of Hahnenann only when all other physicians would do likewise, and that when the use of absolute medicinal forces is

required, there is no physician who uses these more absolutely and heroically. All of their schools, their Journals, the Records of Courts, of the conversation of the honest in the Homœopathic ranks, demonstrate this fact, that the Homœopath is a Homœopath only in name ; and that before the public he wears a livery which meets the approval and admiration of his employers, only because it plays profitably on their credulity.

This is written with some regret, for in the ranks of Homœopathy there are many highly cultivated and accomplished men ; but when any man, or body of men holding one sentiment, come upon the field under a flag which symbolizes a faith entirely different, they must expect to be treated as should be treated all who prostitute the banner under which they march. The breach therefore between the Homœopathists of this day and the regular Profession is far greater than it was during the days of Hahnenann ; for his honest disciples believed what they practised or honestly practised in accordance with the dogmas of their teacher, while the modern Homœopath repudiates all the absurdities of Hahnenann and only dons the livery of a master because it is profitable to wear it.

As Homœopathy even when honestly practised, has always been repudiated by the representatives of scientific medicine, to-day when it is dishonestly practised, it should be more absolutely repudiated than ever.

Such is the position of this Journal on this subject ; a position differing far from that taken in the number for May, 1879.

COLOR-BLINDNESS.—The reader will be interested in examining the Review in this number of the Work on Color-Blindness, but more interested in purchasing the volume indicated. It is a subject in which every physician in this country is concerned and one which in its bearings and importance he should carry to every fireside.

When it is remembered that on the sea, on the rivers, and on the hundreds of railroads millions are carried every year, and that for their protection pilots, engineers and watchmen

are dependent entirely on their powers of appreciating colors ; and that this appreciation among many does not exist ; the picture suggested needs no description ; the imagination of each one will be sufficient to realize the terrible result. The practical deduction from this subject is that physicians should carry such information to every fireside and induce such legislation as the importance of the subject demands.

CONTRIBUTIONS.—As it is best for the interest of the Journal and the publishers that contributions should be received from all parts of the country, it is respectfully requested that all readers of this paragraph, will furnish without further invitation, reports of cases, original communications, condensed reports of societies, lectures, clinical or didactic, and any items of news of general interest to the Profession.

MAILING.—While the removing of the Journal to this city has caused some delay in the mailing of the November, December and January Journals, subscribers are asked to bear in mind that three entire numbers of this Journal have been mailed in less than forty days. This statement furnishes the best guarantee that can be given for the labor and energy which are being expended on the Work.

The February Journal will be mailed in the latter part of January, and hereafter even the most distant subscriber may expect to receive his copy of the Journal for each month promptly on the first of that month.

The outlay necessary for the accomplishment of these results has been large, and subscribers are earnestly requested to remit on the receipt of this number.

ADVANTAGEOUS OFFER.—The editor of this Journal will extend the duration of the subscription of any subscriber *to the extent of four months*, if such subscriber will send on the name and address of a new subscriber, and enclose the amount of a year's subscription. New subscribers thus obtained are always to be desired, inasmuch as they take the Journal not with doubt, but on the recommendation of one well acquainted with the work.

GAILLARD'S MEDICAL JOURNAL.

(Formerly the Richmond and Louisville Medical Journal.)

VOL. XXIX.]

FEBRUARY, 1880.

[No. 2.

ORIGINAL COMMUNICATIONS.

“Qui Docet Discit.”

ART. I. *A Lecture on Sleep.* By WILLIAM A. HAMMOND, M.D., Surgeon-General U. S. Army (Retired). Professor of Diseases of the Mind and Nervous System in the University of New York.

There is perhaps something incongruous in discoursing of sleep in connection with so active and wide-awake an Institution as the Metropolitan Throat Hospital. But I think that some of our most vivid pleasurable emotions are derived from strong contrasts, and hence hope that you may obtain some satisfaction from the train of thought which I may be enabled to excite in your minds. I only trust that in giving me your attention this evening you will not be so wearied as to afford practical examples of the theories that will be advanced relative to the influence of mental fatigue as a cause of sleep. Without going into any minute physiological discussion, sleep may be defined as a state of general repose which is especially marked as regards the nervous system. All the other organs and systems of the body even when we are awake, obtain a measurable amount of rest, and even those actions which are most continuous such as respiration and the pulsation of the heart, have distinct periods of suspension. Thus after the contraction and dilatation of the auricles and ventricles of the heart there is an interval during which the organ is at rest. This amounts to one

fourth of the time necessary to make one pulsation and begin another. During six hours therefore, of the twenty-four the heart is in a state of complete repose. If we divide the respiratory act into three equal parts, one will be occupied in inspiration, one by expiration, and the other by a period of quiescence. During eight hours of the day therefore, the muscles of respiration, and the lungs are inactive, and so with the several glands, the liver, the kidneys, the stomach, the intestines, etc., each has its time for rest. And of the voluntary muscles none, even during our most untiring waking moments are kept in continued action.

But for the brain there is no rest except during sleep, and even then this condition is, as we all know, only one of comparative quietude. So long as an individual is awake there is not a single second of his life during which the brain is altogether inactive, and even when he is deprived by sleep of the power of volition nearly every other faculty of the mind is capable of being exercised, and several of them, as the imagination and memory for instance, are sometimes carried to a pitch of exaltation not ordinarily reached by direct and voluntary effort. If it were not for the fact that all parts of the brain are not in action at the same time and that thus some slight measure of repose is afforded by sleep, it would probably be impossible for the organ to maintain itself in a state of integrity. We all know how unrefreshed we are after a night of vivid dreams. We rise feeling as if we had been working at some subject requiring intense application and thought. Even when our nights have been passed in oblivion, the brain is still working quietly in furnishing the force through which other vital organs of the body keep on in regular operation to the maintenance of life.

But there is reason for thinking that the brain is to a certain extent active during sleep in other ways more immediately connected with the mind. Many instances of what Dr. Carpenter very happily calls "unconscious cerebration" will suggest themselves to your attention. We frequently find suggestions occurring to us suddenly—suggestions which could only have arisen as the result of a train of ideas

passing through our minds, but of which we have been unconscious. This function of the brain continues in sleep as every school-boy knows who has gone to bed with unsolved problems' on his mind, and has waked in the morning to find all his difficulties removed through the action of his brain during sleep. I shall presently relate to you some remarkable instances of mental activity during sleep.

The chief reason for the existence of such a condition as sleep is therefore to be found in the fact that during its continuance the brain, and nervous system generally, obtain that measure of repose which is not possible while we are awake. During this state renovation takes place by the formation of new substance to take the place of that which has been decomposed in the process of supplying mind and other forms of nerve force. The brain is no exception to the law which prevails throughout the whole domain of organic nature, that use causes decay.

Thus during life the fluids and tissues of the body are constantly undergoing a change. New matter is deposited and the old is removed with ceaseless activity. The body may really be regarded as a complex machine, in which the law that force is only generated by decomposition is fully carried out. Every motion of the body, every pulsation of the heart, every thought which emanates from the encephalon, is directly the result of the destruction of a certain amount of matter. As long as food is supplied in abundance, and the assimilative functions are not disordered, reparation proceeds as rapidly as decay and life is the result, but should nutrition be arrested for any considerable period, new matter ceases to be formed, and the organs worn out act no longer, and death results.

The animal body may differ from any inorganic machine in the fact that it possesses the power of self-repair. In the steam engine for instance, the fuel which serves for the production of steam, and subsequently for the creation of force, can do nothing for the repair of the parts which have been worn out by use. Day by day through constant attrition and other causes the machine becomes less perfect and eventually must be put in order by the workmen. In the

animal organism, however, the material which serves for the production of force is the body itself, and the substances which are taken as food are assimilated according to their character by the organs and parts which require them.

The body is therefore undergoing continual change. The hair of yesterday is not the hair of to-day; the muscle which extends the arm is not identically the same muscle after as before its action; old material has been removed and new has been deposited to an equal extent. If the action has been great and the nutrition not exactly compensatory, the muscle is enfeebled and reduced in size. If on the contrary, the nutrition is in excess of the waste, the muscle is strengthened and enlarged. Experiments made under suitable conditions establish the truth of these propositions with absolute exactness.

All this is especially true of the brain. Its substance is consumed by every thought, by every action of the will, by every emotion, by every sound that is heard, by every object that is seen, by every substance that is touched, by every odor that is smelled, by every painful or pleasurable sensation, and so each instant of our lives witnesses the decay of some portion of the brain-mass and the formation of new material to take the place of that which is worn out and ready to be excreted from the system. Nothing is truer therefore, than that in the midst of life we are in death. Indeed, life is the direct consequence of this death. Now during our moments of wakefulness the formation of the new material does not go on as rapidly as the decay of the old, our expenditures are in fact greater than our receipts, and instead of living on our income we encroach more or less on our brain capital. During sleep the senses are in abeyance, our limbs are at rest, our emotions are comparatively quiet, our instincts are in a measure suspended, and hence there is the opportunity for the balance to be restored, new matter is deposited in excess of the immediate demands, our brain treasury is as it were replenished, and accordingly we experience a feeling of freshness and rejuvenation after several hours of sound and healthy sleep. The more active the brain has been during the day, the greater is the necessity for

sleep, just as with the steamer, the greater the number of revolutions its engine makes, the more imperative is the demand for fuel.

The power with which this necessity can act is sometimes very great, and not even the strongest exertion of the will is able to neutralize it. I have frequently seen soldiers sleep on horseback during night marches and have often slept thus myself. Galen on one occasion walked over two hundred yards while in a sound sleep, and would probably have gone further but for the fact of his striking his foot against a stone and thus awaking.

The Abbe Richard states that once when coming from the country alone and on foot, sleep overtook him when he was more than half a league from town. He continued to walk however, though soundly asleep, over an uneven and crooked road.

Even when the most stirring events are being enacted some of the participants may fall asleep. Sentinels on posts of great danger cannot always resist the influence, although aware that if detected the punishment is death. During the battle of the Nile many of the boys engaged in handing ammunition fell asleep, notwithstanding the noise and confusion of the action and the fear of punishment, and it is said that on the retreat to Corunna whole battalions of infantry slept while in rapid march. Even the most acute bodily sufferings are not always sufficient to prevent sleep. Most of you have doubtless witnessed examples in point, how, during periods of great suffering, the mercy of sleep has from time to time been granted to the sick and miserable being to the strengthening of his mind and body against the adverse forces which are warring against them. I have seen individuals who had been exposed to great fatigue and who had while enduring it, met with accidents requiring surgical interference, sleep soundly through the pain caused by the knife. Damiens, who attempted the assassination of Louis XV of France, and who was sentenced to be torn to pieces by four horses, was for an hour and a half before his execution, subjected to the most infamous tortures with red-hot pincers, melted lead, burning sulphur,

boiling ore, and other diabolical contrivances, yet he slept on the rack and it was only by continually changing the mode of torture so as to give a new sensation, that he was kept sufficiently awake to feel the atrocious torments to which he was being subjected. He complained just before his death, that the deprivation of sleep was the greatest of all his sufferings. It is reported that a Chinese merchant who had been convicted of having murdered his wife, was sentenced to die by being deprived of sleep. This painful mode of death was carried into effect under the following circumstances. The condemned was placed in prison under the care of three of the police guard, who relieved each other every alternate hour, and who prevented the prisoner falling asleep night or day. He thus lived nineteen days without enjoying any sleep. At the commencement of the eighth day his sufferings were so intense that he implored the authorities to grant him the blissful opportunity of being strangled, guillotined, burned to death, drowned, garroted, shot, quartered, blown up with gunpowder, or put to death in any conceivable way their humanity or ferocity could invent.

It often happens to the physician to hear accounts from patients of the long periods they have passed without sleep. Such stories should be received with caution for it is undoubtedly true that many persons whose brains are in an over excited condition, sleep without knowing it. I have several times ascertained this fact by having a careful watch set upon some of my friends who were troubled with wakefulness. But in one case it was clearly determined that the patient during nine days and nights did not close his eyes in sleep. In this case there was incurable disease of the brain and death eventually ensued.

In infants the necessity for sleep is much greater than in adults, and still more so than in old persons. In the former, the formative processes are much more active than those concerned in disintegration. Hence the greater necessity for frequent periods of repose. In old persons, on the contrary, decay predominates over construction, there is a diminished activity of the brain and nervous system and

of all other organs, and thus the demand for rest and recuperation is lessened.

The necessity for sleep is not felt by all organic beings alike. The differences observed are more due to variations in habits, modes of life, and inherent dispositions, than to any inequality in the size of the brain, although the latter has been thought by some authors to be the cause. It has been assumed that the larger the brain the more sleep was required. I think this is true as regards the individuals of any one species of animals, but it is not the case when species are compared with each other. In man for instance, persons with large heads have as a rule, large, well-developed brains, and consequently more cerebral action than individuals with small brains. There is accordingly, a greater waste of cerebral substance and an increased necessity for repair.

This is not however, always the case, as some individuals with small brains have been remarkable for great mental activity.

The amount of sleep required by different individuals is subject to great differences—some being able to live in comparative health for long periods with but little, while others require very much more than the average quantity. Thus it is stated that the celebrated physician Boerhave did not close his eyes in sleep for a period of six weeks, in consequence of his brain being over-wrought by intense thought on a profound subject of study. Sir Gilbert Blane says he was informed by General Pichegru that for a whole year while engaged in active campaign operations, he slept but one hour out of the twenty-four. Such statements as these however, and others to the same effect, which have been made must be accepted with great reserve, for the reason already given. We all know how common it is for individuals to deny having slept when we have been eye-witnesses of their somnolency. I should consider it impossible for a person to enjoy good health if deprived for even a few weeks of half his ordinary amount of sleep.

It is very certain that brain-workers require more sleep than those who labor with their bodies. A diligent student

requires more than a ploughman, and the individual whose emotions are kept in a continual state of excitement more than either. For nothing so thoroughly exhausts the brain and nervous system as emotional disturbance, such as fear, grief, anxiety, and the like. One of the most important results of civilization and refinement is the very great development which has taken place in the emotional part of human nature. Art, literature, science, business, all tend to excite emotions of some kind, and in that action to wear away the nervous system so as to require additional sleep for the process of restoration to take place.

It is for this very reason doubtless, that women require more sleep than men, for with them the emotional system is more highly developed and more constantly exercised.

All animals sleep and even plants have their periods of comparative repose, during which their interior or vital movements are lessened and the flow of the sap and of other fluids which penetrate and rise in them is retarded; their more mobile parts—their leaves and flowers show by their falling, their occlusion, their inclination, that their organic actions are diminished and that a kind of repose has been initiated which takes the place of the lying down which with man and other animals is at once the condition and the result of sleep.

But if we have found in this necessity for repose the primary or remote cause of sleep we have still to ascertain the immediate cause, that is, the actual condition of the brain during sleep. In regard to this point a great many different theories have existed, the general one up to within a comparative short period being that sleep was directly the result of an increased determination of blood to the head, and even now there are several authorities who cling to this view. It is well established as regards other organs that during a condition of activity there is more blood in their tissues than while they are at rest. It is strange, therefore, that relative to the brain the contrary doctrine should have prevailed so long notwithstanding exact observation has shown its erroneousness. The fact that stupor may be produced by the pressure of enlarged blood-vessels upon

the brain-substance is probably the reason why this wrong theory has been maintained. But, as I shall endeavor to show, stupor is not sleep, and I think it will be made sufficiently apparent to you that sleep is in reality the direct consequence of a diminished amount of blood in the vessels of the brain. The practical application of this theory is very evident, for if sleep is due to congestion then in wakefulness we should make use of such means as will increase the quantity of blood in the brain, while if sleep is caused by a diminution of the blood flow to the brain, wakefulness must be caused by congestion and our measures should be directed to its alleviation.

The differences between sleep and stupor are very apparent and yet it is certain that the distinction is not always made. Aside from the one fact that in both conditions the individual is unconscious they have almost nothing in common.

1. In the first place stupor never occurs in the healthy person while sleep is a necessity of life.

2. It is easy to awaken an individual from sleep while it is often impossible to arouse him from stupor.

3. In sleep the mind may be active while in stupor it is as if it were dead.

4. Pressure upon the brain, intense congestion of its vessels, the circulation of poisoned blood through its substance, cause stupor, but do not induce sleep. For the production of the latter condition a diminished supply of blood to the brain is absolutely necessary.

This theory although proposed by the eminent physiologist Blumenbach several years ago, and subsequently supported by facts brought forward by other observers, has not until quite recently been received by any considerable number of physiologists. Before detailing my own experiments I propose to adduce a few of the most striking proofs of its correctness which I have been able to collect.

Blumenbach details the case of a young man eighteen years of age who had fallen from a height and fractured his skull. After recovery a fissure remained which was covered only by the scalp. When the young man was awake this chasm was quite superficial, but as soon as sleep ensued it

became very deep. The change was due to the fact that during sleep the brain was in a collapsed condition from a diminution in the amount of the intra-cranial blood and hence the skin sank down into the fissure. As soon however as the patient awoke there was an increase in the quantity of blood in the brain and the skin was pushed up out of the cavity so as to be level with the rest of the scalp.

Dendy states that there was in 1821, at Montpellier, a woman who had lost part of her skull and the brain and its membranes lay bare exposed to inspection. When she was in deep sleep the brain remained motionless beneath the crest of the cranial bones; when she was dreaming it became somewhat elevated; and when she was awake it was protruded through the fissures in the skull.

Among the most striking proofs of the correctness of the theory in question are the experiments of Dr. Alexander Fleming of Queen's College, Cork, performed in 1855. This observer found that when the carotid arteries (the large vessels that convey blood to the brain) were compressed that immediate and deep sleep was produced. The attempt was frequently made on himself and others and always with success. As he says: "a soft humming in the ear is heard, a sense of tingling steals over the body and in a few seconds complete unconsciousness and insensibility supervene and continue so long as the pressure is maintained."

But the most philosophical and most carefully digested memoir upon the proximal cause of sleep is that of Mr. Durham, of Gray's Hospital, London, published in 1860. Although my own experiments in the same direction and which will presently be cited are of prior date, I cheerfully yield all the honor which may attach to the determination of the question under consideration to this gentleman, who not only worked it out independently but anticipated me several years in the publication, besides carrying the investigation to a much farther point than my own extended.

With the view of ascertaining by ocular examination the vascular condition of the brain during sleep, Durham placed a dog under the influence of chloroform so as to destroy sensibility, and removed with a trephine a portion of bone

as large as a shilling, from the upper part of the skull. The membrane covering the brain was also cut away and thus the organ was exposed to view. He observed that when the animal was awake, the vessels were turgid, the brain was red and rose up so as to protrude through the opening. On the contrary when the animal slept, the vessels became small, the brain was pale and sunk deep into the hole he had made in the skull. Nothing could afford a greater contrast than the appearance of the brain during the two states of wakefulness and sleep. Among other conclusions from his experiments is "That during sleep the brain is in a comparatively bloodless condition and the blood in the cerebral vessels is not only diminished in quantity but moves with diminished rapidity.

In 1854 a man came under my observation who had through a frightful railway accident lost about eighteen square inches of his skull. There was thus, a fissure of the cranium three inches wide and six inches long—large enough to contain any one of several hands I see before me. The man, who was employed as a wood-chopper, was subject to severe and frequent epileptic fits, during which I often observed him. In the course of my examinations I soon became acquainted with the fact that when he was awake the scalp covering the fissure was elevated very considerably above the level of the skull, while during sleep it was just as measurably depressed. There was no exception to this statement.

After my attention was thus drawn to the subject I noticed that in very young infants the portion of skull covering the anterior opening which exists in their skulls was always depressed during sleep and elevated during wakefulness.

During the summer of 1860, I undertook a series of experiments with the view of ascertaining the condition of the cerebral circulation during sleep. These consisted in placing dogs under the full anæsthetic influence of ether and then removing a portion of the skull and membranes so as to bring the brain into view. The uniform results were, that when the animals were awake the brain was invariably

seen to be red and to protrude through the opening. With sleep it became pale and sank far below the level of the opening in the skull.

For the purpose of ascertaining these facts with more exactness I devised an instrument which I now show you, and which for greater clearness I have had drawn in a greatly enlarged form.

Now whatever cause is capable of lessening the quantity of blood in the brain is also capable of inducing sleep. There is no exception to this law, and hence we are frequently able to cause this condition at will. You see now how important it is for the physician to have correct ideas relative to the state of the brain leading to sleep, in order that he may instruct his patients accordingly. Fortunately there is at this time a very general acceptance of the theory set forth, by physicians of advanced views in all parts of the civilized world. A few of the ordinary causes of sleep—such as act upon the body without the intervention of medical aid may be considered with interest.

Heat.—Most persons in our climate and in those of higher temperatures, have felt the influence of heat in causing drowsiness and eventually sleep if the action be powerful enough and sufficiently prolonged. It is not difficult to understand the way in which heat acts in giving rise to sleep. During the prevalence of high temperatures the blood flows in increased proportion to the surface of the body, and to the extremities, and consequently the quantity in the brain is diminished—sleep accordingly results unless the irritation induced by the heat is so great as to excite the nervous system. Heat applied directly to the head exerts of course a directly contrary effect upon the cerebral circulation, as is seen in sun-stroke. Hence there are congestion of the brain, loss of consciousness, stupor, etc.

That the effect of heat is to dilate the vessels of the part subjected to its influence can be ascertained by putting the arm or leg into hot water. The swelling of the blood-vessels is then very distinctly seen. Indeed among household remedies for morbid wakefulness there are few better than a warm bath or even the immersion of the feet in hot water.

Cold.—A slight degree of cold excites wakefulness at first, but if the constitution be strong the effect is to predispose to sleep. This it does by reason of the determination of blood to the surface of the body which moderate cold induces in vigorous persons. The ruddy complexion and warmth of the hands and feet produced in such individuals, under the action of this influence, are well known.

But if the cold be very intense or the reduction of temperature sudden the system even of the strongest persons cannot maintain a resistance, and then a very different series of phenomena result—stupor, not sleep, is the consequence. The blood-vessels of the surface of the body contract and the blood accumulates in the internal organs, the brain among them. Many instances are on record showing the effect of extreme cold in producing stupor, and even death. One of the most remarkable of these is that related by Captain Cooke in regard to the excursion of Sir Joseph Banks, Dr. Solander and nine others over the hills of Terra del Fuego. Dr. Solander knowing from his experience in Northern Europe that the stupor produced by severe cold would terminate in death unless resisted, urged his companions to keep in motion when they began to feel drowsy. “Whoever sits down will sleep,” said he, “and whoever sleeps will rise no more.” Yet he was the first to feel this irresistible desire for repose and entreated his companions to allow him to lie down. He was aroused from his stupor with great difficulty and carried to a fire where he revived. Two black men of the party, whose organizations were not so robust as those of the whites, perished.

Dr. Whiting relates the case of Dr. Edward Daniel Clark, the celebrated traveller, who, on one occasion, came very near losing his life by cold. He had performed divine services at a church near Cambridge, and was returning home on horseback when he felt himself becoming very cold and sleepy. Knowing the danger of yielding to the influence which was creeping over him he put his horse into a fast trot, hoping thereby to arouse himself from the alarming torpor. This means proving unavailing he got down and led his horse, walking as fast as he could. This, however,

did not long succeed. The bridle dropped from his arm, his legs became weaker and weaker, and he was just sinking to the ground when a gentleman, who knew him, came up in a carriage and rescued him.

I have often myself noticed this effect of cold in producing numbness and drowsiness, and on one occasion was nearly overcome by it. I was crossing the mountain ridge between Cebolleta and Covero in New Mexico, when the thermometer fell in about two hours from 52° to 22° Fahrenheit. So great was the effect upon me that if I had had much farther to go I should probably have succumbed. As it was I reached a rancho just in time to be relieved, though several minutes elapsed before I was able to speak. The sensations experienced were rather agreeable than otherwise. There was a great desire to rest and to yield to the languor which was present, and there was a feeling of recklessness which rendered me perfectly indifferent to the consequences. I would have dismounted from my horse and have given way to the longing for repose if I had been able to do so. I have several times experienced very similar effects from change of air. A few years ago I was so drowsy at the sea coast, whither I had gone from a hot city, that it was with difficulty I could keep awake, even when engaged in active physical exercise.

Another potent cause of sleep and one of which we generally avail ourselves is *diminution of the power of the attention*. To bring this influence into action generally requires only the operation of the will under circumstances favorable to the object in view. Shutting the eyes so as to exclude light, getting beyond the sound of voices, refraining from the employment of the other senses, and avoiding thought of all kind will generally induce sleep. To think and to maintain ourselves in connection with the outside world by means of our senses, requires that the circulation of the blood in the brain shall be active. When we isolate ourselves from external things and restrain our thoughts as before, the amount of blood in the brain is diminished and sleep results. It is not however, always easy for us to do this ; the nervous system is excited, ideas follow each other in rapid

succession, and we lie awake hour after hour vainly trying to forget that we exist. The more the will is brought to bear upon the subject, the more rebellious is the brain, and the more it will not be forced by such means into a state of quietude. For the very exercise of the will, itself adds to the trouble by increasing the amount of blood in the brain, and thus directly prevents sleep. We must then either let it run riot till it is worn out by its extravagancies, or we must fatigue it by requiring it to perform labor which is disagreeable. Just as we might do with an individual of highly destructive tendencies, who was going about pulling down his neighbors houses. We might, if altogether unable to stop him, let him alone till he had become thoroughly wearied with his exertions, or we might divert him from his plan by guiding him to some tough field of work which would exhaust his strength more than his original labor.

Many ways of thus tiring the brain have been proposed. The more irksome they are the more likely they are to prove effective. Counting a hundred backward many times, listening to monotonous sounds, thinking of some extremely disagreeable and tiresome subjects, with many other devices have been suggested and have proved more or less effectual. Boerhave states that he procured sleep by placing a brass pan in such a position that the patient heard the sound of water, which was made to fall into it drop by drop. I have repeated this experiment with several of my wakeful patients, and occasionally it has succeeded admirably. In general terms monotony, however induced, predisposes to sleep. Nothing can better illustrate this fact than the illustration given by Southey, which I quote from the Doctor all the more willingly, inasmuch as it details several methods by which the attention may be wearied and sleep produced.

“I put my arms out of bed, I turned the pillow for the sake of applying a cold surface to my cheek, I stretched my feet into the cold corner ; I listened to the rain and to the ticking of my watch, I thought of all sleepy sounds and of all impossible things—the flow of water, the humming of bees, the motion of a boat, the waving of a field of corn, the

nodding of a Mandarin's head on the chimney piece, a horse in a mill, the opera, Mr. Humdrum's conversations, Mr. Prosys' poems, Mr. Laxatives' speeches, Mr. Lengthy's sermons. I tried the device of my own childhood, and fancied that the bed rushed with me round and round. At length Morpheus reminded me of Dr. Topedo's Divinity Lectures, where the voice, the manner, the matter, even the very atmosphere and the streamy candle-light, were all alike somnific, when he who by strong effort lifted up his head and forced open the reluctant eyes, never failed to see all around him asleep. Lettuces, cowslip wine, poppy syrup, mandagora, hop pillows, spices with pills and the whole tribe of narcotics up to bang and the black drop would have failed—but this was irresistible; and thus twenty years after date, I found benefit from having attended the course."

Frequently the power of the attention is diminished from natural causes. After the mind has been strained in one particular direction and during which period the brain was doubtless replete with blood, the tension is at last removed, the blood flows out of the brain, the face becomes pale, and sleep ensues. It is thus as Macnish says that "the principal gratification of ardent desires has the effect of inducing slumber, hence after any keen excitement the mind becomes exhausted and speedily relapses into this state."

A gentleman once under my care for a paralytic affection informed me that he could at any time render himself sleepy by looking for a few minutes at a bright light so as to fatigue the eyes, or by paying particular attention to the noises in the street, so as to weary the sense of hearing. It is well-known that sleep may be induced by gentle frictions of various parts of the body, especially the head. This is not due as is popularly supposed to animal magnetism or electricity, for it is caused as well with a soft brush as with the hand, but to the fatigue induced in the sense of touch; doubtless the other senses are capable of being so exhausted, if I may use the expression, as to diminish the power of the attention, and thus to lessen the demand for blood in the brain. As a consequence sleep ensues.

The cutting off of sensorial impressions aids in lessening

the power of the attention and thus predisposes to sleep. Stillness, darkness, the absence of any decided impression on the skin, and the non-existence of odors and flavors all accomplish this end. In these respects, however, habit exercises great influence, and thus individuals for instance who are accustomed to continual loud noises cannot sleep when the sound is interrupted. As we have already seen, however, the predisposition to sleep is in healthy persons generally so great that when it has been long resisted, no sensation of whatever strength can retard its power.

Digestion leads to sleep by drawing upon the brain for a portion of its blood. It is for this reason that we feel sleepy after the ingestion of a hearty dinner. A lady of my acquaintance is obliged to sleep a little after each meal. The desire to do so is irresistible, her face becomes pale, her extremities cold, and she sinks into a quiet slumber which lasts fifteen or twenty minutes. In this lady the amount of blood is not sufficient for the due performance of all the operations of the economy. The digestive organs imperatively require an increased quantity, and the flow takes place from the brain, that being the organ with her which can best spare this fluid. As a rule, persons who eat largely and have good digestive powers sleep a great deal, and many persons are unable to sleep at night till they have eaten a substantial supper. The lower animals generally sleep after feeding, especially if the meal has been large.

Excessive loss of blood produces sleep. We can very readily understand why this should be so if we adopt the theory which has been given in the foregoing remark. It would be exceedingly difficult to explain the fact upon any other hypothesis. I have seen many instances of somnolency due to this cause. It acts not only by directly lessening the quantity of blood in the brain, but also, by so enfeebling the heart's action as to prevent a due supply of blood being sent to the cerebral vessels. *Debility* is almost always accompanied by a disposition to inordinate sleep. The brain is one of the first organs to feel the effects of a diminished amount of blood, or a depraved quality of this fluid being supplied, and hence in old age, or under the influence

of a deficient quantity of food, or through the action of some exhausting disease there is generally more sleep than when the physical health is not deteriorated.

Besides there are several medicines and medical agents, which exercise a similar power over the blood-vessels of the brain. One by which their calibre is diminished with a consequent lessening of the flow of blood through them.

In considering the physical phenomena of sleep the most I can do on an occasion like the present is to briefly refer to some of the more important. Several of them you will doubtless recognize at once, as within the range of your own experience.

The approach of sleep is characterized by a languor which is agreeable when it can be yielded to, but when circumstances prevent this, is far from being pleasant. Many persons are rendered irritable as soon as they become sleepy, and children are especially liable to manifest ill temper under the uncomfortable feelings they experience when unable to indulge the inclination to sleep. It is somewhat difficult to analyze the various phenomena which go to make up the condition called sleep. The most prominent feelings are an impression of weight in the upper eyelids, and of a general relaxation of the muscles of the body, but there is besides, an internal sensation of superfineness, enervation, and torpor, to describe which is by no means easy. This sluggishness is closely allied in character, if not altogether identical, with that experienced before an attack of fainting and is doubtless due to a like cause—a diminution in the quantity of blood in the brain. Along with this languor, there is a general obtuseness of all the senses, which increases the separation of the mind from the external world already initiated by the physical condition of the brain. The liveliest scenes cease to engage the attention, and the most exciting conversation no longer interests. For a time indeed, such circumstances may dissipate the inclination for sleep, but eventually nature obtains the ascendancy and consciousness is lost. Before this event there is usually yawning—a phenomena strongly indicative of a wearied attention—the head nods and droops upon the

breast, and the body assumes that position which is most conducive to ease, comfort, and entire muscular inactivity.

The order in which the muscles lose their power is in general well marked, and has a distinct relation to the importance of their functions. Thus the muscles which move the arms and legs become relaxed before those which support the head and the latter before those which maintain the erectness of the back. This however, is not always the case, for as we have seen, individuals will walk and keep their position on horseback while in a sound sleep, while all of us have seen persons slumbering in church, their heads dropping on their breasts, but yet firmly holding their prayer-books in their hands, under the pretence of going through the services.

As regards the senses the sight is of course the first to be lost in ordinary cases—the closing of the eyelids interposing a physical obstruction to the entrance of light. Even when the eyelids have been removed, or from disease cannot be closed, the sight nevertheless is the first of the special senses to be abolished. Some animals, as the hare for instance, do not shut the eyes when asleep; but even in them the ability to see disappears before the action of the other senses is suspended. These latter are not altogether abolished during sleep. Their acuteness is simply lessened. Taste is the first to fade, and then the smell; hearing follows and touch yields last of all, and is most readily re-excited. To awake a sleeping person, impressions made upon the sense of touch are more effectual than attempts to arouse through any of the other senses; the hearing comes next in order, smell next, then taste, and the sight last of all in the capacity for excitation.

During sleep the respiration is slower, deeper and usually more regular than when we are awake. The vigor of the process is lessened and there is consequently a diminution of the pulmonary exhalations. In all probability the ciliated epithelium by means of the action of which, the mucus of the air passages is gradually brought up is paralyzed, and, owing to the general muscular torpor which prevails, this mucus accumulates in the lungs and throat and requires to be expectorated on our awaking.

The circulation of the blood is rendered slower, the heart beats with more regularity, but with diminished force and frequency. As a consequence the blood is not distributed to distant parts of the body so thoroughly and rapidly as during wakefulness, and accordingly the extremities readily lose their heat. Owing to the reduction in the activity of the respiratory and circulatory functions the temperature of the whole body falls, and coldness of the atmosphere is less easily resisted. A sleeping person is thus in extremely low temperatures particularly liable to perish.

These are the principal physical phenomena of sleep. There are others scarcely secondary to them in importance, but their discussion would lead us too far into the regions of physiology and pathology for the present occasion.

A still more interesting division of the subject remains to be considered, and that is the state of the mind during sleep. Relative to the different mental faculties as affected by sleep, various opinions have been expressed by those who have given attention to the matter, and several have even gone so far as to assert that in some of its parts the mind is really exalted above the standard observed during wakefulness, but this as I shall endeavor to show is probably an erroneous view. It is, I think, very evident that the pre-eminence, which one or two mental qualities apparently assume, is not due to any absolute exaggeration of power, but to the suspension of other faculties which, when we are awake, exercise a governing or modifying influence. Thus, for instance, as regards the imagination—the faculty, which of all others, appears to be most increased—we find when we carefully study its manifestations in our own persons, that although there is often great brilliancy in its vagaries, that uncontrolled as it is by the judgment, the pictures which it prints on the mind are usually incongruous and silly in the extreme. Even though the train of ideas excited by this faculty when we are asleep be rational and coherent we are fully conscious on awaking that we are capable of doing much better by intentionally setting the brain in action and governing it by our will and judgment.

Owing to the fact that these two most influential faculties

of the mind are incapable of acting normally during sleep, the imagination is left absolutely without control. Indeed we are often conscious in those dreams which take place when we are half awake of our inability to direct it. The impressions which it makes upon the mind are therefore intense but of very little durability. Many stories have been told of its power, how problems have been worked out, poetry and music composed, and great undertakings planned ; but if we could get at the truth we should probably find that the imagination of sleep had very little to do with the operations mentioned. Indeed it is doubtful if the mind of a sleeping person can originate ideas. Those which are formed, are as Locke remarks, almost invariably made up of the waking man's ideas, and are for the most part very oddly put together, and we are all aware how commonly our dreams are composed of ideas or based upon events which have recently occurred to us.

And yet many remarkable stories are told which tend to show the high degree of activity possessed by the mind during sleep. Thus it is said of Tartini, a celebrated musician of the eighteenth century, that one night he dreamed he had made a contract with the devil and bound him to his service. In order to ascertain the musical abilities of his servitor he gave him his violin and commanded him to play a solo. The devil did so, and performed so admirably that Tartini awoke with the excitement produced and seizing his violin endeavored to repeat the enchanting air, although he was unable to do this with entire success his efforts were so far effectual that he composed one of the most admired of his pieces, which, in honor of its source, he called the "devil's sonata."

Other instances have been given notably by Coleridge and De Quincey, but in both these cases there was a disturbing factor, opium to be taken into account. Still there is no doubt that the imagination is capable of great activity during sleep. There is no proof, however, that it ever has, unaided by causes which exercise a powerful influence over the intracranial circulation, led to the production of any ideas which could not be excelled by the individual when

awake. Perhaps the most striking in opposition to this view is one detailed by Abercrombie, who says :

“ The following anecdote has been preserved in a family of rank in Scotland, the descendants of a distinguished lawyer of the last age. This eminent person had been consulted respecting a case of great importance and under difficulty, and he had been studying it with intense anxiety and attention. After several days had been occupied in this manner he was observed by his wife to rise from his bed in the night and go to a writing desk which stood in the bedroom. He then sat down and wrote a long letter which he put carefully by in the desk and returned to bed. The following morning he told his wife that he had had a most interesting dream, that he had dreamt of delivering a clear and luminous opinion respecting a case that had greatly perplexed him, and that he would give anything to recover the train of thought which had passed before him in his dream. She then directed him to the writing desk where he found the opinion clearly and fully written out, and which was afterwards found to be perfectly correct.”

Now such a case is at first sight calculated to make us believe that the brain during sleep may be capable of initiating a complex reasoning process and carrying it out to a logical and legitimate conclusion, but in the light of almost unexceptional experience, and of some curious cases which I am about to adduce, it is much more probable that in this instance and others, which have been cited, the subjects were actually awake at the time of the alleged phenomena, and consequently in full possession of their reasoning powers. It is not at all uncommon for persons to commit not only the errors of thinking themselves to have been awake when they have in reality slept, but to imagine themselves to have dreamt of events which have actually occurred to them.

Thus a gentleman informed me, that going to bed after a very exciting day, he thought the next morning that he had dreamed of a fire occurring in the vicinity of his home. To his surprise his wife informed him that the supposed dream was a reality, and that he had got up to the window,

looked at the fire, conversed with her concerning it, and that he was at the time fully awake.

Brierre de Boismont relates the following instance which is to the same effect.

In a convent in Auvergne, an apothecary was sleeping with several persons. Being attacked with nightmare, he charged his companions with throwing themselves on him and attempting to strangle him. They all denied the assertion, telling him that he had passed the night without sleeping, and in a state of great excitement. In order to convince him of this fact, they prevailed on him to sleep alone in a room carefully closed, having previously given him a good supper, and even made him partake of food of an indigestible character. The paroxysm returned, but on this occasion he swore that it was the work of a demon whose face and figure he perfectly described.

A few days ago a gentleman, very learned in the law, informed me that he had gone to bed one night after having passed a most fatiguing and exciting day in court. He awoke next morning having a very vivid impression of a dream which had occurred to him. It was that he had been awakened by his brother, an equally eminent physician, and invited to go out to a noted place and partake of devilled kidneys and Bass' ale. He dreamt that he acceded to this request, that the kidneys and the ale were both particularly good, and that the supper was supplemented with Welsh rarebits and segars. At breakfast the next morning, he related his dream to his brother, and was told to his great astonishment, that there was a very broad basis of fact for it, that he actually had gone out, and that he was wide awake all the time. At first he insisted that his brother, the doctor, was either joking or had himself been dreaming, but inquiry of others and various collateral circumstances, convinced him that he had actually enjoyed a very excellent supper at his brother's expense.

That the imagination may in its flights during sleep strike upon fancies which are subsequently developed by the reason into lucid and valuable ideas is very probable. It would be strange if from among the innumerable absurdities

and extravagancies to which it attains, something fit to be appropriated by the mind should not occasionally be evoked, and thus there are many instances mentioned of the starting point of important mental operations having been taken during sleep. Some of these may be based upon fact, but the majority are probably of the class of those specified, or occurred at an age of the world when a belief in the supernatural, exercises a greater power over men's minds than it does at the present day.

It must be distinctly borne in mind that instances such as those referred to, and in fact all others of which there is any recollection whatever on awaking, are to be sharply separated from those performed during a state of somnambulism. In this latter condition the brain is absolutely inactive, all the apparently conscious acts being performed through the agency of the spinal cord.

As regards the memory, in sleep it is undoubtedly often exercised to a considerable extent. In fact whatever degree of activity the mind may then exhibit is based upon events which have occurred to us during our waking periods, and the recollection of which has been retained. But there is more or less of error mingled with a small amount of truth. The unskilled imagination of the speaker so distorts the simplest circumstances as to render their recognition a matter of no small difficulty, and thus it scarcely if ever happens that events are reproduced during sleep exactly as they occurred or as they would be recalled by the mind of the individual when awake. Frequently also recent events which have made a strong impression on our minds are forgotten, as when we dream of seeing and conversing with persons not long dead.

And yet it sometimes happens that incidents or knowledge, which had long been overlooked or forgotten, or which could not be remembered by any effort of the mind during wakefulness, have been strongly depicted during sleep. Thus Lord Monboddo states that the Countess de Laval, a woman of perfect veracity and good sense, when ill, spoke in her sleep in a language which none of her attendants understood, and which even she was disposed to

regard as gibberish. A nurse detected the dialect of Brittany ; her mistress had spent her childhood in that province, but had lost all recollection of the Breton tongue, and could not understand a word of what she had said in her dreams. Her utterances applied, however, exclusively to the experience of childhood and were infantile in structure.

Abercrombie relates the case of a gentleman who had been very fond of the Greek language, and who in his youth had made considerable progress in it. Subsequently being engaged in other pursuits he so entirely forgot it that he could not even read the words. Often, however, in his dreams he reads Greek works, which he had been accustomed to read in college, and had a most vivid impression of fully understanding them.

The judgment is frequently exercised when we are asleep, but almost invariably in a perverted manner. In fact we scarcely ever estimate the events or circumstances which appear to occur in our dreams at their real value, and very rarely form correct conceptions of right and wrong. High-minded and honorable men do not scruple, during sleep, to sanction the most atrocious acts, or to regard with complaisance, ideas which in their waking moments would fill them with horror. Delicate and refined women will coolly enter upon a career of crime, and the minds of hardened villains are filled with the most elevated and noble sentiments. The deeds which are performed in our sleep are either inadequate to or in excess of what the apparent occasion requires, and we lose so entirely the ideas of probability and possibility that no preposterous vision appears otherwise than as possibly natural and correct. Thus a physician dreamed that he had been transformed into a monolith which stood grandly and alone in the desert of Sahara, and had so stood for ages while generation after generation wasted and melted away around him. Although unconscious of having organs of sense this column of granite saw the mountains growing bald with age, the forests drooping with decay, and the moss and ivy creeping around its crumbling base.

But although in this instance, there was some conception

of time, as shown in the association of the evidences of decay with the lapse of years, there is in general no correct idea on this subject. The following remarkable example is a case in point, related by Lavalette as a part of his prison experience.

“ One night while I was asleep the clock of the Palais de Justice struck twelve and awoke me. I heard the gate open to relieve the sentry, but I fell asleep again immediately. In this sleep I dreamt that I was standing in the Rue St. Honoré, a melancholy darkness spread all around me ; all was still ; nevertheless a slow and uncertain sound soon arose. All of a sudden I perceived at the bottom of the street and advancing toward me a troop of cavalry, the men and horses however all flayed. The men held torches in their hands the red flames of which illuminated faces without skin, and bloody muscles. Their hollow eyes rolled fearfully in their sockets, their mouths opened from ear to ear, and helmets of hanging flesh covered their hideous heads. The horses dragged along their own skins in the kennels which overflowed with blood. Pale and disheveled women appeared and disappeared at the windows in dismal silence, low inarticulate groans filled the air, and I remained in the street alone, petrified with terror and deprived of strength sufficient to seek my safety in flight. This horrible troop continued passing along rapidly in a gallop, and casting frightful looks upon me. Their march continued I thought for five hours, and they were followed by an immense number of artillery wagons full of bleeding corpses whose limbs still quivered ; a disgusting smell of blood and bitumen almost choked me. At length the iron gates of the prison shutting with great force awoke me again. I made my repeater strike ; it was no more than midnight—so that the horrible phantasmagoria had lasted no more than two or three minutes, that is to say, the time necessary for relieving the sentry and shutting the gate. The cold was severe and the watchword short. The next day the turnkey confirmed my calculations. I nevertheless do not remember one single event in my life the duration of which I have been able more exactly to calculate, of which the details are more deeply

engraven on my memory, and of which I preserve a more perfect consciousness."

No instance can more strikingly exemplify aberration of the faculty of judgment, than the above. There was no astonishment felt with the horror experienced, but all the impossible events which appeared to be taking place, were accepted as facts which might have occurred in the regular order of nature.

In further illustration of the fact that there is in dreams no definite conception of time, permit me to cite the following account of one of my own dreams.

I dreamt that I had taken passage in a steamboat from St. Louis to New Orleans. Among the passengers was a man who had all the appearance of being very ill with consumption. He looked more like a ghost than a human being, and moved noiselessly among the passengers, noticing no one, though attracting the attention of all. For several days nothing was said between him and any one, till one morning as we approached Baton Rouge, he came to where I was sitting on the guards, and began a conversation by asking me what time it was. I took out my watch when he instantly took it from my hand and opened it. "I too, once had a watch" he said, "but see what I am now." With these words he threw aside the large cloak which he habitually wore, and I saw that his ribs were entirely bare of skin and flesh. He then took my watch and inserting it between his ribs, said it would make a very good heart. Continuing his conversation, he told me that he had resolved to blow up the vessel the next day, but that as I had been the means of supplying him with a heart, he would save my life. "When you hear the whistle blow," he said "jump overboard, for in an instant afterward the boat will be in atoms." I thanked him and he left me. All that day and the next I endeavored to acquaint my fellow passengers with the fate in store for them, but discovered that I had lost the faculty of speech. I tried to write, but found that my hands were paralysed. In fact I could adopt no means to warn them. While I was making these ineffectual efforts I heard the whistle of the engine. I rushed to

the side of the boat to plunge overboard and awoke. The whistle of a steam saw mill near my house had just begun to sound, and had awakened me. My whole dream had been incited by it, and could not have occupied more than a very few seconds.

My opinion therefore is, that during sleep, the power of bringing the judgment into correct action is very materially lessened, if not altogether suspended. We do not perhaps, lose the power of arriving at a decision, but we cannot exert the faculty of judgment in accordance with the principle of truth and correct reasoning. An opinion may, therefore, be formed during sleep, but it is far more likely to be wrong than right, and no effort that we can make will enable us to distinguish the false from the true, or to discriminate between the possible and the impossible. That faculty of the mind which when we are awake is pre-eminently our guide, can no longer direct us aright. The stores of experience go for naught, and the mind accepts as truth whatever preposterous thought the imagination presents to it. We are not in general, rendered incapable of judging, as some authors assert, but the power to perceive the logical force of circumstances, to take them at their true value, and to eliminate error from our mental processes is altogether arrested, and we arrive at absurd conclusions from impossible premises. Thus it is related of Dr. Johnson, that he had once in a dream a contest of wit with some other person, and that he was very much mortified by imagining that his opponent had the better of him. "Now," said he, one may mark here the effect of sleep in awakening the power of reflection; for had not my judgment failed me, I should have seen that the wit of this supposed antagonist, by whose superiority I felt myself depressed, was as much furnished by me as that which I thought I had been uttering in my own character." An interesting case in which the judgment was still more at fault, is within the range of my own observation.

Mrs. C., dreamed that she was Savonarola, and that she was preaching to a vast assembly at Florence. Among the audience was a lady whom she at once recognized as her

own self. As Savonarola, she was delighted with the discovery, for she reflected that she was well acquainted with Mrs. C's peculiarities and faults of character, and would therefore be enabled to give special emphasis to them in the sermon. She did this so very effectually, that Mrs. C. burst into a torrent of tears, and with the emotion thus excited the lady awoke. It was sometime before she was enabled to disentangle her mixed up individualities. When she became fully awake she perceived that the arguments she had employed to bring about the conversion of herself, were puerile in the extreme, were directed against characteristics which formed no part of her mental organization, and against offences which she had not committed,

As regards the will, we find very opposite opinions entertained relative to its activity, some authorities contending that it is exerted during sleep, others that it is perverted, others that it is partially suspended, and again others that it is altogether inoperative. The latter appears to me to be the only tenable view, for I doubt if a single instance can be cited of the exercise of volition during sleep. There are certain conditions, such as somnambulism, in which apparently determinate acts are performed, but somnambulism is not sleep. It is true that we often in our dreams imagine that we will do certain things, but dreams are not realities. Indeed, the moment we are capable of exercising the will, that moment we are awake, no matter how soundly we may just before have been sleeping.

So far as relates to movements performed during sleep such as turning in bed and assuming more comfortable positions, they have nothing whatever to do with the brain, being performed entirely by the force derived from the spinal cord. That this is in many respects analogous with the like force coming from the brain, is in my opinion a matter scarcely to be questioned. The consideration of this point however, does not come within the range of the present discussion.

If time permitted I should like to speak of the physiology of dreams, of morbid dreams, of somnambulism, of somnolence, and of that curious condition especially interesting in

its medico-legal relations called sleep—drunkenness. But I shall have to defer these matters to some other occasion.

But before bringing these remarks to a close, I wish to say a few words relative to the proper use of the brain, with a view to the procuring of sound healthy sleep, and to the causes and hygienic treatment of morbid wakefulness.

We know that as nations advance in civilization and refinement, affections of the nervous system become more frequent, because progress in these directions is necessarily accompanied by an increase in the wear and tear of those organs through which perceptions are received, emotions excited, and intellect and volition set in action, and in addition the mode of life as regards food, clothing, occupation, and habits, is being constantly removed farther from that standard which a regard for hygienic considerations would establish as most advantageous. If, as we have seen, each thought involves the destruction of a certain amount of nervous tissue, we can very well understand, why, as we go forward in enlightenment and in all the elements of material and intellectual progress, we are at the same time, unless we also advance in a knowledge of the laws of our being, hurrying ourselves with rapid strides to a condition in which all processes for the reparation of worn out brain-substance are at an end.

I am far, however, from desiring to be understood as intimating that a high state of civilization is antagonistic to health or long life. What is lost in these directions as regards the nervous system, is more than made up by the increased provision afforded for comfort in other ways. But while we have improved the hygienic condition of our cities and dwellings, while we as a rule clothe our bodies according to the principles of sanitary science and common sense, and while cleanliness of person has become the rule and filthiness the exception, we have made little or no progress in the hygienic management of those organs which place us in relation with the world, and a healthy condition of which is so essential to our happiness.

Now as we have seen, sleep is directly the result of a diminution in the amount of blood ordinarily circulating in

the brain. Whatever cause is capable of increasing this blood in the cerebral vessels may give rise to wakefulness. As these causes are more or less under the control of the individual it is important that they should be understood.

Chief among them are

1. *Long continued or excessive intellectual action or any powerful emotion.* All of us are familiar with the fact that during severe mental labor or while under the influence of certain emotional excitements the vessels of the head and neck become distended, the head feels full, the face is flushed, and the perspiration of the parts in question is increased in quantity. Within certain limits the more blood there is in the brain the more actively its functions are performed, and so well-known is this fact that even persons who require to exercise the several faculties of the mind to an extreme degree make use of stimulating drugs, food or drinks, for the purpose of accomplishing the object in view.

A moderate degree of cerebral activity is undoubtedly beneficial. Mental exercise strengthens the mind and improves its faculties if it is succeeded by a proper period of repose, during which the vessels are emptied to some extent of their contents, and are enabled in a measure to recover their tone. If however, the brain is often kept for long periods on the stretch, during which the vessels are filled to repletion, they cannot contract even when the degree of cerebral activity is diminished. They are very much, in this respect, like the bands of India rubber which we put round bundles of papers. If the package is too large and the band is kept on too long it loses its elasticity and will not go back to its original dimensions.

Now the human brain is strong ; it is capable of enduring an awful amount of ill usage, as much in its way as stone and iron in their's. But there is a limit beyond which it is not safe to venture. That organ which places man at the head of all beings on this earth breaks down at last, and among the earliest and most striking signs of its decadence is wakefulness.

And yet I am inclined to think that very few persons comparatively, suffer in this way through good, honest, in-

tellektual work. The emotions and the passions are when unduly exercised the main factors of cerebral disturbance and wakefulness, and chief among them is anxiety. The man who goes to Wall Street day after day, knowing that he has important engagements to meet before three o'clock, and not knowing certainly that he will be successful, distends his cerebral blood-vessels and wears away his brain to a greater extent than would be reached by the certainty that he was a bankrupt. Is it a matter of surprise that during the night when he ought to be recuperating his nervous system, sleep is banished from his eyes and he tosses restlessly from side to side of his bed vainly seeking for the repose which is mercilessly denied him—mercilessly, for there is no mercy for those who violate the laws of their being? The punishment is severe and exactly proportionate to the enormity of the offence. And yet nothing is more common than for those who are thus suffering to seek medical aid with the firm persuasion that a cure is certain to follow—even though they continue the cause in operation—as well expect a surgeon to cure a burnt hand which, after each application of a healing salve, the patient sticks again into a blazing fire.

2. Those positions of the body which tend to impede the flow of blood from, and at the same time facilitate its passage to, the brain while increasing the amount of intracranial blood also cause wakefulness.

Several cases have come under my observation in which the influence of position affecting the disposition to sleep was well-marked. It is very evident that the recumbent position is more conducive to an increase of the brain-blood than the erect or semi-erect in either of which the flow of blood from the brain is facilitated by gravity. Individuals who by excessive mental exertion have lessened the contractibility of the cerebral vessels almost always experience great difficulty in getting to sleep after lying down, even though previously to so doing they may have been very drowsy. In such cases the sufferer should never go to bed to sleep unless there is a high pillow coming well under the shoulders. A large easy chair which will admit of a semi recumbent position being assumed is preferable.

3. *Certain substances used as food increase the amount of blood in the brain and prevent sleep.* Among these are tea and coffee, alcoholic liquors in moderate quantities—in large quantities they cause stupor not sleep—opium in small doses, hashish, belladonna, etc.

A moderate supper taken just before going to bed and composed of unirritating articles will often bring sleep by diverting blood from the brain to the digestive organs. As we know, some persons are always sleepy after eating.

4. *Certain functional or organic derangements of other organs of the body cause wakefulness by keeping the attention aroused, and thus preventing the flow of blood from the brain, or by directly increasing it.* Among them may be mentioned dyspepsia, a most potent cause, derangements of the heart, pain in any part of the body, etc., fears, etc., etc. As in other cases, the cause must be removed before success can be obtained.

I might pursue this part of the subject much farther, but to do so would lead us into technical details, and they are better left out in what I have tried to make an untechnical discourse. I may not have told you any thing this evening but what you already knew, but if I have succeed in directing your attention to one of the most important and interesting subjects in the whole range of physiological science, my remarks will not have been altogether in vain.

ECLECTIC DEPARTMENT.

“Carpere et colligere.”

ART. I. *On the Neurosal and Reflex Affections of the Heart.*

By DR. J. MILNER FOTHERGILL, Assistant Physician to the City of London Hospital for Diseases of the Chest, Victoria Park, and to the West London Hospital.

It has been stated by more than one writer on the diseases of the heart that when a patient comes into the physician's consulting room complaining of his or her heart, usually there is no cardiac disease ; that is, unless previously told by some other medical man that there is heart mischief present. My

own experience is quite in unison with this expression of opinion. The persons who complain of the heart being a source of disturbance have usually some neurosal affection of the heart ; at other times it is palpitation due to some other cause which leads them to complain. The patient who has got organic disease usually complains of some outcome thereof, as shortness of breath on exertion. Often disease in the valves of the heart is discovered by the usual examination of all patients, and has existed some time unsuspected. But when the nervous mechanism of the heart is disturbed, then the patient is usually acutely conscious that something is wrong, and not rarely becomes much alarmed thereby ; alarmed out of all proportion to the seriousness, or rather absence of seriousness, of the case. Perhaps of all patients who have neurosal affections of the heart, medical men are the most unsatisfactory patients who present themselves to a physician. Unfortunately for their peace of mind, they are but too familiar with the insidious approach of some forms of heart disease, and therefore cannot dismiss from their minds their fears and apprehensions as to the interpretation of their symptoms. The ordinary patient is only too glad to take the physician's word for it that there is no disease of the heart—that it is a mere disturbance—and rejoices thereat ; for it is a characteristic of humanity that it readily believes what it wishes to believe. But the unfortunate doctor himself is not so well satisfied, and thinks the subject over and over by the light of possibilities, until all his comfort is gone, and he has worked all his dreads and doubts into full action again. The consequence is, he is no better for the consultation for longer than a couple of weeks or so, but relapses into his old position ; he is no better, and the physician achieves no credit. Such, at least, has been too much my experience, though not invariably the case.

The neurosal affections of the heart are of various kinds, and need some study for their full comprehension. There are those which arise in the cardiac ganglia themselves, and those which are of cerebral origin, and again those which are of reflex origin. Palpitation, irregularity (a disturbance

of rhythm), and intermittency (a distinct halt), are the three forms of abnormal action. The heart is disturbed, too, by the emotions in a manner which puts emotional disturbance outside any single one of these divisions, and places it partly in all. We know that emotion will affect the circulation very markedly. In joyous emotion we have an excited action of the heart with full blood-vessels and warm extremities. On the other hand, when in dread or in anxiety the arterioles are contracted and the extremities are cold, while there is a rise of arterial tension producing a decided increase in the renal secretion, as is well-known to those who are undergoing their examinations and are nervous as to the result. The frequent retirement of candidates for examination in order to empty the bladder has given rise to a peculiar and well-known expression familiar to all, but one which cannot very well be introduced here. This condition of the vascular system is identical with that which exists in hysterical attacks, when the arteries are contracted and the renal secretion is active. This alteration of the blood-vessels by emotion has not escaped the keen observation of our writers. Thus Charlotte Brontë makes Mr. Rochester feel Jane Eyre's pulse when he wishes to make sure that she will not flinch or turn sick at the sight of blood. " 'Just give me your hand,' he said; it will not do to risk a fainting fit.' I put my fingers into his. 'Warm and steady,' was the remark." There was no palsyng terror there. The circulation was free and undisturbed.

When the peripheral vessels are dilated, as is the case when the extremities are warm, the blood-pressure in the arteries is low, and the heart is not disturbed. On the other hand, when terror leads to contraction of the peripheral vessels—probably from the ordinary inhibition of the vasomotor centre being withdrawn—then there is a rise in the arterial tension, the ventricle has more obstruction to overcome, the internal pressure on the heart-walls is increased, and then palpitation follows. The beating heart of dread is thus probably rather a secondary condition, consequent upon changes in the blood-pressure in the arteries, than a primary emotional disturbance of the cardiac centres.

The blush, the *Schiamroth* of the German, is also an emotional disturbance of the vascular system, and extends over the surface generally. It is not confined to the face merely, though on account of the great vascularity of the face it is most pronounced there, as well as being most visible there, the rest of the body being covered with clothes. It extends over the body, and Dieffenbach found a blush to extend over the nates and thighs of a female patient whose genitalia he was examining. When the blood-pressure in the arteries is suddenly lowered, the rhythm of the heart is momentarily disturbed; and the blush in girls is usually accompanied by excited action of the heart. In these emotional conditions the sympathetic nerve connexions of the heart are involved.

But there are other conditions where we must suppose the vagi to be the means by which the cardiac disturbance is induced. We know that the vagi exert a controlling or inhibitory action over the cardiac ganglia: that irritation of the vagi slows the heart's action; indeed, if the irritation be sufficiently pronounced, the heart's action can be completely arrested. A voluntary control over the heart can thus be effected by persons who possess the requisite strength of will. This is seen in the steady hand of the practised rifle-shot. If he could not control his emotional disturbance of the vascular system, the shock of the bounding pulse would shake his left arm and disturb his aim. This quality is popularly called "coolness." So great is the voluntary control that can be exercised over the heart, that some persons can actually arrest the heart by an effort of will. Such was the case in the well-known Lieut.-Colonel Townsend, who did not, as is often said, kill himself by the exercise of this power. A well-known physiologist in this country can do the same thing to a surprising extent, but he does not practise the power unduly. Disturbance of the rhythm of the heart is a well-known consequence of some forms of cerebral disease, as hydrocephalus, and is of bad prognostic omen. The heart's action is rendered irregular and un-rhythmical in cases of compression of the brain, and inflammation of it (Marshall Hall). A curious instance of disturb-

ance of the rhythm of the heart came under my notice lately in the person of a medical student. He was a tall, stalwart young man of good family history, but whose heart had acquired the trick of beating somewhat irregularly. While examining him one day I asked him a question, my ear being still on the stethoscope ; he had to think a moment, and in doing so his heart's action became slowed and intermitted. This was often repeated on other visits ; and whenever a question was asked involving thought for its answer, the disturbance of the rhythm of the heart was observed : questions not requiring thought for their answer did not produce this cardiac irregularity.

Disturbance of the heart is also produced by pressure on the vagus. The famous Czermak of Prague, the introducer of the laryngoscope, had a tumour in the neck, over which lay the vagus. On pressing the vagus upon this tumour the heart could be slowed and arrested. A well-known case is that related by Romberg in his work on Diseases of the Nervous System (vol. ii). It occurred in Heine's wards in Vienna. Here the heart stood still for a distinct interval, the man during the time of the halt suffering intense agony. A tumour involving the vagus was diagnosed by Heine and Skoda, and found by Rokitansky on the necropsy.

Neurosals angina pectoris is an affection of the nervous mechanism of the heart ; but a more exact definition is not yet possible. In my own experience it has chiefly occurred in women at or near the menopause. In pronounced cases the agony induced is very great. True neurosal angina must be discriminated from that slight form of genuine angina found in gouty persons, where the heart is temporarily embarrassed by a sudden contraction of the arterioles raising the blood-pressure in the heart, and so rendering it more difficult for the ventricle to contract and overcome the obstruction so offered.

The usual symptom of neurosal disturbance in the heart is palpitation. It is found so associated most commonly in women. Here the heart is affected by paroxysms at intervals, the rhythm being normal during the interval ; or there is a more or less persistent excited action of the heart. In

some cases the action of the heart is excited, and it thumps against the chest-walls in a manner which is very distressing to patients, interfering with their work, and causing them much annoyance, as preventing them from falling off asleep, or awakening them suddenly and alarming them. Of course, in such a persisting condition there are paroxysms which are very disturbing. Such a heart might be designated a "badly-behaved heart," for its behaviour is very bad indeed. It is a troublesome condition to treat, and requires time for the treatment to be successful. A well-marked instance of such a case is to be found in one of the out-patients of this hospital, a girl, whose mother also has a heart of like character. The mother has become practically cured for the time by a course of quinine and hydrobromic acid; but the daughter's case is a more troublesome one than the mother's. Another case, a Jewess, a tailoress, was a patient at Victoria Park Hospital. Being also ænemic, bromide of potassium with iron was prescribed for her. After several weeks, during which no relief even was afforded by the treatment; improvement suddenly set in, and her heart once more beat like other people's hearts. In these cases it seems that the heart is swung in a delicate nerve balance, so that it is readily disturbed by what would cause no perturbation in other hearts. This must be borne in mind in neurosal affections of the heart; just as we know that with some persons the liver is easily disturbed, in others the stomach, and in others again the brain, so there are people who possess hearts that are easily perturbed.

Palpitation is a phenomenon about which it is very desirable to have clear ideas. And in order to have clear ideas it is necessary to be familiar with the circumstances under which palpitation is induced. It may be neurosal, or it may be due to muscular embarrassment. For successful treatment it is essential to be accurate as to which form we have to deal with.

We will take the muscular form first, and get rid of it. It was stated in the second lecture that hypertrophy of the heart was due to increased internal pressure upon the heart-walls, and that more rapid and powerful discharges of the

cardiac ganglia were induced* by this increased internal pressure. This is achieved by the sensory nerves of the heart conveying the impression to the cardiac ganglia. We there saw that increased motor activity was accompanied by a dilatation of the blood-vessels carrying more nutritive material to the functionally active muscle. Now, the palpitation of muscular inefficiency stands in a most suggestive relation to hypertrophy, and the view of its causation expounded in these lectures. Palpitation, or an excited condition of the heart's action, differing from it in but degree, is induced in most persons by rapidly ascending several flights of stairs. We know that in such effort the blood-pressure in the arteries is greatly raised. We know that an aortic cusp is occasionally torn down by the high blood-pressure of violent effort. Observations made on rowers show that the blood-pressure during one portion of the stroke is enormously raised, though it falls again at another part. We are familiar with the fact of effort producing aortic valvulitis and hypertrophy. Very well, then, we can comprehend that when the heart is suddenly embarrassed by effort, and the blood-pressure in the arteries rises, the heart is not completely emptied ; a portion is left behind on each systole, the blood rushes in from the veins behind, and the internal pressure on the muscular chamber is increased ; consequently the condition of temporary distension of the heart is produced. This distension, through the sensory nerves of the heart, leads to more rapid and more powerful discharges of the cardiac ganglia ; and thus palpitation or more energetic muscular contraction is set up, and the heart recovers itself. Under such circumstances palpitation is an indication of muscular embarrassment. In a dilated heart palpitation is readily induced by slight causes ; it is then an active sign of debility in the heart. This corroborates what was said at the second lecture, that dilatation is a low form of a new equilibrium limiting the powers of the patient. Such palpitation, induced by effort, requires its own treatment. Here rest, limiting the demand upon the heart, is the first point to be attended to. Then it is well to give an agent like digitalis, which excites more

energetic ventricular contractions, and so enables the heart-walls to meet the increased internal pressure within them. Such palpitation may often be utilised in practice ; and a few turns sharply round the room will often reveal the debility of a heart which beats steadily and rhythmically while the patient is quiet.

Then again, there is the palpitation common in those who are the subjects of gout, or of chronic Bright's disease ; and especially women, where, as said before, the hypertrophy is usually blended with dilatation. Here any sudden variation of the calibre of the peripheral arterioles is accompanied by a rise in the blood-pressure in the arteries, the ventricle is embarrassed, and palpitation is the consequence. As said before, the sensory nerve of the heart is also the vaso-inhibitory nerve, and dilates the peripheral arterioles when the blood-pressure within the left ventricle is high. The best method of treating such palpitation is to follow the natural indications, and to dilate the peripheral arterioles with amyl. This drug dilates the terminal vessels just as they dilate in a blush, and so lowers the arterial tension and the blood-pressure within the heart. I made a series of observations on the out-patients of this hospital recently as to the action of amyl. The slow, steady stroke of the hypertrophied heart, and the tense vessels, were at once exchanged for a rapid, light stroke of the heart, with compressible arteries ; indeed, a condition of the vasular system like that existing in pyrexia was induced. In the paroxysms of palpitation in lithiasis, amyl promises to be most useful, relaxing arteriole spasm. The palpitation of hysteria, also due to arteriole spasm, would probably be equally benefitted by the inhalation of amyl, a perfectly safe agent in medicinal doses. Of course, the preventive treatment of the palpitation of lithiasis is that given for that condition in the last lecture.

As to the relations of palpitation to a high blood-pressure, the letter I read in my last lecture, from an old patient, a Westmoreland peasant with old-standing mitral disease, contains a most pregnant and suggestive remark. He writes : " I have frequent attacks of palpitation, followed

by a feeling of suffocation, continuing from ten minutes to half an hour ; they then pass off, leaving nothing disagreeable. I am suffering from a cold I got three weeks ago, and what is most singular, I never have palpitation when in that state." In the pyrexia of a cold the blood-pressure in the arteries is lowered by dilatation of the peripheral vessels ; and the square-headed sphygmographic tracing of high blood-pressure in gouty conditions is changed by a cold to the acutely-pointed tracing of pyretic states with low arterial pressure. Now, without supposing that there is nothing more complex in this matter than the variation in the arterial blood-pressure produced by a cold, this fact of no palpitation during a cold is very suggestive as to the cause of palpitation in muscular embarrassment. The peripheral arterioles are dilated, the blood-pressure in the arteries is lowered, and then the crippled heart can contract and expel its contents without difficulty, and so no palpitation occurs. In addition to this there is of course quiescence during the enforced rest of a cold, and thus the heart is not taxed by muscular effort. Taken altogether this statement is exceedingly suggestive as to the relations of palpitation to a high arterial tension, and the effects produced by the lowering of the pressure in the arteries. Indeed, it would suggest that in some states of palpitation where there is valvular disease, the lowering of the arterial tension by the inhalation of amyl nitrite is likely to relieve the heart and do away with the palpitation.

These two forms of palpitation must then, for practical purposes, be distinguished from that form of palpitation which seems a neurosis of the cardiac ganglia. This is the form commonly seen in girls. It is distinguished from the palpitation of muscular incapacity in that effort does not affect it. It is distinguished from the palpitation of lithiasis in that it is not accompanied by any atheromatous changes in the blood-vessels, and the pulse is not firm and incompressible. Broadly speaking, too, it occurs in the sex at or the time of life which are not those of the other two forms. Certainly it is not uncommon at the menopause, especially in women who are of plethoric habit, and who have dilated

hearts. It is often seen well pronounced in girls where there is no history of fright or excitement to account for it, and where one is driven to the conclusion that it depends upon a susceptible condition of the cardiac ganglia—a true neurosis indeed. As such must it be treated. It is necessary to give bromide of potassium or hydrobromic acid, the latter going well with quinine. If the patient be also anæmic it is well to combine the bromide of potassium with the tincture of the muriate of iron. This combination has, however, a marked tendency to produce constipation in many persons, and so the addition of a little sulphate of magnesia may be indicated. Of course the avoidance of all forms of excitement is desirable. The aggravation of the condition of such patients by a thunderstorm is very pronounced. In almost all cases of palpitation a belladonna plaster over the heart does good.

Closely allied to this form of palpitation is that which must be termed “reflex”—as, for instance, the palpitation associated with a prolapse of the womb, and which is at once relieved by the restoration of the womb to its position by proper surgical measures and appliances. It is found in other forms of uterine disturbance than prolapse. It is also commonly associated with ovarian disturbance, in married women as well as single. Conditions of ovarian congestion, or even of neuralgia, without increase of vascularity, cause a variety of reflex disturbances. We may find it at the bottom of persisting conditions of gastric irritability and dyspepsia, and may consequently formulate the term “an affectionate dyspeptic.” Or it may cause a neurosal cough, or disturbance in the heart, as reflex palpitation. It is the common cause of the intercostal neuralgia so frequent with women. Nor does such reflex disturbance present any difficulty as to the comprehension of its *modus operandi*. Recurrent waves of nerve-perturbation arise or are set up in the ovary; they traverse a series of nerve fibres until they terminate ultimately where the disturbance is felt. Just as when a row of ivory balls are hung in contact with each other in a line, and the end one is struck, it is the last one at the other end which flies from its place, So perturba-

tions arising in the ovary may reach their terminal *locales* in the nerve-endings in the gastric walls, or in the cardiac ganglia, where they cause palpitation : or in the respiratory centre, where they cause a neurosal cough ; or in the peripheral endings of the intercostal or facial nerves, where they are felt as gusts of neuralgic pain. This form of palpitation is the most common of the neurosal forms of palpitation, and should always be kept in mind in forming a diagnosis. As to the treatment, it is founded upon the pathology of the affection. The ovarian condition must be attended to by purgatives, especially salines, and blisters over the affected ovary—for more often one than both are affected. Then those nerve-tracts must be influenced along which the impulses travel, and this is most effectually done by giving bromide of potassium in scruple doses. By such treatment combined relief is soon furnished, except in those cases where the heart is naturally excitable ; and in such cases more time must be allowed for the successful treatment, and a less perfect result be looked forward to.

The heart is the seat of the emotions, as the older physiologists placed it, is intimately related with the reproductive organs and the passions. The exercise of the nuptial rite is not uncommonly productive of disturbed action of the heart—not palpitation only, but unrhythmical action accompanied by loss of power. In many cases this does not necessarily involve over-indulgence ; but merely that an unusually susceptible heart is perturbed by what in others causes no disturbance. Such is not uncommonly the explanation of disturbed cardiac action inexplicable in every other way. Many men who live in the country under the most favourable circumstances—clergymen, for instance—suffer from disturbed cardiac action, with a feeling of not being quite well, which has no ready explanation. On accurate analysis it will be found that it is not the discharge of their social, nor yet of their parochial, but rather of their spousal, duties which is telling on them. Of course in these cases the causation must be borne in mind in the treatment, which is usually unsatisfactory. It is a matter too in which the medical man, especially a young one, will do well to tread

warily, as the carrying out of his advice too strictly may lead to unfounded suspicions and domestic unhappiness.

Having eliminated these reflex conditions of neurosal palpitation, there remains finally a form of palpitation which is as truly neurosal as whooping-cough. Whooping-cough is a neurosal disturbance of the respiratory centre—an explosive discharge of the centres which preside over the respiration. In the same way we may have neurosal disturbance in the cardiac centres manifesting themselves in bouts of excessive nerve-discharges leading to violent paroxysms of palpitation. Here the action of the heart is very violent for the time, but the pulse is not affected, and the tumultuous excitement of the central organ is not communicated to the rest of the vascular system. In such cases as these the line of treatment to be followed must, in the present state of our knowledge, be truly tentative. It may be found in some cases that tonics—steel, quinine, or strychnia—are indicated; while in others, sedatives, as bromide of potassium, are rather suggested. In prescribing for whooping-cough and asthma we now study the condition of the respiration betwixt the paroxysms; so, in genuine neurosal palpitation, we shall probably find that careful observation of the condition of the vascular system ordinarily will suggest the appropriate treatment for the neurosal paroxysms.

Where the heart's action betwixt the paroxysms is excited, then probably bromide of potassium is the drug most likely to be of service. On the other hand, if during the interval the pulse is compressible, and the heart's action quiet and steady, then belladonna or strychnia, with or without a little digitalis or iron, seems rather to be indicated. In the production of these intermittent attacks of palpitation we do not yet know what part is played by the vaso-motor nerves. It seems probable that in some cases of neurosal palpitation, the starting-point may possibly not be so much in the cardiac ganglia as in the alteration of the calibre of the small arteries from vaso-motor disturbance. A sudden alteration in the blood-pressure within the arteries from arteriole spasm would, we can conceive, be very likely

to alter the heart's action from the obstruction offered to the complete contraction of the ventricle in systole. We all know that there are two neurosal conditions in which excited and not rarely violent action of the heart is found. These are chorea and Grave's disease. In both of these affections the heart will beat in such a manner as to cause a tremendous impulse in the thoracic walls ; indeed, the Germans use a word corresponding to our word "shattering," because the violent action of the heart suggests the idea that it will shatter off the chest-walls over it. As to how the heart becomes thus affected in these two maladies we do not yet know. Whether there is a loss of control of the higher centres, some paresis of the vagus and loss of that inhibitory or controlling action of this nerve over the discharges of the cardiac ganglia, or not, cannot yet be affirmed; or whether there is a neurotic condition of the cardiac ganglia, so that they for the time escape from the control of the vagus, may not yet be dogmatically stated. Trousseau describes Grave's disease as "a neurosis of the sympathetic," suggesting the idea that the malady starts in some disturbance of the sympathetic nerve and its ganglia, rather than in any modification of the control exercised by the vagus. Certain it is that in palpitation associated with chorea, bromide of potassium combined with iron gives the best results, perhaps, of any plan of treatment. In Graves's disease no treatment is very satisfactory, as it is a most intractable condition ; and, probably, of all forms of palpitation, that associated with Graves's disease is the one for which we can do least, and where any temporary good achieved is most fleeting and least durable. The treatment of the palpitation in these conditions is the treatment of the general state, and for that each case must be studied separately and therapeutically approached according to its individual indications.

In considering the neurosal affections of the heart we must face the broad question, "Are the nervous disorders of the heart on the increase at the present time?" And there is no doubt an affirmative answer must be given to this question. The forms of palpitation described above must have

existed from all time ; and the bosoms of the spouses of primitive man must have vibrated from the violent action of the heart ;—ages before advancing civilization had rendered the nervous system of women eminently susceptible, and given to it a delicacy of organisation which has long been the characteristic of refined women. It may be questioned how far there is any increase in the neurosal affections to which women are liable beyond what is fairly attributable to the extending habit of tea-drinking to excess. But as to the increasing liability of men to have nervous disorders of the heart there can be no doubt ; this is due chiefly to the exciting circumstances under which many men now live—circumstances which increase the taxation of the nervous system. We know that diseases of the nervous system, including insanity, are at the present time greatly on the increase ; and good authorities like Dr. Crichton Browne tell us prophetically that such diseases must increase in the future as the battle of life falls more on the nervous system, and less on muscles, bones, thews, and sinews. The observations of Dr. Da Costa of Philadelphia, during the late American Civil War bear out what has just been said. He observed a form of heart disturbance then seen by him, which has not been described by any previous writer. This form of neurosal affection of the heart he denominates “Irritable Heart.” He found it usually among men who had been engaged in active service, and who got either an attack of ague or of diarrhœa, something indeed which pulled them down. After a short stay in hospital the patient would rejoin his command, but soon found that he was not equal to his work as before. He would be attacked by dizziness and palpitation when on the march, so that he had to be invalided. The heart’s action would be excited and irregular, resembling that condition previously spoken of which I said might be called “a badly behaved heart.” No doubt the condition was set up by the excitement of that remarkable war acting upon a people whose nervous system is highly strung—that is, speaking of them as a nation. Indeed, the whole circumstances are merely a foreshadowing of the general condition of life and nervous sys-

tem which we seem steadily approaching. In this condition there is a mobile pulse readily affected by posture, varying from twenty to forty or more per minute when the recumbent posture is abandoned and the patient stands up; the respiration not being correspondingly affected. Then exertion is badly borne by them. There are also concomitant nervous affections, with a tendency to free perspiration, especially of the hands. It did not seem associated with excess in tobacco, or sexual excess, but rather with excitement and fatigue. It is a very intractable condition, and Da Costa says the treatment is never a short one. As to the line of treatment to be adopted, he states that when there was concomitant hypertrophy, then aconite was most useful, as lowering the excited action. But when there was debility of the circulation, then digitalis, belladonna, veratrum viride, or strychnia, were most serviceable. In fact, Dr. Da Costa found out thoroughly what has just been said about the neurosal affections of the heart, that the general conditions accompanying the cardiac disturbance must be our guide to the treatment of each individual case. This "irritable heart" is comparatively rare with men, but several distinct cases have enabled me to verify Dr. Da Costa's observations and description.

The next matter to engage our attention is that disturbance of the heart's action known as *irregularity*. Here there may be no palpitation, or only on exertion, but in the midst of rhythmical contractions the heart makes a pause, a brief halt, which does not extend to a true intermittence of a beat. Dr. B. W. Richardson describes it thus:—"It is like a smith who, striking on a forge a number of strokes in rhythmical succession until tired, changes the action for a moment to give a more deliberate and determinate blow, and then rings on again in regular time." To me it had resembled the change of a horse's feet when cantering, when commencing, for a change to lead with the other foot first. It is commonly found along with dilatation, and gives one very distinctly the impression of the heart rolling over and then going on again in rhythmic measure. Sometimes this halting beat is of unwonted force, as if the longer it had

been kept back the more powerful it grew. George Balfour in reference to this phenomenon quotes the lines of Ballantyne—

“ My vera heart goes loup, loup,
Fifty times a day.”

And this describes very accurately the condition of the cardiac action in an anxious mother with a feeble heart. Such irregular action is a true nervous phenomenon, but, nevertheless, one rarely found without some impairment of the muscular walls of the heart. It is therefore of worse prognostic import than simple palpitation. Whenever it is found, and along with it there is palpitation on slight effort, it is pretty certain that there is some dilatation about the cardiac cavities, usually with thinning of the walls. Sometimes it is found every fourth or fifth beat, and in other cases at every fifteenth or twentieth. Broadly it may be said, the more frequent it is, and the more readily it is increased on slight exertion, the more significant it is. The longer the rhythmic intervals, the less serious its indications, so that it may be little more than a nervous phenomenon allied to intermittency.

Intermittency is a phenomenon of great importance practically, and a thorough and complete understanding of it is very desirable. To B. W. Richardson are we indebted for the full exposition of its being in many cases a purely nervous phenomenon. He would hold that it is exclusively a nervous phenomenon, and that it has no relation whatever to any organic change in the heart. In this I cannot quite agree with him. The intermittent stroke must of course be due to some modification of the rhythmic discharges of the cardiac ganglia; if the motor explosion was discharged muscular contraction would follow. Consequently we are compelled to admit that it is a nervous phenomenon; but while doing so I think its diagnostic and prognostic value depends upon its concomitants. Thus in persons comparatively young and otherwise perfectly healthy, the intermission of a beat in their pulse, even at rhythmic intervals, is a matter of little moment. It is a mere nervous disturbance, and has no practical value. The halt does not produce any

alteration in the blood-pressure in the arteries, and therefore has no evil effect upon the economy. It may be dismissed as in itself being of no moment. Dr. Richardson has given a series of cases where this intermittency has been produced emotionally. Thus, in one case it was induced by terror during shipwreck, and occurred four or five times per minute ; at first the patient was painfully conscious of it, but in time it fell to two in a minute, and he ceased to be conscious of it. In another case it was induced by grief, and when the case was first seen the intermissions were no fewer than twenty-three in the minute. Under treatment she recovered perfectly for all practical purposes, the halt only occurring in one out of 160 beats. In another case it was induced by passion. In a fourth it was induced by fatigue, mental and bodily. Here it returned whenever the patient was overworked or emotionally excited. In one case it was congenital, and was found in an infant on the day of his birth, and continued until it was five years old, when it gradually disappeared. From two cases referred to by him it would appear that cardiac intermittency may, to a certain extent be hereditary, or a mere family peculiarity. But even Dr. Richardson says—"In old age intermittent action of the heart is exceedingly common." It is indeed associated with senile changes ; and though I know a number of medical men of advanced life, who have had an intermittent pulse for years, and who still are hale ; nevertheless, in many other cases I have found it associated with organic changes which in no long time ended in death. Dr. Richardson says—"The intermittency of the arterial pulse occurs from an independent failure of action of the left ventricle of the heart. The ventricle continues in diastole for two or more strokes of its systole." This is probably the explanation of the phenomenon ; and from some observations made on rats at the time I was the Senior Resident Medical Officer of the Leeds Dispensary, I can say that when the chest was opened and the animal was dying, there was distinct intermission of the ventricular beat ; at first, the ventricular contraction was set up by the second auricular contraction, no ventricular systole following one auric-

ular contraction ; but as the animals died, a third and even a fourth auricular contraction occurred before the movement in the auricle was continued into the ventricle. Probably the same thing occurs in man, not only in the intermittent pulse of the moribund condition, but in that which is found as a permanent condition, especially in the aged. While maintaining that it is a nervous phenomenon, Dr. Richardson writes—"The man or woman with a hesitating heart is thereby unfitted for sudden tasks, demands, resolves, which, when the heart is firm, are considered as of comparatively little moment ; for when the heart hesitates, the brain, which reposes for its power on the blood the heart supplies to it, falters with the heart, just as the gas flickers when the steady pressure is taken off the main." In long protracted halts, lasting over four ordinary beats of the heart, of which I have seen two cases, the sensations of the patients were terrible, as their features testified as well as their tongues. When the halt is so long that the brain is insufficiently supplied with blood, the intermittency is a malady ; when an occasional intermittence occurs, but does not affect the blood-pressure in the arteries, then it is of no gravity. In one case of distinct intermittent pulse in a gentleman under my care, it was diagnosed as depending on an insufficiency of sleep ; and proper hours of sleep soon put an end to the phenomenon.

Dr. George Balfour says of simple intermittence—"It is sometimes only an early indication of failure of cardiac power dependent upon anæmia, overwork, or worry, or upon valvular disease or gout, but it is often a purely nervous phenomenon." He also notices the thump or "loup" which follows the intermission ; it is a powerful contraction of the ventricle after its momentary halt. In some cases of sudden death due to emotion, he believes the cause of death is a permanent halt of the ventricle. He goes on to say—"At other times, partly from the intensity of the impression, but chiefly from debility of the nervous system, this 'loup,' thump, or intermission, of which the loup is the most striking subjective symptom, not only occurs under the instantaneous excitement of any emotion, but repeats itself, at

first at shorter, afterwards at longer intervals, until at length it dies out under the re-assertion of the normal condition of the nervous system. Now and then, however, it never dies out, but repeats itself so long as life continues." He relates a case, that of an old gouty lady, who was attacked with syncope, where he found the radial pulse only twenty to the minute. On examining the heart, he found it beating "with perfect regularity, but with unequal force, so that the apparent abnormal slowness of the pulse was simply due to the fact that only about every third beat reached the periphery." Such is certainly the fact in some cases of intermittence in old persons; there is not a complete halt of the ventricle, but a systole so incomplete and feeble that it does not reach the radial pulse.

Finally, all knowledge commences by vague impressions, often erroneous, and not rarely misleading and unfounded. But these imperfect impressions are the pioneers of truer knowledge; just as the view of Sir Dominic Corrigan—that the utility of digitalis in aortic stenosis lay in its slowing the ventricular contraction so that more time was allowed for the blood to pass the narrowed ostium—though now known to be erroneous, led to more careful observation, and a truer knowledge of the action of digitalis. We now know that the good effected is by setting a more powerful contraction against a narrowed orifice, so that a normal amount of blood is thrown into the aorta each minute, and so the wants of the system are met, and the stenosis compensated. So the views set forth here may need modification and correction, and yet in so doing add to the sum total of our positive knowledge about the diseases of the heart. As the mystery surrounding them melts away, and the clouds of imperfect information are rolled forth to make way for the more perfect light of day, so we shall find that, instead of occult conditions which we can detect, but not explain, we shall be able in each case of heart disease to understand its causation, and the direction which it is moving, and so do much both in the way of prevention and retardation; and may often usefully aid the natural efforts at compensation by our knowledge of and acquaintance with them and how

they are brought about.—*Med. Times and Gazette*, Dec. 7, and 14, 1878, pp. 647, 675.

ART. II. *Thrombosis of the Sinuses of the Dura Mater in Fatal Cases of Dysentery in Young Children.* By SAMUEL C. BUSEY, M.D., Professor of the Theory and Practice of Medicine, Medical Department, University of Georgetown; one of the Physicians to the Children's Hospital, Washington, D. C.

It has been my misfortune to lose a number of cases of dysentery in young children; and, in every case, so far as I can recall the clinical histories, the fatal issue has taken place under precisely similar circumstances. In several cases during the acuteness of the attack, but more frequently after the characteristic symptoms had subsided and when convalescence seemed almost established, the child would be seized with convulsions, which, in occasional cases, recurred a second and a third time, and were followed by coma and death. In no instance has consciousness returned after the first convulsion.

These observations have led me to suspect that in Dysentery, as in fatal cases of exhaustive diarrhea in young children, the convulsions which so frequently precede death found their cause in thrombosis* of the sinuses of the dura mater, but in the absence of post-mortem examination, I could not verify it. The more commonly accepted opinion ascribes the final convulsions of exhaustive diarrheas to cerebral anemia, and it is undoubtedly true that both conditions not infrequently co-exist.

Marshall Hall was the first to recognize and differentiate spurious hydrocephalus from other intercranial diseases with which it had been previously confounded; yet he probably included in the clinical description of hydrocephaloid disease its congener, with which it is so closely allied in cause, symptoms, course, and result. In fact, both are the proximate effects of exhaustion and waste. Nothnagel, Gerhardt,

* Gerhardt found thrombi in the sinuses of the dura mater in seven autopsies of children who had died of profuse diarrhea, attended with cyanosis, coma, and convulsions.

and others assert that thrombosis of the cerebral sinuses occurring in young children, when the walls of the venous channels are free from disease, "originate in conditions of the nature of marasmus." J. Lewis Smith, Steiner, and Vogel enumerate chronic gastro-intestinal diseases among the causes, and more recently Bouchut has definitely determined the fact that such formations may and frequently do occur in a variety of the chronic affections of young children, and occasionally at the termination of acute diseases. In such cases death is preceded by convulsions.

I have also observed, in a limited number of fatal cases of protracted diarrhea in very young children, œdema of the lower extremities; in two instances associated with discoloration of the integument of the feet and legs, supervening several days previous to death. Whilst I had learned to regard these phenomena as indications of a fatal issue, I had not until the recent researches of Bouchut recognized the formation of thrombi in the pelvic veins as the cause of the venous stasis and the serous transudation into the subcutaneous cellular tissue.

Dysentery in young children is comparatively a rare form of intestinal disease in this locality, but three cases having been treated in the Children's Hospital since its foundation in 1871, consequently opportunities to make post-mortem examinations are not often secured. But recently, and only in a single case, have I obtained permission to examine the brain of a child dead of this disease.

This child was a patient in the Children's Hospital, under the care of my colleague Dr. W. W. Johnston, who has permitted me to use the notes of the post-mortem. From the date of admission I made daily inquiries concerning the course and progress of the case, and when informed by the house physician that the dysentery symptoms had all subsided, I replied that the child was very far from being out of danger; in fact, that the case had reached the stage when the danger of convulsions was imminent, and if such should occur, coma and death would follow. The next day he informed me that the patient had had three convulsions and was comatose. It died a few hours later.

Post-mortem by Dr. A. C. Adams, twenty-four hours after death. Body emaciated, eyes sunken, abdominal walls retracted ; rigidity slight.

Brain : weight 2 lbs. $5\frac{1}{4}$ oz., anemic, effusion (estimated) into the arachnoid cavity 1 pint, slight in ventricles. Black clots in all the sinuses, and a large white fibrinous thrombus at the junction of the right lateral with the petrosal sinuses.

Heart : effusion into pericardium ; white fibrinous clots in superior vena cava, extending into right auricle and firmly attached to base of tricuspid valve. No blood in either ventricle ; valves intact ; weight $1\frac{1}{4}$ ozs.

Lungs : float in water ; weight $7\frac{1}{2}$ ozs. ; left normal ; right contained in middle lobe a cheesy mass as large as a hen's egg ; this lobe was firmly attached to the pleura. Lungs anemic ; no tubercular deposits. A cheesy bronchial gland as large as a pigeon's egg.

Abdomen : abdominal walls thin, destitute of fat ; omentum contained but little fat ; mesenteric glands slightly enlarged and congested. Intestines contain small quantities of fæces ; nothing abnormal in the small, in the large intestines patches of inflammation were found all along the track from the cœcum to the anus. Liver anæmic, buff-colored. Gall-bladder distended.

Large depots of pus at lower extremity of either kidney. Weight $1\frac{1}{4}$ oz.

The evidences of exhaustion, waste, and cachexia are obvious, and sufficient, perhaps, to account for the fatal result. But the inquiry cannot rest here, as the object is not so much to determine the cause of death as to ascertain the relation of thrombosis to the clinical phenomena ; to study the means of prevention, and thereby avert the occurrence of a lesion which is incompatible with the long continuance of life.

The intracranial effusion, fulness of the venous channels, and anæmia and lessened weight of the brain-mass are the usual post-mortem conditions concurrent with thrombosis of the sinuses, but are also found, especially, in fatal cases of spurious hydrocephalus, independent of the presence of thrombi. They are not necessarily the result either of

partial or complete occlusion of the sinuses by thrombi, but may be and frequently are the morbid effects of diseases characterized by great exhaustion, inspissation of the blood, and weak heart-action. Cases of such diseases as are complicated with intracranial effusion, shrinkage of brain-mass, and thickening of the blood are not necessarily fatal; they may be successfully met with timely and appropriate treatment. But those in which thrombosis may be either a superadded or a primary lesion, if not certainly fatal acquire such gravity as to preclude any reasonable hope of recovery. The inquiries relate, then, especially to the diagnosis and prophylaxis.

Intracranial lesions are among the most difficult of diagnosis, and often the most cultivated and experienced diagnostician will be baffled in his efforts to determine, in a given case, the anæmic or hyperæmic condition of the brain. But in such diseases as favor the development of spurious hydrocephalus or marantic thrombosis of the sinuses, the previous clinical history would establish the condition of cerebral anæmia beyond a doubt.

A long-continued exhaustive disease, characterized by emaciation, great prostration, a weakened heart, probably a subnormal temperature, dilatation of the pupils, eyes sunken in their sockets, half-closed lids, in very young children a depressed fontanelle, followed by apathy, somnolence, coma, and death, together with the post-mortem evidences of anemia and shrinkage of brain-mass; thickening and stasis of blood in the venous sinuses, and sub-arachnoid effusion would complete the clinical history and post-mortem appearances of a case of hydrocephaloid disease. But even such an array of symptoms would not warrant an absolute diagnosis during life, to the exclusion of marantic thrombosis of the cerebral sinuses. If however, motor disturbances either of a paralytic or convulsive character should be added, the presence of the latter complication would be freed, in a measure, from ambiguity.* It is nevertheless true that,

* In thirty-eight observations of final convulsions in cachectic children, Bouchut found thrombosis of the sinuses in thirty-five cases, and in three, overfilling with blood and encephalitis.

occasionally, symptoms of brain-irritation co-exist with all the usual objective and subjective phenomena of marantic thrombosis, whilst the post-mortem discloses only the conditions usually found in the hydrocephaloid disease. The affections so often co-exist, and both are so alike in their precursory symptomatology, that it is not possible always to make a positive diagnosis of either to the exclusion of the other. Nor is the differentiation a matter of undisputed practical utility, except so far as it enables the practitioner, in the case of marantic thrombosis, to express a hopeless, and in the case of hydrocephaloid disease a less hopeless prognosis.

Marantic thrombosis may be the primary or a superadded lesion. That is, primary or secondary so far as regards the consecutive development of the intracranial lesions which are usually present in fatal cases of the hydrocephaloid diseases and of cerebral thrombosis. General anemia, waste, thickening of the blood, a weakened heart, and brain-anemia and shrinkage, are the constant premonitory and causative conditions. Whether venous stasis from mechanical obstruction to the return current of the blood is ever a cause is a disputed question.

Thrombosis may be single or multiple, and the obstructed channels may be partially or completely occluded. Stasis and clotting of blood in the sinuses, and effusion (when secondary to the formation of these fibrinous masses, as undoubtedly they are in a majority of cases of thrombosis), vary in extent according to the locality of the masses and consequent interruption to the venous circulation. The amount of fluid in the cavity of the arachnoid (Nothnagel) and ventricles is not always increased.

The cure of thrombosis of the sinuses of the dura mater is not probably within the resources of medical science. The few reported successful cases were most likely instances of mistaken diagnosis.

It is only during the premonitory stage, when conditions which favor the development of thrombi are present, that treatment is of any use. In such cases the indications are expressed in exhaustion, weakened heart, and thickening of

the blood. Stimulants, tonics, and diet are the resources at command. These must be employed promptly and vigorously. Unfortunately, it too often happens that the obstacles to nutrition are insurmountable, and treatment proves unavailing.

With each recurring observation of final convulsions in dysentery, I have mentally reviewed and compared the management of the case, hoping to discover the error which might be avoided in subsequent cases. Sometimes it has seemed that stimulants were too long delayed, or inefficiently employed ; at others, that they were too lavishly used and too little attention was given to the diet. In very young children, the pulse, condition of the anterior fontanelle, and symptoms of collapse, are safe guides in regard to the use of stimulants. After the closure of the fontanelle, the pulse and state of exhaustion constitute the only criteria by which the administration of stimulants can be regulated. I apprehend error more often consists in an inefficient rather than in the excessive administration of stimulants. "It is better," says Jacobi, "for children to take in the course of the day three or six ounces of brandy and ten or twelve grains of camphor . . . than it is for parents to bury them next day." Delay in commencing their use is perhaps a more frequent mistake. Stimulants withheld until collapse threatens immediate death, accomplish, as a rule, little more than the prolongation of life for a few hours. But, after all, nourishment constitutes the main reliance. Blood impoverishment progresses with extraordinary rapidity in dysentery. To counteract and stay the development of complications incompatible with life, believed to be the successive results of devastation of the blood, nutrition must be maintained during the acute stage of the disease, and not neglected or deferred until exhaustion is so far advanced and the blood has become so impoverished that digestion and assimilation are physiological impossibilities.

The proper alimentation of sick children is one of the most complex problems of the present day. The routine dietary of the nursery and sick-chamber indiscriminately and uniformly supplied to every sick child and to every

disease, without regard to the demands of the animal economy and to the dietary and digestive idiosyncrasies of the patient, is as reprehensible as routine medication without a knowledge of the nature and progressive stages of the morbid process. Death demonstrate failure, but recovery oftentimes falls far short of establishing the value of the treatment.—*American Journal of Obstetrics.*

ABSTRACT DEPARTMENT.

“Qui e nuce nucleum esse vult, frangit nucem.”

CONTRIBUTED BY PROF. EDWARD MILLER, M.D., LOUISVILLE, KY.

Treatment of Dysentery by Rectal Injection.

Dr. Houghton has for sixteen years been Senior Medical Officer in Sarawak, Borneo, in which place cases of Dysentery abound. He has found, after a very large experience, that besides general treatment local applications in sub-acute and chronic cases of dysentery, by bismuth injections into the rectum, have succeeded wonderfully and that a great many hopeless cases have been greatly relieved. The subnitrate of bismuth to the extent of half a drachm, is to be rubbed down with the same weight of powdered gum arabic in two ounces of cold water and the resulting mixture is to be injected into the rectum from one to three times a day according to the severity of the case. If the enema is retained the tenesmus and tormina will be relieved in a short time. Ipecac is to be given in doses of a scruple to a drachm, at intervals of eight to twelve hours according to the urgency of the symptoms. Clinical records of some hundreds of cases treated in this manner speak most highly of its effect. Dr. King, in a later number of the *Lancet* remarks that in a large proportion of cases the dysenteric mischief is situated at the lower part of the colon and rectum, and local treatment is therefore of importance. In such cases, benefit ensues as a result of directly curative measures, but even when the chief site is higher up, the effort to soothe the mucous membrane of the rectum, and allay spasm of the

sphincter ani, amply repays the attempt by affording rest not only to the diseased bowel, but to the patient generally. If it is advisable to use opium, half a drachm of the tincture of opium may be added to forty grains of bismuth and if in tolerance of ipecacuanha by the mouth is encountered, two scruples of this drug may be added. In either case the bowel is to be washed out in as gentle a manner as possible with lukewarm water. This cleansing is not injurious, but proves of the greatest utility by removing mucous and irritating secretions which by their presence excite tenesmus. The warm water injections simulate the soothing process of fomentation, procure a clean surface for the contact of the drugs, and diminish the chance of the loss of the injection by overcoming, beforehand, the spasm produced by the introduction of the tube. It is essential that the enema be retained. Bodenhamer states in his work on rectal medication, that after the administration of an enema, should there be a desire to pass it, as is the case sometimes, when there exists an exquisitely irritable state of the organ, a sponge or fold of cloth dipped in hot water and firmly pressed against the anus for awhile, will generally appease the desire and enable the patient to retain the enema.—*The Lancet*.

Therapeutics of Starch Digestion. By WILLIAM ROBERTS, M.D., F.R.S.

The digestion of starch consists, as is well-known, in its conversion into sugar and dextrine. This conversion is effected partly by the saliva, and partly by the pancreatic juice and is due to a special ferment contained in these secretions. The ferment of the saliva goes by the name of ptyalin, and is held to be identical with the diastase of malt. That of the pancreas is different but not much is as yet known of it. Before these ferments can exercise their power the cellulose investments of the starch granule must be ruptured, and this is usually accomplished for the human subject by the art of cooking. It is a matter of capital importance, therefore, in the sick room to make sure that gruels, puddings, and other farinaceous dishes, prepared for

the invalid are thoroughly cooked. In infants of three or four months of age the saliva has but feeble diastatic power and the pancreatic secretion is probably inert. Farinaceous articles are unfit food for young infants then unless artificial means are used to assist their digestion. In older people also, various morbid conditions are found, where the saliva is scant, when we can be of use to our patients by remedying this defect by artificial means. In malt and barley we have at command an unlimited supply of diastatic power, and renewed interest has been excited in that subject by the various preparations called "malt extracts," "maltine," etc. Dr. Roberts after thoroughly investigating the subject, comes to the conclusion that the value of these preparations as food is but little better than so much syrup, and that the statements made in the advertisements are ridiculous exaggerations. Their medicinal value depends entirely on the amount of diastase which they contain. Dr. Roberts prefers to use a cold water infusion of malt made by mixing three ounces of (or three piled-up tablespoonsful) of crushed malt with half a pint of cold water. The mixture is allowed to stand over night—that is for twelve or fifteen hours, and is then filtered through paper, yielding about seven ounces of product. Malt infusion as thus prepared has a light brown color like sherry, a faint, sweetish taste, and the odor of beer-wort. It is an energetic diastatic agent and is quite as powerful as the average specimens of malt extract. It will not keep however and must be prepared fresh every day. There are two ways of using these malt preparations. They may be administered with the food, the patient being directed to sip his dose of malt extract or malt infusion during the progress of the meal. Malt extract is taken in doses of one or two dessert spoonsful diluted with water or milk. Malt infusion may be taken in the same way and in similar doses. The malt preparations may be used to predigest the starchy food. Leibig first pointed out the advantage—or rather the necessity—of predigesting the starchy aliments given to young infants and suggested a process for preparing "infant's food." This process, chemically perfect, is complicated and impossible to be performed by ordinary

nurses. All difficulties disappear if we use the malt infusion. By this, Leibig's idea can be carried out to completion with perfect ease, and a much wider application can be given to it than seems to have been contemplated by its illustrious author. The mode of proceeding with the malt infusion is as follows:—A suitable gruel is prepared from wheat, or other flour or from oatmeal, groats, pearl-barley, arrow-root, or any other farina, and may be made with water alone or mixed with milk or broth, in all cases being well boiled. When the gruel is cold, or at least sufficiently cool enough to be tolerated in the mouth, the malt infusion is added. One tablespoonful (well mixed therewith) is sufficient to digest half a pint of gruel. The action is very rapid; in a few minutes the gruel becomes thin from the conversion of the starch. The food is then ready for use. The gruel must be sufficiently cool to be held in the mouth, for the ferment is rendered inert at and above 157°F. The product of the action of malt on starch is not grape sugar nor cane sugar, but maltose, and maltose has very little sweetening power. Gruel thus digested therefore, suffers little change of taste, and the addition of milk or broth produces scarcely any appreciable alteration of flavour. The trials Dr. Roberts has made, in actual practice of food thus concocted, have been highly satisfactory. The extract of pancreas has extraordinary diastatic power. A sample made by infusing one part of fresh pancreas with seven parts of water, was found on trial to possess fully twenty times the diastatic power of the malt infusion, and might be used as a substitute in reduced doses. It has, however, more important uses as an artificial aid to the digestion of proteid substances, with which we are not at present concerned.—*The Practitioner*.

On the Treatment of the Pedicle in Ovariectomy. By HEYWOOD SMITH, M.A., M.D., Oxon.

The plan for securing the pedicle may be arranged in two divisions, viz.: the extra-peritoneal method and the intra-peritoneal. Of the extra-peritoneal methods for securing the pedicle we may disregard all but the clamp, for that has

been so successful in the hands of Spencer Wells that scarcely any one would revert to the old way of stitching the pedicle to the wound or transfixing it with the hare-lip pins. The success of the clamp is partially due to the experience of the operator, but chiefly to the class of cases in which it is used—those with a considerable length of the pedicle. The advantages of the clamp are supposed to be, facility of application, the avoidance of secondary hæmorrhage and the retention outside the peritoneal cavity of any septic mischief from the dying stump. The disadvantages are that the uterus is bound to the abdominal walls giving rise to obliquity in subsequent pregnancies, a premature operation of the clamp may cause hæmorrhage, and should the stump not adhere to the wound all around, which from its smooth surface is likely to be the case, a channel is left whereby septic matter from the dead stump may find its way into the peritoneal cavity. 2. Of the intra-peritoneal, two only need be referred to, viz. : the ligature and the cautery. The ligature is of more universal application than the cautery, as in some short pedicles deep, in the pelvis, the cautery cannot be used. The advantages of the ligature are, complete strangulation of the vessels, and so immunity from the probability of hæmorrhage ; the short time necessary for its application ; and in cases where the pedicle is close to the uterus it disturbs that organ less than any other method. The disadvantages are that a foreign body is introduced into the peritoneal cavity, leading in some cases to abscess ; and when the pedicle is thick or short as to necessitate the application close to the uterus, the retraction of some portion or of the whole, may lead to a slackening of the ligature and so to hæmorrhage. The best substance for the ligature, not only for ordinary pedicles, but for those thick broad pedicles which have to be tied in sections, is strong silk carbolized. It is very strong, it constricts the pedicle effectually and being an animal substance gives rise to less irritation than other materials. The silk ligature when it is absorbed never disappears so early as to lead to any danger from hæmorrhage, as does the catgut. The cautery is the most successful method for treating the stump.

Its advantages are, facility of application, its thorough efficaciousness and its introducing no foreign body into the peritoneal cavity. It can be used in every case where the pedicle can be brought out to the surface of the wound, and by a modification of the cautery clamp it might possibly be used deep in the pelvis. It is a good plan to apply torsion to any prominent vessel of the stump before using the cautery and then to use an iron large enough to cover the whole stump. The almost universal use of the antiseptic method of operating leads to the employment of one or the other of these intra-peritoneal methods of treating the pedicle, for it is of the utmost importance that the wound should heal by first intention which it is less likely to do when the pedicle is secured in the wound.—*The Obstetrical Journal of Great Britain and Ireland.*

Accumulation of Cerumen simulating Chronic Bronchitis.

By J. RUDD LEESON, M.B.

Mr. Leeson describes the case of a lady who had had several attacks of bronchitis from which she had fairly recovered, but which again attacked her much to her distress and defied all treatment. She had a severe morning cough, had to rest several times while dressing from exhaustion, and the cough usually terminated in the vomiting of about half a teaspoonful of glassy mucus. The bowels and bladder were relieved almost involuntarily, and all sorts of treatment having been tried in vain, the case was abandoned as a hopeless one of chronic bronchitis. She had suffered from increasing deafness on one side for about two years, and lately had complained of the good ear being affected. On examination, both ears were filled with inspissated cerumen, which after much syringing and working with oil, was removed and her hearing completely restored. From that day she entirely lost her cough and sickness, and appeared to be quite another person. Mr. Leeson hopes that other cases of "chronic bronchitis" may be cured with a like rapidity. As these accumulations in the ears and chronic bronchitis both chiefly affect old people, it may be that the connection between them has hitherto been overlooked,

and in cases of prolonged and troublesome cough it might be advisable to examine the ears carefully with a speculum. The cough is simply a reflex one. Physiologists know that coughing can be excited by tickling the auditory canal, and foreign bodies in the ears are frequently attended with a dry cough.

In this case the stimulus seems to have travelled down the vagus, stopping for a while at the pulmonary plexuses and then following the pneumogastric through the diaphragm to the stomach. The anatomy is more difficult. The auricular branch of the pneumogastric nerve supplies, so far as is at present known, the skin *on the back* of the ear, while the skin of the auditory canal is supplied by the auriculo-temporal branch from the third division of the fifth, this being proved not only by dissection, but also, as Mr. Hilton points out in his lectures on "Rest and Pain," by the frequency of earache accompanying toothache and malignant disease of the tongue, and by stiffness of the jaws (the muscles of mastication being supplied by motor branches from the third division of the fifth) accompanying earache. This case, would seem to prove that there is some communication at their peripheral distribution of the pneumogastric and the auriculo-temporal of the fifth.—*The Lancet*.

The Insidious Progress of Granular Disease of the Kidney.

By W. R. THOMAS, M.D., M.R.C.P.

Granular disease of the kidney is often very slow in its progress and the symptoms are frequently slight and liable to mislead. The urine may not contain albumen for some time and the symptoms may be attributed to some other disease. Dr. Thomas gives the details of three cases which corroborate these observations. The first was a patient who had undergone a great deal of mental exertion, which ultimately resulted in serious renal disease. The symptoms complained of were those of dyspepsia, with head symptoms, yet there was no doubt that a grave disease was progressing in the kidney. The second patient complained of the same dyspeptic symptoms with failing health and then came on severe vomiting and diarrhoea. The third patient had

a number of the symptoms complained of in lead-poisoning. The first two patients died in convulsions and the third of pneumonia. In all there was no doubt that the renal disease was steadily progressing before the serious symptoms appeared. Post-mortem examinations were made in each case and granular kidneys were found. Dr. Thomas states that granular disease of the kidney was the principal cause of death in every instance and remarks that attention may often be drawn to the presence of renal disease, by the patient complaining of such symptoms, as persistent frontal headache; symptoms of cardiac hypertrophy without valvular disease; dyspepsia; vomiting; increasing debility, without apparent cause; frequent micturition at night and impaired vision. An examination of the urine is advisable when such symptoms are present, and the examination should be repeated as the presence of albumen and casts is often intermittent. Whether the cause of the disease is the lithic acid in the blood of the gouty patient; or the alcohol in the blood of the drunkard; or lead in that of the plumber; or an excess of phosphates in those mentally overworked or worried; or an excess of oxalates or lithates from faulty digestion; or the imperfect action of the skin or some other organ—all act in a similar way. Owing to the increased amount of work the kidneys have to do this disease is produced; and not only are the kidneys acted upon by the fluid circulating through them, but other parts—such as the blood-vessels, heart and even the nervous centres; but as the kidneys have the principal work of excretion to perform, they become sooner affected, and are to the physician the local manifestations of a constitutional disease.—*The British Medical Journal*.

THE matter sent by Professor Miller for this issue embraces two more valuable articles, but as this number of the JOURNAL required unusual space, these articles will appear in the next number.

CLINICAL RECORDS.

“*Ex principiis, nascitur probabilitas: ex factis, vero veritas.*”

Short Clinical Reports from Cases Treated in the Presbyterian Eye and Ear Charity Hospital of Baltimore, Md.

By JULIAN J. CHISHOLM, M.D., Surgeon-in-Charge of the Hospital.

Oedema of Lids. L. C., 36, a very stout woman, has both lids of each eye so distended with fluid that she has much difficulty in lifting the upper lids above the pupillary orifice. She complains much of the physical annoyance but suffers no pain. There is no redness, heat nor other evidence of inflammation. The lid trouble is simply one of distension; finger pressure will cause a decided wilting of the lids, by the displacement of some of the suffused fluid. As soon as the pressure is relieved they resume their distended appearance. There is no œdema in any other portion of the body and perfect health even to robustness is enjoyed. No heart disturbance could be found. The lids had been in this swollen condition for 30 months when she applied to the Hospital for treatment. She had exhausted the list of local and general remedies without benefit.

Case 352. *For Shot injury to the Eye of a Child.*—M. S., aged 4, a very pretty little girl, accidentally received a small shot in the right eye six months since. The eye was destroyed by the accident so that there is no appreciation of sight. With the exception of a very small spot of perforation, the cornea retains its transparency, the pupil is large and black, with a change of color of the iris to a brown from a blue, the normal color as seen in the other eye. The patient complains of no pain, and in the lost eye there is no injection. The case was brought to the Dispensary to find out if there were any prospects of recovery.

Case 504. *Lens successfully extracted by a blow from a piece of Wood.*—L. S., aged 71, in chopping wood was struck in the left eye by a piece flying upward. When he presented himself at the hospital a few hours after the accident, a wound was found running horizontally across the upper portion of the

cornea, stopping at either ciliary margin, and looking much like a clumsily made incision for cataract extraction. The anterior chamber was full of blood, and all sight had gone. To the eye was applied a four grain solution of atropia, cold water dressings were prescribed, and the patient directed to return to the Dispensary daily. In the course of time the blood was absorbed, and the wound healed without pain or trouble. As no inflammation ensued during the convalescence, it left a clear cornea, and as good a black, although irregular pupil as if from a large upward iridectomy. Now three months after the accident, the patient has a good eye. The lens is absent and the media clear so that a good fundus is exposed to ophthalmoscopic examination. With a two and a half inch magnifying lens he reads as well as most patients after a carefully performed and successful cataract extraction. A blow from a rough piece of wood did the successful cataract extraction in this instance.

Case 477. *Buphthalmos with irregular displacement of the Pupils, a Congenital Condition.*—G. C., aged 14, was noticed soon after birth to have full eyes and singularly shaped pupils. The eye balls grew with his growth, so that when he applied to the Presbyterian Eye and Ear Charity Hospital for treatment, the eye balls were nearly double the usual size, with cornea and iris very much expanded. The pupils in each eye were egg shaped, and were located symmetrically at the inner and lower quadrant of the iris, with the point of the egg shaped opening downwards. They expanded freely upon use of atropia. The discs showed great depression with most marked venous pulsation. There was plus tension. Under glaucomatous pressure sight was fast disappearing. An iridectomy with removal of one-third of the iris was successfully performed on each eye to try and stop the rapid destruction of the visual sense.

Case 540. *Arrest of Development of Eye Ball.*—M. S., aged 6 months, negress, was brought to Hospital to find out whether she had any sight. She was small and feebly nourished. The lids were sunken and lid split very small. When separated by means of a strabismus hook, no vestige

of an eye ball was found in the right socket. In the left a very small eye ball with clear cornea was seen. It was impossible to say whether the diminutive organ possessed any functional power.

Case 644. *Iridectomy for glaucoma followed by Lunacy.*—M. E., aged 50, has suffered severely in her eyes for eight months with gradually increasing dulness of vision. She has been long under treatment for facial neuralgia, the cause of which in the eyes had not been detected. When brought to the Hospital she could not see to walk alone. She was in poor health, was very thin, eyes with increased tension and deeply pitting discs, and at times very painful. A double iridectomy was successfully performed, and no inflammation ensued. So anxious did the patient become under the bandage, for fear that she would not regain her sight, that before the week was out she became a maniac; at times very violent and refusing all food. She believed herself dead. She died some months after the iridectomy, never having regained her mind, although giving evidences at times of having regained some sight.

Case 934. *Loss of Left Eye from sympathetic Inflammation with copious vitreous deposits.*—O. J., aged 18, was shot in the face four years ago. He says that a shot perforated the right eye and put it out, and that some weeks afterwards the sight disappeared from the left eye also. He suffered much at that time. His present condition is as follows: In right eye there is a scar of a shot wound at the upper edge of the cornea in the scleral tissue, which has left a puckered cicatrix. The pupil is drawn upward and adherent to this point. A white lens, small and in a much thickened capsule fills the normal pupil. Under atropia a black rim of enlarged pupil is exposed below. He sees the shadow of objects with this eye. In the left eye the pupil is widely dilated, cornea good, lense clear, and vitreous cavity seemingly full of solid white deposit from the hyaloid face of the lens backward, so that no red reflex can be obtained. There is no perception of light in this eye, and no evidence of shot perforation. If the left eye was lost as he states from sympathetic inflammation solely, it was by a most unusual form of hyalitis.

Sympathetic Irritation after thirty-two years loss of an eye.—E. P., aged 46, lost the right eye thirty-two years since from explosion of gunpowder. The eye ball is atrophied and sunken. It has given him no trouble until recently, when it has become painful, especially upon pressure. The left eye is pained upon exposure to light, and is very uncomfortable upon use for even a short time. The enucleation of the lost eye at once restored strength to the other.

Case 1108. *Fulminating Glaucoma in each eye at an interval of 6 years in a Patient eighty years of age.*—Mrs. M. aged 80, lost sight suddenly in the left eye ten years since, but as good sight continued in the right eye did not seek advice. Four years since she suddenly became blind in the right one, from which time she has seen nothing. At present she has largely dilated pupils with a clear fundus, in which gray atrophic discs, much depressed, are readily seen. A few large characteristic vessels disappear under the conjunctiva at the corneal border. There is no appreciation of light in either eye, and now no pain.

Case 1203. *Lost Eye for thirty-four years, now evidences of sympathetic trouble in the other.*—J. W., aged 35, lost his right eye when eighteen months old from inflammation, which left it a shrunken orb. He has led a life of great exposure, five years in the army, undergoing all kinds of severe hardships, including the loss of an arm in the war, and other wounds. Within a few weeks the old stump of an eye, that has up this time given no trouble whatsoever, has become painful, the other eye for the first time giving evidence of irritation upon exposure to light and under use. The removal of the stump ended the trouble. As is the rule with atrophic eye balls, lost many years previously, a very thick cup of bone was found literally filling the vitreous cavity.

Case 1561. *Stupor from Eye injury.*—L. A., two and one-half years old, was yesterday struck in the right eye by an iron bolt, which made a perforating wound of the corneal sclerotic, emptying the eye chambers. Since the accident the child has been in a stupor, exhibiting no restlessness, nor desire to take food. The child is in a deep sleep, per-

mitting a full examination of the injured eye without making any resistance. It was not until the third day after the accident that the child opened its eyes and seemed to notice surrounding objects, and it was a week before she resumed her usual habits. No evidence could be found of orbital injury beyond brain concussion.

Case 1582. *A very excellent result from a Symblepharon Operation.*—M. C., had caustic lime thrown into her right eye four years since. After many weeks of painful inflammation it was found that the upper lid was adherent to the eye ball. For four years she has considered the eye lost, having in it only appreciation of light. Upon a careful examination of the eye I found a thin fleshy flap covering the cornea entirely, but not extending toward either canthus. The flap was continuous from the edge of the upper lid and looked as if there was a complete agglutination of the whole lid to the eye ball. A probe passed at the outer canthus could be brought out at the inner, showing that the upper cul de sac was free and suggesting a successful operation. The flap was carefully and thoroughly dissected from the cornea and stitched to the inner face of the upper lid, where it is now permanently adhering. At first the whole corneal raw surface whitened under the exposure from removal of its flap-like covering, and took on suppurative action. In time it has cicatrized, and is now covered with a transparent epithelium, enabling the pupil to be readily seen and large print to be easily read. Four months after the operation the cornea is only a little hazy as if from superficial keratitis, but an excellent eye has been regained both for appearance and use.

Case 1813. *Polypus of the Conjunctiva.*—T. S., aged 29, has had for some months inflammation of the right eye, with constant mattering, so that for weeks the lids have been glued together in the morning. Recently he has noticed a red body hanging from the inner side of the eye ball. Upon inspection a polypus the size of a pea is seen growing from the vicinity of the cornucula. Its narrow long foot-stalk permits much motion, and allows the body of the polypus to be caught now and then between the lids. It was readily removed by a clip with the scissors.

Case 2004. *Iris extensively torn by a blow from a whip-lash without injury to the Cornea.*—J. A., aged 43, was struck in the right eye by a whip-lash three weeks since. Vision was seriously disturbed from the moment of injury and has continued to the present time. He has not suffered much pain. His condition now, three weeks from the accident is as follows : There is no pain, and his complaints are on account of poor sight in this eye. There is very little injection of the conjunctiva, or sclerotic coat. The cornea is bright and normally transparent. The iris presents a peculiar appearance. In looking into the eye there seems to have been an iridectomy of fully one-third of the iris, its outer and upper portion, with apex at the pupillary opening. There is some blood clot at the edges of the torn iris not yet absorbed. The lens has clouded in traumatic cataract, making a sharp contrast from the marginal blood clots. In examining the eye by means of a strong lens, it is seen that this one-third of the iris has been stripped from its ciliary border, and has been forced down with folded margins in such a position as to over-lap the pupil, which in turn is hid under the depressed fold of iritic tissue. The curious part of this condition is, that the cornea and outer eye shell should have escaped altogether injury.

Case 2057. *Diphtheritic Conjunctivitis without other manifestation.*—L. A., aged 24, has been under treatment for two months for a perforating ulcer of the cornea, at the inferior margin. Three weeks since, while in the Reception room of the Free Dispensary, a child aged three years was brought to the clinic suffering from diphtheria in an aggravated form. The membrane which had been very copious in its throat, had in a measure disappeared from the pharynx, but had extended along the Schneiderian membrane through the nasal tube of the right side to the conjunctivitis which was thickened and lardaceous. This woman with the perforating ulcer sat near the sick child. At the same time there were between fifty and sixty persons awaiting treatment for eye and ear diseases, in the Reception room. Six days after this one exposure, a marked patch of diphtheritic deposit made its appearance on the under lid and in the lower

conjunctival cul de sac of this patient. She had been suffering from consecutive conjunctivitis resulting from the presence of a marginal ulcer of the cornea, which had recently yielded and allowed the iris to protrude through the perforation. When the medical staff had thoroughly satisfied themselves as to the diphtheritic character of the deposit, and the firmness with which it adhered to the lid, leaving a bleeding surface when portions of it were torn off, the surface was freely powdered with iodoform. The patient was already taking tincture of iron in full doses. In a few days the membrane disappeared under this treatment. No deposit occurred elsewhere and there was no systemic disturbance occasioned by its presence in the eye. There was in no way any direct contact of these two patients, as scrupulous care was used to prevent contagion from the first case. When seen for the one time only the mother was told not to bring the case back to the Dispensary. A second case of contagion occurred from this source of infection. A child aged four years, had been attending the clinic for some weeks, the subject of an eczematous affection of the lids and cheeks. The disease was of an impetyenoid form and matted freely. Four days after the introduction of the general case of diphtheria, all the suppurating surface on the lids, cheek, and nose of this little negro became covered with diphtheritic membrane in a most typical form. Under the local applications of iodoform powdered upon the surface, and the liberal use of iron and cod liver oil, the membrane disappeared at the end of two weeks and the surface then began to heal. No febrile excitement nor deposits elsewhere occurred. Although these two cases of diphtheritic deposits continued to visit the Dispensary daily until cured, and were in constant contact with numbers of patients in the crowded Reception room, no new cases made their appearance. It seemed as if these cases one degree removed from the first case of general infection, and the absence of all systemic disturbance, with the strict localization of the deposit, had somehow lost the power of propagation.

Case 2154. *Neurotomy for stab in the Eye involving the ciliary region.*—H. W., aged 26, a policeman was stabbed in

the left eye eight months since while in the performance of duty. The knife blade passed through the upper lid and entered the eye ball at the cornea-scleral border, cutting the iris and injuring the lens. The result was a traumatic cataract and complete destruction of vision, so as to leave no appreciation of light. Recently the eye has become painful and the right eye weak. The wound in the ball is at the point of greatest danger, and the total loss of sight indicates destructive changes behind the iris. The eye, barring the white pupil, is of good color and size, just such a looking eye as one would be loth to give up, and yet no one knowingly should keep a lost eye to jeopardize the good one. In this case it was determined to save the eye ball for appearances, and at the same destroy its sympathetic influence, by cutting off its optic nerve and ciliary nerve as they enter the organ from the back. This operation was easily accomplished by separating the internal rectus from the eye ball, pass in a curved scissors into the opening in this way made, and by rotating the eye ball outward as much as possible bring all of these nerves between the blades of the scissors for section. When all were divided the ball was replaced and the divided tendons of the internal rectus stitched back in its normal position. The case did well as had done eight in which this optic ciliary neurotomy had been practiced. All pain ceased with the operation and the patient was discharged with a useless, painless, good looking eye, which promised to give him no more trouble.

Case 2290. *Congenital absence of eye-balls.*—A. B., a white infant aged 2 months, was brought to the Hospital to find out whether there was any promise of sight for the child. The infant was very small, and seemed badly nourished. There were depressions where either eye-ball should be. The palpebral split seemed to be scarcely visible and not over one-fourth of an inch in extent from canthus to canthus. By means of strabismic hook the rudimentary lids were separated. There were no eye-balls visible nor were there any evidences that there ever had been any, as no vestige of an eye could be found in either socket.

Conical Cornea with Exophthalmic Goitre.—M. W., aged

32, has had an affection of the eye for four years. She seemed in good health otherwise although much troubled with heart palpitations, even without exertion. She has very decided enlargement of the thyroid gland and very prominent eye balls. Within the past three years her sight has been steadily deteriorating, first distant objects becoming foggy and now she finds difficulty in getting about, so very near-sighted has she become. An examination of the eye shows the most marked conical cornea, which explains perfectly her very defective vision. So far no corneal clouding or ulceration exists, notwithstanding the pressure of the lids against the protruding balls, and a marked blepharitis with marginal ulcerations.

A perforating shot wound of the Cornea.—G. McS., aged 27, was struck in the left eye by a shot six days since. The person who accidentally shot him was hunting birds and walking parallel with him at a distance of forty feet. He states that the shot must have been a glancing one. Only one shot struck him and that in the centre of the cornea. The patient states that the shot was caught between the lids and fell out when the lids were separated. He insists that it is not in the eye. The central corneal wound is evidently a perforating one with such injury to the lens capsule as to have caused in a few days a thorough coagulation of the lens substance as shown in a traumatic cataract. As the lens was much swollen, pressing the iris against the inner face of the cornea it was thought best to operate for the removal of the cataract by iridectomy and the upper Græffe section. No trouble ensued from the operation and an early convalescence was secured.

G. S., aged 24, had a shot wound of the Cornea of even a more singular nature. Five days before application at the Hospital he was shot in the right eye from only twenty feet distance. Out of the entire load of bird shot he received but two shots. One scratched his arm and the other entered the centre of the right cornea, cutting the iris, causing traumatic cataract and burying itself either in the vitreous chamber or perforating the back of the eye ball where it is lost in the soft tissues of the socket. Vision is destroyed

in the eye, but so far there is very little disfigurement, no pain, and comparatively but little injection.

Specific iritis promptly relieved by large doses of Salicylate of Sodium.—D. C., aged 26, has had a very painful eye for one week. Two years since he contracted syphilis followed in four months by iritis in the eye with which he had a six weeks siege. The right eye has not been involved. One firm adhesion had formed at the lower margin of the pupil which strong atropia used freely could not break up. He has had two severe attacks of iritis, each lasting from six weeks to two months, accompanied with very severe suffering. His physician had prescribed iodide of potassium and bichloride of mercury in full doses, and strong atropia had been instilled into the eye eight times a day. The constant use of atropia kept his throat very dry and eventually caused severe burning of the eyelids in addition to the frontal and nasal pains of the iritis. With this third attack, which he says has commenced as severely as the former ones, he is looking for the usual six weeks suffering. In this case I prescribed the salicylate of sodium in thirty grains every three hours. It acted upon him as I have seen it do on so many others, bringing prompt relief. At the end of twenty-four hours he was so free of pain that he could hardly understand his condition from the standpoint of his previous experience. In three days he was so nearly well that I advised a reduction of the medicine to three doses per day. Before the week had passed he discarded all treatment. The nearly specific action of the solicylate of sodium in iritis whether specific or rheumatic when given in full doses contrasts most favorably with the very slow action of iodide of potash and may well be substituted for this latter remedy in iritic trouble.

PROCEEDINGS OF SOCIETIES.

“Etsi non prosunt singula, juncta juvant.”

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.—*Continued.*

The second paper was on “A Case of hitherto undescribed Tuberculo-Vesicular Disease of the Skin,” by Dr. A. Van

Harlingen, of Philadelphia. In this patient, who was a female of thirty-nine, there had been skin-trouble from early life, and it had always been better in the autumn than at any other part of the year. On examination it was found that there were two forms of disease present ; the first being an irregular, ill-defined eczema, principally affecting the head, arms, and back. The lesions of the other were single, distinct and solitary, were situated to a great extent on the legs and ankles. These were tubercles, oval in shape, slightly elevated, and often as large as the thumb-nail. Fifty were counted on the left leg, and thirty on the right. Some of them contained a small amount of pus in the centre, and among these tubercles there were a few deep scars which were said to have resulted from the disease in childhood, when there was ulceration.

When the tubercles began to form the first symptom was local itching, which was soon followed by an urticarial elevation, and in about eighteen hours the lesion was fully developed ; being from one to one and a half centimetres in diameter, of a pink color, looking like a large mint-drop. Later exudation took place, followed by the conversion of the fluid into pus, and the occurrence of a depression in the centre of the tubercle. The whole nodule at length became pigmented, and sank to the level of the general surface, leaving a white spot in the centre. One of them might last for years altogether, and sometimes there was a return of the lesion in the same spot. Itching was not excessive, and there were no marked subjective symptoms. The patient was under observation for about three months, during which time iodide of potassium and bichloride of mercury was tried with no benefit. In the last month the *liquor picis alkalinus*, used locally, seemed productive of some improvement. It was at first thought that the disease was a scrofuloderm ; but a microscopic examination of specimens from the lesions showed it to be purely of an inflammatory nature. Nothing like a genuine cell-infiltration, such as is seen in scrofulodermata, could be found. At the conclusion Dr. Van Harlingen presented microscopic sections from the case for the inspection of the Association.

Dr. Heitzmann remarked that Dr. Van Harlingen had kindly handed him three specimens for examination. Two of them, which were from a recent lesion, were mounted in Canada balsam, and therefore he was not able to tell much about them; but so far as he could judge from them there could be no doubt that the affection was of an inflammatory character. The third specimen, from an older lesion, denoted a hyperplastic condition of the skin. The main change was in the capillaries of the papillæ, which were actually transformed into firm strings. The whole surrounding tissue was profusely marked with pigmentation; a state of affairs often seen in chronic disease. The fact that the capillaries were converted into connective tissue showed how the pigmentation took place. The blood-corpuscles being confined in such a narrow space that they could not get back into the general circulation, they became disorganized, and their coloring-matter was scattered all around. From the history that had been given he thought it ought not to be made a special form of disease, but should rather be regarded as merely a case of eczema which had been aggravated by scratching into chronic urticaria or erythema.

Dr. Van Harlingen did not think it possible that the lesions could have resulted in this way. The history of their evolution in a few hours, described in the paper, argued strongly against such a hypothesis.

Dr. Duhring stated that he had had the opportunity of seeing the case, and at a glance he had recognized it one which was different from any that he had ever met with before. While under his observation, there was no special change in the lesions, but he was informed by other physicians that new ones became developed from time to time, and that they sometimes recurred in the same site. From their appearances alone it looked most like a case of erythema nodosum; but the history, of course, precluded any such diagnosis. Moreover, the fluid exudation, which in the course of a few days became pustular, and, if undisturbed, always underwent gradual absorption, leaving finally a ring of very remarkable granular pigmentation,

showed it to be an extraordinary affection. Viewing the disease clinically, he was unable to classify it under any head at present recognized. What was an apparently eczematous feature of the case, he felt inclined to regard as part of the same general process ; the principal difference being that the papular lesions were smaller in the upper part of the body. Hence he should be very slow to accept the explanation of Dr. Heitzmann that the whole case was merely one of aggravated eczema.

Dr. Van Harlingen said that what struck him most was the rapidity with which the evolution of the lesions took place. Within thirty-six hours from its commencement the pus formation was found in the centre.

Dr. Atkinson thought he had seen two or three cases which might perhaps serve as a connecting link between the disease in question and erythema multiform, for instance. In them the lesions were depressed in the centre and presented exactly the appearance of containing fluid ; yet when they were incised this was found not to be the case. They rapidly assumed the form of tinea circinata, and extended even to the mucous membrane. There was intense itching, and the process would last from four or five days to three weeks ; while in one case the lesions frequently returned. The disease was markedly influenced by arsenic, and this was also true of a case of the same kind described by Mr. Hutchinson, a plate representing which he remembered seeing in the publications of the New Sydenham Society. There was no cicatrization and no interstitial absorption ; and hence the process now went on to the extent that it did in Dr. Van Harlingen's case.

The third and last paper read at this session was by Dr. S. Sherwell, of Brooklyn, on the "Tattooing of Nævi." He said it was merely supplementary to a former paper on the same subject which he had read before the New York Dermatological Society, February 13th, 1877, and which had afterwards been published in the *Archives of Dermatology*. The method was substantially unchanged ; but he said he had a case to present in which the good effects of the procedure were well shown. The patient, who was an unmarried female of twenty-nine, had had a nævus of the

part of the wine-stain variety, covering the whole of the chin and involving the vermilion border of the lip. The outline was not well-defined, and had peninsular prolongations, while in the centre of the left cheek was another large dark stain. Since September, 1877, she had been tattooed twice over the whole surface, (with the exception of the spot on the cheek, which was cured in one operation) and on two other occasions over comparatively small areas, where the discoloration remained most marked. It was proposed to complete the case with one final operation, to be performed during the coming autumn. While this method of treatment was neither painless nor instantaneous, and, while it was not true, (as he had previously supposed,) that it never left a scar, Dr. Sherwell, thought that it had advantages over all others. He still believed in the rationale of the application of collodion, and his after-treatment had not been changed at all since the last paper had been written. Up to the present time he had used a comparatively rude instrument, of his own manufacture (consisting merely of a number of coarse needles securely fastened together) which he exhibited to the Association; but he said that Tiemann was now making a better one for him, which he hoped soon to lay before the profession. The difficulty and tediousness of cure was almost in inverse ratio to the size of the nævus to be treated, and parts that were pendulous, like the lip, were usually the most painful to operate upon. At the conclusion of the paper the patient whose case was described in it was introduced so that the members might have an opportunity of seeing the results of the tattooing.

Dr. Heitzmann said that he not had the opportunity of reading Dr. Sherwell's paper, but he thought the title of this one was a misnomer, since tattooing was in reality the introduction of coloring matters into the tissues. This method was an old one. For some time it was used in connection with electricity, but more recently it had been found that the latter was superfluous, the introduction of the needles being all that was required. He had himself sometimes obtained good results simply with pins, by means of which he was able to set up a sufficient irritation in the part.

Dr. Sherwell replied that Dr. Heitzmann's objections had already been met in his former paper. He was quite aware that acupuncture was old, and the only novelties about the procedure that he claimed were the introduction, by means of the needles, of an agent which was capable of blocking up the lacerated and abnormal capillaries of the part, and the use of compression by means of collodion, which acted like a ligature in keeping down the resulting inflammatory process. As to the name *tattooing* he simply selected that because the mechanical process was the same as in tattooing process.

Dr. Hardaway mentioned that he had tried electrolysis with great benefit, and therefore differed from Dr. Heitzmann in his estimate of the utility of electricity. Its advantages were its rapidity and bloodlessness. He was in the habit of using a number of needles with it.

Dr. Fox said that he had employed electrolysis in one case of *nævus*, with a fair result ; but he was inclined to think that Dr. Sherwell's method was better. He considered Dr. S. entitled to great credit for perfecting the details of the operation, and thought he had accomplished wonders with the coarse and unevenly placed needles of his rude instrument. Personally he preferred much finer needles. He also mentioned that in these cases he had tried Mr. Squire's method, and that he did not obtain satisfactory results with it.

Dr. Hardaway having learned from Dr. Fox that he had used only one needle in his electrolysis, stated that he thought a bundle of fine needles, (about number 13,) placed all in the same line, of very great advantage.

Dr. Sherwell thought there might be a mechanical difficulty in using a large number of small needles, as they could not be driven satisfactorily without the exertion of more force than was desirable.

Dr. White was happy to hear this subject brought forward, as we had a great deal to learn in regard to it. He then alluded to a number of methods that had been proposed, and in speaking of Squire's said that nobody else could obtain the same results that Mr. Squire did with it.

In two deep-seated nævi in which he had tried it, it had utterly failed, and was so disappointed in it that he never expected to resort to it again. Neither had he obtained the same good results with Dr. Sherwell's plan, even in very superficial nævi, that the Doctor himself seemed to do. When employing electrolysis he used but a single needle ; but he had sometimes succeeded in obliterating the nævus in comparatively slight cases.

Dr. Hyde had tried electrolysis in the smaller forms of nævi with great success ; but not in large ones.

Dr. White inquired if there had been any return of the difficulty in his cases, and learning that there had not, although some of them had been under observation for a considerable time, stated that in two or three cases of his own the nævus had returned after several months.

Dr. Hyde then mentioned that in one case which was operated on almost a year ago a red spot had appeared after some months in the centre of the area formerly occupied by the nævus. He thought the trouble was, of course about to return, but up to the present time it had not increased in size or changed in any way whatever.

In bringing the discussion to a close Dr. Sherwell mentioned that the term *cutaneous* should properly have preceded *nævi* in the title of the paper, as it was of these alone that it treated.

The next business in order was the reading of the report of the Committee on Statistics, by its Chairman, Dr. White, which was as follows :

Report of the Committee on Statistics for the year ending July 1st, 1879.

District 1. Boston Cases.....	{ Dispensary..2,943 } { Private..... 542 }	Total, 3,485
District 2. New York Cases...	{ Dispensary..1,229 } { Private..... 566 }	Total, 1,795
District 3. Philadelphia Cases..	{ Dispensary.. 645 }	Total, 645
District 6. St. Louis Cases.....	{ Private..... 203 }	Total, 203
District 7. Chicago Cases.	{ Dispensary.. 960 } { Private.....1,029 }	Total, 1,989
Total Private Cases.....		2,340
Total Dispensary Cases.....		5,777

8,117

From Districts 4 and 5, no return.

The accompanying Table shows the Returns from the respective Districts :

	Private Cases.	Dispensary Cases.	Total No. Cases.	Boston.	New York.	Philadelphia.	St. Louis.	Chicago.
Class I. Disorders of the Glands.								
1. <i>Of the Sweat Glands.</i>								
Hyperidrosis	13	22	35	11	6	2	2	14
Miliaria crystallina	9	.....	9	.....	.....	.....	7	2
Anidrosis .....	.....	2	2	.....	1	.....	.....	1
Bromidrosis	3	2	5	1	2	.....	.....	2
Chromidrosis .....	.....	.....	.....	.....	.....	.....	.....	.....
2. <i>Of the Sebaceous Glands.</i>								
Seborrhoea: <i>a. oleosa; b. sicca.</i>	82	111	193	77	38	25	12	41
Comedo	50	62	112	51	10	2	10	39
Cyst: <i>a. milium; b. Wen.</i>	15	3	18	2	5	.....	2	9
Molluscum sebaceum	8	11	19	7	6	.....	.....	6
Diminished secretion .....	.....	.....	.....	.....	.....	.....	.....	.....
Class II. Inflammations.								
Exanthemata	106	19	125	2	31	.....	.....	92
Erythema simplex	30	36	66	18	13	4	5	26
Erythema multiforme: <i>a. papulosum; b. bullosum; c. nodosum.</i>	43	70	113	30	23	4	9	47
Urticaria	40	104	144	86	10	10	3	35
*Dermatitis: <i>a. traumatica; b. venenata; c. calorica.</i>	29	111	140	61	38	11	1	29
Erysipelas	36	62	98	22	30	5	1	40
Furuncle	56	89	145	57	26	7	4	51
Anthrax	18	24	42	1	5	.....	1	35
Phlegmona diffusa	8	10	18	8	7	.....	1	2
Pustula maligna .....	.....	.....	.....	.....	.....	.....	.....	.....
Herpes: <i>a. facialis; b. progeneralis.</i>	71	96	167	47	29	4	8	79
Herpes zoster	32	91	123	48	35	15	3	22
Psoriasis	76	201	277	108	65	16	3	85
Pityriasis rubra	1	.....	1	.....	.....	.....	1	.....
Lichen: <i>a. planus; b. ruber.</i>	11	12	23	3	12	.....	2	6
Eczema: <i>a. erythematosum; b. papulosum; c. vesiculosum; d. madidans; e. pustulosum; f. rubrum; g. squamosum.</i>	430	1942	2372	1323	530	250	30	239
Prurigo .....	.....	1	1	.....	1	.....	.....	.....
Acne	226	303	529	295	126	43	31	94
Impetigo	13	104	117	86	3	2	.....	26
Impetigo contagiosa	22	44	66	3	11	21	3	28
Impetigo herpeticiformis .....	.....	2	2	.....	1	.....	.....	1
Ecthyma	6	64	70	28	13	13	1	15
Pemphigus	5	8	13	1	5	1	.....	6
Class III. Hæmorrhages.								
Purpura: <i>a. simplex; b. hæmorrhagica.</i>	12	26	38	10	13	1	3	11
Class IV. Hypertrophies.								
1. <i>Of Pigment.</i>								
Lentigo	10	5	15	2	7	.....	6	.....
Chloasma: <i>a. locale; b. universale.</i>	32	22	54	19	13	1	4	17
2. <i>Of Epidermal and Papillary Layers.</i>								
Keratosis: <i>a. pilaris; b. senilis.</i>	4	6	10	6	2	1	.....	1
Callositas	1	8	9	5	1	3	.....	.....
Clavus	5	2	7	1	1	.....	.....	5
Cornu cutaneum .....	.....	1	1	.....	.....	1	.....	.....
Verruca	32	36	68	16	11	1	.....	40
Verruca necrogenica	1	.....	1	.....	1	.....	.....	.....
Xerosis	3	10	13	9	4	.....	.....	.....
Ichthyosis	5	12	17	7	3	2	.....	5
Of Nail	4	2	6	2	1	.....	.....	3
Hirsuties	24	7	31	12	10	2	5	2
3. <i>Of Connective Tissue.</i>								
Scleroderma .....	.....	1	1	1	.....	.....	.....	.....
Sclerema neonatorum .....	.....	.....	.....	.....	.....	.....	.....	.....
Morphœa .....	.....	.....	.....	.....	.....	.....	.....	.....
Elephantiasis Arabum	3	5	8	3	4	.....	.....	1
Rosacea: <i>a. erythematosæ; b. hypertrophica.</i>	67	33	100	29	39	.....	10	22
Frambœsia	4	5	9	7	.....	.....	.....	2

* Indicating affections not properly included under other titles of this class.

The accompanying Table shows the Returns from the respective Districts :

	Private Cases.	Dispensary Cases.	Total No. Cases.	Boston.	New York.	Philadelphia.	St. Louis.	Chicago.
Class V. Atrophies.								
1. <i>Of Pigment.</i>								
Leucoderma.....	1	3	4	1	1	1	1	1
Albinismus.....	6	8	14	4	4	5	1	1
Vitiligo.....	1	1	1	1	1	1	1	1
Canities.....	1	1	1	1	1	1	1	1
2. <i>Of Hair.</i>								
Alopecia.....	61	12	73	38	14	5	16	16
Alopecia areata.....	21	33	54	30	11	3	10	10
Alopecia furfuracea.....	22	6	28	22	2	2	4	4
Atrophia pilorum propria.....	2	2	2	2	2	2	2	2
3. <i>Of Nail.</i>								
Atrophia unguium.....	2	2	4	3	1	1	1	1
4. <i>Of Cutis.</i>								
Atrophia senilis.....	1	1	1	1	1	1	1	1
Atrophia maculosa et striata.....	1	1	1	1	1	1	1	1
Class VI. New Growths.								
1. <i>Of Connective Tissue.</i>								
Keloid.....	3	7	10	2	3	1	5	5
Cicatrix.....	1	1	1	1	1	1	1	1
Fibroma.....	4	5	9	1	4	1	3	3
Neuroma.....	1	1	1	1	1	1	1	1
Xanthoma.....	5	2	7	2	3	1	1	1
2. <i>Of Vessels.</i>								
Angioma.....	15	24	39	16	12	4	1	6
Angioma pigmentosum et atrophicum.....	1	1	1	1	1	1	1	1
Angioma cavernosum.....	1	1	1	1	1	1	1	1
Lymphangioma.....	1	1	1	1	1	1	1	1
3. <i>Of Granulation Tissue.</i>								
Rhino-scleroma.....	1	1	1	1	1	1	1	1
Lupus erythematosus.....	19	28	47	9	14	2	2	20
Lupus vulgaris.....	16	20	36	10	6	1	3	16
Scrofuloderma.....	16	41	57	21	6	8	3	19
Syphiloderma: <i>a.</i> erythematosum; <i>b.</i> papulosum; <i>c.</i> pustulosum; <i>d.</i> tuberculosum; <i>e.</i> gummatosum.....	220	707	927	255	195	78	1	399
Lepra: <i>a.</i> tuberosa; <i>b.</i> maculosa; <i>c.</i> anæsthetica.....	4	2	6	1	1	1	1	5
Carcinoma.....	19	38	57	13	20	14	1	10
Sarcoma.....	1	2	3	1	1	1	1	1
Class VII. Ulcers.								
.....	48	260	308	90	100	4	1	114
Class VIII. Neuroses.								
Hyperæsthesia: <i>a.</i> Pruritus; <i>b.</i> Dermatalgia.....	46	113	159	91	26	15	5	22
Anæsthesia.....	2	5	7	1	1	1	1	7
Class IX. Parasitic Affections.								
1. <i>Vegetable.</i>								
Tinea favosa.....	8	24	32	9	12	1	1	10
Tinea trichophytina: <i>a.</i> circinata; <i>b.</i> tonsurans; <i>c.</i> sycosis.....	50	144	194	82	45	21	1	46
Tinea versicolor.....	34	67	101	38	37	6	5	15
2. <i>Animal.</i>								
Scabies.....	15	61	76	35	14	9	1	18
Pediculosis capillitii.....	13	179	192	131	28	14	2	17
Pediculosis corporis.....	10	109	119	48	32	9	1	30
Pediculosis pubis.....	15	14	29	6	9	1	1	13

Dr. Hyde transmits the following notes with regard to the prevalence of leprosy within his district :

I have taken interest in an attempt to extend still further the investigations which were begun last year, in connection with the work of the committee, relative to the extent of leprosy in the district assigned to me. I have been in communication, not only with Dr. Chr. Grönvold, of Norway, Minn., whose report was returned in 1878, but also with Dr. K. Hoegh, of Lacrosse, Wis., Dr. Karl Bendeke, of Minneapolis, Minn., Dr. Schumann, of Scandinavia, Wis., Dr. Smith, of Decorah, Iowa, and Dr. O. Siqueland, of Manistee, Mich. These gentlemen are all Norwegians, having a large practice among their countrymen in the north-west, and are abundantly qualified to speak as experts upon the disease in question. Dr. Hoegh, of Wisconsin, was a pupil of the late Prof. Boeck, and has enjoyed a large experience in the hospitals of his native country as well as in the Parishes where the disease has existed. After inspecting with great care the photographs which I showed him of leprosy patients in the Sandwich Islands, he pronounced them excellent representations of the disease as it exists among his countrymen, and was much surprised at this conclusion, as he had heretofore doubted the exact identity of the disease in the two widely separated countries.

From these gentlemen I gather the following facts :

None of the cases reported by Dr. Grönvold, last year, have terminated fatally, nor have any children been born to leprosy parents. He has no new cases to report. The leper, Christen Hauglum, (see *Archives of Dermatol.* Jan. 1879, p. 35,) is in such condition that an amputation of the affected limb is now imperative.

Dr. Hoegh reports having treated one case of leprosy during the period covered by the report, July 1st, 1878, to July 1st, 1879. This was a case of anæsthetic leprosy, and, though treated in Wisconsin, the patient came from Minnesota to consult him, Dr. Hoegh, having formerly practised in the latter State. In his entire practice in this country, Dr. Hoegh has observed five cases, all in Minnesota or Iowa. No children affected with the disease have been born to

leprous parents. Dr. Hoegh informs me that he has never heard of such an occurrence in this country.

Dr. Bendeke has seen, during the last eight years, four cases of tubercular and three of anæsthetic leprosy. During the period covered by our report, he has treated three cases, and I append herewith very brief notes of these three cases, the language of the author being slightly altered whenever needful for the correction of verbal inaccuracies. Of the entire number seen, one only died, a patient affected with tubercular leprosy of fifteen years standing, the event happening about six years ago. Only one of the cases had children,—see No. 1, of notes enclosed—and these children were healthy. Dr. B. reports that, in his opinion, there are about fifteen lepers altogether in his State. His opportunities for making an exact estimate of this sort, are not equalled by those of any other physician.

The fifth case reported, in the statistical table, is my own. As I have published a clinical lecture delivered in the presence of this patient (*American Practitioner*, Feb. 1879,) I think it unnecessary to add in this connection, anything further than that the case does not belong to the list of Scandinavian lepers removed to this country; that he is still living in this city; and that the disease has made very decided progress since the details of his condition were last described.

Notes of three cases of leprosy, under the observation of Dr. Karl Bendeke, of Minneapolis, Minn.

CASE No. I. "Mrs. G. O. T., Norwegian, æt. 59 years. She came to this country about nine years ago, and has always been healthy until the year 1876, when she commenced to complain of great weakness and drowsiness with pain in the extremities. The latter steadily increased in severity until about six months ago, when she began to notice an induration of the skin over the eyebrows and other parts of the face. Upon the region of the eyebrows, *alæ nasi*, cheeks and chin, there are now to be seen pea to hazel nut-sized tubercles, which are also visible upon the lobes of the ears and around the *auditorius externus*. The skin of the face is bronze-colored, with darker shades upon the tubercles. Indurated nodules

are also visible upon the fore-arms and on the dorsal aspect of the hands and fingers. The sensibility is greatly diminished in the extremities ; this is most evident in the regions supplied by the ulnar nerves. These nerves can be felt, in the vicinity of the elbow, as thickened and enlarged to the size of a goose-quill. There is complete anæsthesia over the external border of the dorsum of the left foot, where also tubercles are to be seen. She states that there have never been lepers in her family, but that in the family of her husband, who is exempt, there has been one instance of the disease. She has two children ; one living and healthy ; the other died of pneumonia, aged 22 years, free from symptoms of leprosy.

July, 1879. I saw the patient a few days ago. She is still suffering from severe pain in the extremities. Her complexion is decidedly more dark-colored, and she has a larger number of tubercles over the face and hands. Indeed all her symptoms are aggravated, though locomotion is still possible.

CASE, No. II. Chr. W., came to this country in the spring of the year 1876. Four of his brothers died of leprosy, and as soon as he noticed the symptoms in his own person, he came to America, where he has a brother who is free from the disease. In the case of this patient, his malady grew worse soon after his removal to this country. Light bronze-colored patches, two to four centimetres in diameter, are visible upon the face, with inter-spaces of normal skin. There is ciliary and superciliary alopecia. He suffers great pain in the hands, especially in the right, which is greatly swollen in the region of the wrist. About two and one-half centimetres below the left patella, is a sloughing ulcer, five centimetres in diameter. This has existed for several months. In the limbs, sensibility is greatly diminished.

February, 1879. I saw the patient again at this date. He has now been confined to his bed for one year. His fingers and hands are greatly distorted, as well as the toes and feet. Sleep is much disturbed in consequence of the pain. The discoloration of the face has progressed. Almost all of the hair over the scalp is gone. The anæsthesia in the

lower extremities has extended. The sloughing ulcer below the knee has healed under the treatment which I ordered.

CASE No. III. O. B., Norwegian, æt. 36 years, consulted me on the 6th of May, 1878. Last summer and Fall, he worked in Canada, and during the subsequent winter, his left leg was frozen, the result being that gangrene supervened. He was then carried by friends, on foot, to Manitoba, a journey of seven days, after which amputation was performed. He attracted my attention by the loss of eyebrows and eyelashes, as well as by the redness and roughness of his face. On examination, I found nearly complete anæsthesia of the hands, and along the course of the ulnar nerves, also to some extent, in the right foot.

I saw him again in April, 1879. He was then using an artificial leg. Several ulcerations had occurred over the stump, from the pressure of the wooden limb. The anæsthesia had increased. Two ulcerations existed on the fingers as the result of a burn. He had endeavored to labor as a harness-maker, but had to abandon this, in consequence of the frequent occurrence of wounds which healed very slowly."

Memorandum relative to the further progress of leprosy in the case of Christen Hauglum, by Dr. Chr. Grönvold, of Norway, Goodhue Co., Minnesota. Christen Johnson Hauglum is the name of a patient affected with anæsthetic leprosy, whose case was reported to the statistical Committee of the American Dermatological Association in the year 1878; and is numbered I. in "the notes of four cases of leprosy in Minnesota," published in the *Archives of Dermatology*, Jan., 1879, p. 35. The history of this case, since September, 1878, is thus continued by his physician, J. N. H.:

Christen Hauglum continued to enjoy comparatively good health during the Fall and Winter of 1878, until the middle of February, 1879. Then he began to suffer from generalized pain, and the lesion upon the leg diminished in size. He was also afflicted with a severe cough, which was at times so violent as to produce vomiting. Meanwhile the ulcer continued to decrease in size, though the discharge persisted and was often bloody. Once, in the month of March, this

bloody discharge was quite profuse. In April the sore was closed, the pain meantime growing steadily worse.

Soon after, a bluish-colored spot appeared on the inner side of the ankle, and in the course of a few days, a slough of tissue separated from that part, which the patient compared to "a rotten plum." The ulcer which resulted was quite like that which had preceded, and upon its appearance the pain somewhat abated. Hyperæsthesia of the lower part of the left leg accompanied with great pain rapidly followed, the affected surface becoming excessively painful when the foot was touched or moved, although sensation was lost in the foot, except along the posterior border of the ulcer, where slight contact produced pain. July, 1879. At this date, the patient has the appearance of greater emaciation and cachxia than ever before. His beard is thin, but the dark hair upon the scalp, which is sprinkled with grey, is abundant. The skin over the cheeks and nose is dry, atrophied and desquamating. Since April last, when the latter ulcer formed, visual power has somewhat improved, and he thinks that he can distinguish objects better than at any time since the attack in the Fall of 1877. He is now able to read large type.

The cough is still troublesome, and at times deprives him of rest. The expectoration is quite copious. The anæsthetic condition of the hands is more complete than ever before; and has extended over the wrists. The fingers seem to be somewhat straighter than before, but, in other respects, their appearance is unchanged.

The left leg is both thicker, and shorter than its fellow. The tibia and fibula are from five to eight centimetres shorter than the corresponding bones of the right leg, and are much thickened in the inferior half of each. The foot, which is pushed over to the peroneal side, is œdematous and swollen out of shape. The new sore is on the inner side of the ankle, and measures three by five centimetres. Its floor exposes the necrosed bones of the leg, covered with granulations, the articular surfaces destroyed.

The patient reclines with the leg semi-flexed upon the thigh, every motion inducing pain, though when at rest he

enjoys comparative comfort. At times, however, he experiences a sudden pain shooting through the toes and the bones of the foot, (although this member is quite insensitive to the touch,) the pain darting also up the leg, the thigh, the back, the left side of the chest and head, the left ear, and, in the worst paroxysms, extending to the left arm. When severe, this painful sensation is so intense that the patient is deprived of consciousness.

There is complete anorexia, and gradually increasing cachexia. The left foot is to be removed by a surgical operation.

Leprosy in Louisiana.:—In a report * made during the present year to the Louisiana State Medical Society, by a Committee appointed to investigate the reported prevalence of the disease in that State, Dr. Salomon states that he has been able to gather authentic evidence of its occurrence only in Vermillion Parish and in the city of New Orleans. In the former district the disease appeared first in 1866, in an old lady, whose father came from the south of France. She was the mother of four sons and two daughters. She died in 1870. The second case was the second son of this woman. The disease began in 1871, when he was twenty-two years old. In the third and fourth cases, the oldest and youngest sons of the same woman, the disease was first noticed in 1872. The fifth case is that of her nephew, and began in 1876. The sixth case is that of a young woman who was in constant attendance upon case number one during the course of the disease.

In New Orleans Dr. Salomon has learned of six cases, three of which are students of charity hospitals. The cases were both of the anæsthetic and tubercular type. The Committee asked for further time to pursue their investigations.

In reply to a letter of enquiry from your Chairman, Dr. Salomon replies as follows :

NEW ORLEANS, *Aug.* 13, 1879.

JAMES C. WHITE, M.D.,

Dear Sir :—Your favor of the 5th inst., received. In reply I

* Proceedings of Louisiana State Med. Association, 1879.

send you a copy of the proceedings of the State Association containing my report. As you will perceive the record is not very satisfactory owing to the difficulty experienced in obtaining data, and I am satisfied that more cases exist. Since writing the report I have learned of several additional cases as follows : Two cases in the city of New Orleans, one of the pure anæsthetic type, the other tubercular. Also three cases in the parish of La Fayette of the tubercular variety, and two in the parish of Plaquesmines of the anæsthetic form.

The seven cases recently learned of, in addition to those mentioned in my report, make in all twenty-one cases, of which five are negroes, the remainder being white of various extraction. As yet I have neither seen nor heard of cases among the Chinamen of this State. I shall doubtless learn of other cases, and it will afford me pleasure to communicate any new facts which may come to my knowledge.

Yours most respectfully,

L. F. SALOMON, M.D.

It may be interesting to state in this connection that the case of leprosy included in the returns from the Boston district (see table) is under my own care at present. The patient is a creole from this same Parish of Plaquesmines, whose sister, also a leper, died of yellow fever in Louisiana last year. They are of French descent.

On motion of Dr. Wigglesworth, the report was accepted.

Dr. Atkinson said he thought it was worth while to ascertain whether some of the cases of leprosy in Louisiana referred to in the report, had not already been published.

Dr. Heitzmann spoke of the difficulty of obtaining accurate statistics, on account of the mistakes in diagnosis which were so frequently made ; and mentioned, as an instance, in point, the case of a patient who was pronounced by half a dozen physicians to be suffering from leprosy, while in reality the difficulty was melanotic sarcoma.

The chair also mentioned a case in Philadelphia, where five or six eminent surgeons mistook a case of tubercular leprosy for syphilis.

The report of the Committee on Nomenclature and Classification was then made by the Chairman, Dr. Duhring.

He said that they had to report but one important change in the classification adopted last year, and that was in Class VI., where it was recommended that *sarcoma* should be changed to the position of carcinoma, and that the latter should be placed in a separate subdivision, preceded by the figure 4. In Class I. attention was called to the fact that by a mistake, of the printer *miliun* had been substituted for conudo in one place, and it was recommended that the correction be made.

On motion of Dr. Hyde, the report was accepted, and on motion of Dr. Van Harlingen, the change advised by the committee was made.

Dr. Fox inquired if any opportunity would be offered during the present meeting to consider further changes in the classification and nomenclature, and expressed the desire that there should be. Many of those who attended the meeting last year thought the matter ought to have been left open for at least a year ; and especially as some of the most active members were absent at that time.

The chair having stated that no such opportunity could be afforded according to the programme that had been arranged, Dr. Hyde moved that all who desire that any changes should be made in the classification and nomenclature should report them in writing to the permanent committees, which should hereby be instructed to bring all such proposals before the Association for decision at the next annual meeting.

The motion was seconded by Dr. Bulkley, who spoke in its favor, and after remarks by Drs. White, Sherwell and Taylor, it was carried.

(To be Concluded in the March Number.)

ORIGINAL CORRESPONDENCE.

“Sit mihi Fas scribere audita.”

PARIS, DEC. 1879.

DR. E. S. GAILLARD.

Dear Sir :—Will you do me the favor of inserting these few lines in your much esteemed Journal? I am sorry to

find that the translation of my "Manual of Examination of the Eye," by Dr. Burnett, contains some errors that I cannot allow to pass unnoticed, both for my readers' sake and for my own. I have, therefore, had an appendix printed at my own expense, and have sent it to the Editor, Mr. Brinton, M. D., who will be kind enough to deliver a copy to any former purchaser of my work who may desire one, and also to add it to as many of my books as he still has in his possession.

Allow me also to add that "A Lesson on Ophthalmoscopic Enlargement," but of which the manuscript arrived in Philadelphia too late for publication, has just appeared in the first number for 1880, of the *British Medical Journal*.

I beg, therefore, those of my colleagues who have my work, to apply for this Lesson as well as for the Appendix, either to Mr. Brinton, M. D., Medical Publication Office, No. 115 South Seventh St., Philadelphia; or to me, 8 Rue de la Bienfaisance, Paris. I am, dear Sir,

Truly Yours,

DR. LANDOLT.

NEW YORK, JAN. 21, 1880.

DR. E. S. GAILLARD.

Dear Doctor :—At a meeting of the Committee of Arrangements, American Medical Association, a motion prevailed, "That the Editors of the medical journals are requested, through their respective journals, to inform those gentlemen of the profession who intend to present papers to the Association, to forward a short abstract of the points and conclusions of their articles to the Secretaries of the respective sections of the Association prior to April 25, 1880."

It will help the Association vastly if you will not only give the notice to the profession, but will also make it the subject of editorial remarks. The object is to so sift and arrange the matter which will be presented as to facilitate the transaction of business, and prevent the introduction of papers that may not be considered worthy of the time and consideration of the Association. Very respectfully,

WALTER R. GILLETTE, *Secy.*

BELTON, TEXAS, JAN. 8, 1880.

DR. E. S. GAILLARD.

Inclosed you will find a notice, by the County Judge, to the physicians of Bell county, etc., in regard to county jail and poor house practice.

As far as I have heard an expression of opinion, the majority of our physicians are averse to bidding on this uncalled for mode of securing medical services for the criminal and the pauper. Please give me your opinion, as to whether it would be right or proper for a regular graduate of a respectable college, to bid on the practice ; whether it would be in accordance with the spirit of the code of ethics, and oblige your friend, and others,

H. C. G.

Bidding for such practice, and practice thus obtained would and ought to cause the expulsion of the offenders from every medical society ; and would debar them from professional intercourse with reputable physicians.

E. S. G.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

“Judex damnatur cum nocens absolvitur.”

A System of Medicine. Edited by J. RUSSELL REYNOLDS, M. D., F. R. S., Fellow of the Royal College of Physicians of London, Professor of the Principles and Practice of Medicine in University College, etc., etc. *With numerous additions and illustrations.* By Henry Harts-horne, A. M., M. D. Philadelphia, Penn. In Three Volumes. Vol. I.

General Diseases, and Diseases of the Nervous System..

This is a work which it would be impossible to review in the ordinary space allotted to such volumes. There are some facts in connection with it, however, which will be interesting to all medical men, and which will influence many to purchase the work. In the form in which Dr. Reynolds first published his “System of Medicine,” it was inaccessible to the large body of the profession. Published

only in England, and consisting of five large volumes, it was practically beyond the reach of many, even of the reading men of this country.

His object was primarily, to present within as small a compass as was consistent with utility, such an account of all that constitutes disease and its pathology, as should be of service, either in preventing the occurrence, or detecting the presence of disease, and guiding the treatment of special forms of illness. Different departments of medicine were confided to the care of gentlemen who are as well-known on this side of the Atlantic as in Great Britain; thus the article on Purpura was written by the late Dr. Thomas Hillier, and revised by Dr. Tilbury Fox. Dr. Sibson contributed most largely to the articles on Position and Malposition of the Heart, on Angina Pectoris, on Pericarditis and Endocarditis. There is presented here the results of the best labor done by that earnest and enthusiastic worker.

Dr. Warburton Bigbie contributed largely to Volume IV. Although he passed away before the volume was completed, he had an opportunity of revising his papers therein printed. His work is excellent, he having spent no pains to perfect it.

Dr. Hughes Bennet contributed the article on Phthisis, which contains much original matter and thought. Dr. Hyde Salter condensed the result of years of close scientific work, in his paper on Asthma. The fact that he was a severe sufferer of this disease himself gives an increased interest to his paper. It is a remarkable fact, and one which gives an added value to this work, that many of the ablest contributors to the "System of Medicine" died before the volumes were completed, and that thus this work contains the last medical and scientific utterances, and deductions, of such leaders as Dr. Edward Smith, Dr. Squarey, Dr. Thos. Hillier, Dr. Warburton Bigbie, Dr. Anstie and Dr. Sibson.

As so many hundred physicians in this country have been so anxious to obtain this work, it is remarkable that no American publisher has heretofore issued it. Mr. Lea, has with his usual forethought undertaken this publication, and has so far, issued it in the very best manner. The work is so thoroughly known by reputation, that no further remarks

will be offered at this time in regard to it. When the second volume appears, some facts of general interest will be embodied in the review of the work as a whole.

It is well, however, to add at this time that Mr. Lea, with a view of giving additional value to this "System of Medicine," has selected Dr. Henry Hartshorne as its American Editor, and he could not have made a better selection. Dr. Hartshorne has made ample additions and revisions so far, all of which give increased value to the volume, and render it more useful to the American practitioner. There is no volume in English medical literature more valuable, and every purchaser will, on becoming familiar with it, congratulate himself on the possession of this vast store-house of information, in regard to so many of the subjects with which he should be familiar.

A Treatise on the Science and Practice of Midwifery. By W. S. PLAYFAIR, Physician. Accoucheur to H. I. and R. H., the Duchess of Edinburg. Prof. of Obstetric Medicine in Kings College. Physician for the Diseases of Women and Children to Kings College Hospital, etc., etc. Third American Edition. With notes and additions. By R. P. Harris, M.D. H. C. Lea, Philadelphia, 1880.

This is one of the Works which has been successfully introduced into this country to fill the gap in American Medical literature caused by the failure of American teachers to write on this subject. The first two editions of Playfair's Midwifery were exhausted in this country, before a third edition was needed in England, and one of the handsomest literary compliments ever paid to the American people is found in the fact that Dr. Playfair has revised and in part re-written the third edition of his work for the American people, while the second edition remains not entirely exhausted in England. There is therefore, the singular spectacle presented of an American edition of an English Work, superior to the edition now being sold in England. As the American public is so thoroughly familiar with Playfair's Volume, it is not necessary to do more than to state these

few facts only adding that this edition is superior to the previous ones—containing additional chapters, and that it has been issued in the usual chaste and perfect style characterizing all the publications of Mr. Lea. The work contains two plates and one hundred and eighty-three illustrations.

Can any one say why it is that while America is so rich in works on Gynæcology, that none of her physicians, so competent for the work, have recently written a work on Midwifery.

In former days this was not so. The work of the lamented Henry Miller was as good authority on this subject as any to be found in this country or abroad, and the names of several others might be mentioned in this connection. The object is however, only to call attention to a singular fact, and to suggest to some of the great American physicians that there is in their own country a great field lying open before them.

A Ministry of Health and other Addresses. By BENJAMIN WARD RICHARDSON, M.D., F.R.S., M. A., L.L.D., etc., etc. D. Appleton & Co.

Mention should have been made of this collection of delightful Essays and addresses in a former number of this Journal. Three of the addresses were originally published in the *Gentleman's Magazine*, and were so much in demand that they have been re-published with six others in the present volume.

The address on the Ministry of Health was delivered before the Sanitary Institute of Great Britain, and calls attention to one of the most pressing reforms of the day. The address entitled, "A Homily Clerico-Medical," illustrates the perils of contact of two of the leading learned Professions, and is discussed very thoughtfully and beautifully.

The fact that these essays are written in a style easily comprehensible by the unprofessional as well as the professional reader, give to them increased value.

It is one of the many books so handsomely issued by Appleton & Co.

While there are very many books awaiting review the other departments of the Journal are so crowded that further notices must be deferred for another number.

BOOKS RECEIVED BUT NOT YET REVIEWED.

Woods *Materia Medica*.—Playfair's System of Midwifery.—Duncan's Lectures on Diseases of Women.—Charcot on the Nervous System.—Nettleship on Diseases of the Eye.—Routh on Infant Feeding.—Pronouncing Medical Dictionary, Thomas.—Brand's Encyclopædia.—Bristow on the Practice of Medicine.—Galatin on the Diseases of Women.—Richardson on the Ministry of Health.—Clarke's Manual of Surgery.—Harvey's First Lines on Therapeutics.—Gilbert's Medical Chemistry.—Transactions of the New York Pathological Society.—Hammond on Cerebral Hyperæmia.—Fenwick on the Practice of Medicine.—Hammond on Fasting Girls.—Fothergill on the Heart and its Diseases, and a large number of miscellaneous pamphlets.

TRANSLATIONS.

"Ubi mel ibi apes."

(NEW AND REGULAR DEPARTMENT OF THIS JOURNAL. CONTRIBUTED BY
J. G. KIERNAN, M.D., NEW YORK.)

*The Therapeutical Action of the Alkalines in Glycosuria from
Le Progres Medicale.* By Dr. J. CORNILLON.

I.

Soon after my arrival at Vichy, I was struck by the rapid and salutary effects of alkaline medication in glycosuria. I was led in consequence during that and succeeding years (1872-79), to subject to chemical examination the urine of every diabetic coming under observation. Being inexperienced, I at first took so much of the morning's urine, so much of the evening's, and perchance, so much of the midday's (without taking into account the amount passed during the twenty-four hours), and estimate the total quantity of sugar excreted therefrom. My results up to 1876 are, in consequence, very defective and misleading, since the amount of sugar varies at each passage of urine,

the urines passed just before or passed after a meal differing widely in the quantity of sugar they contain, as also do the morning and evening urines. If strict account of the amount of urine passed during twenty-four hours be not kept, the patient would frequently appear to be as much worse as he is really better (the observation being conducted with the alkaline course of treatment). I myself have had this identical experience. Of fourteen patients, victims of diabetes, who came under my care during 1875, alkaline treatment caused total disappearance of sugar from the urine of two, great diminution of it in twelve, while in two it appeared to have increased, naturally, leading to the conclusion that one seventh of the cases of diabetes were injured by the alkaline treatment, an exceedingly inexact and misleading conclusion. On this error being detected, I had constructed chamber vessels of a twenty quart capacity, furnished externally with a hollow glass tube communicating with the interior by a narrow passage, this vessel was divisible into forty equal parts, each equivalent to a pint; on emptying it the distance the urine had risen in the tube was marked on a plate of metal, divided in the manner previously mentioned. These were given to the patients, and when the quantity of day and night urine thoroughly mixed was known, it was subjected to chemical analysis. Acting in this manner, the following results were arrived at: of thirty-two cases of diabetes treated by Vichy water, the sugar diminished very considerably in twenty-eight, in two it entirely disappeared, and in two it increased. As will be shown further on, diminution of the amount of sugar is the rule, increase the exception. Before submitting to alkaline medication, the patient had followed for a long time the appropriate diabetic regimen (absolute abstinence from alkaline and starchy food, and the use of gluten bread at meals). It has been observed that this rule of diet if rigidly persisted in, is of itself alone sufficient to cause a decrease of the amount of sugar excreted. But as has been said by Dr. Bouchard of this regimen, be it ever so rigorously carried out, even for a term of years, it will not cause entire disappearance of the sugar excreted, nor even a satisfactory diminution thereof;

it is obvious therefore, that alkaline medication played the most important part in the improvement of the thirty-two cases just attended to. The patient at Vichy finds, after four or five days' treatment with the alkalines, a perceptible amelioration of the most disagreeable symptoms of the disease. Thirst and dryness of the mouth are less trying and become unappreciable toward the tenth day, in the most favorable, and toward the twentieth, in the least promising cases. The nights pass better, the patient is not obliged to rise every moment to quench his thirst, his slumber is calm and he is not agitated. If urination be examined, micturition will be found to occur less frequently during the night, and to be confined more to about meal-time. From being acid the urine becomes alkaline, from being clear and limpid as water, it turns a yellowish orange, an evidence that amelioration has begun, that less sugar is excreted, and that its quality will grow still smaller. Appetite if disordered, becomes regular, but this is not sensibly perceived till toward the end of the first week. Those diabetics who before beginning the alkaline treatment have anorexia and a tendency to sleep after breakfast, soon regain an excellent appetite, their digestion improves, constipation if it exists, ceasing. Altogether, the use of the alkalines seems to re-establish in all its integrity the functions of the stomach and intestines. Then the strength improves and progressive emaciation is stopped. I see every day, patients who on their arrival were unable to get to the wells to drink the waters, but who at the conclusion of their treatment could take very long walks without fatigue. I have seen patients who had lost forty-four pounds in the three months preceeding their course of treatment, who became absolutely unrecognizable even by their most intimate friends. When they were submitted to the alkaline treatment they ceased to emaciate, began to gain weight, and if the treatment continued, soon regained all they had lost. The dryness of the skin resists longer than any thing else the effects of treatment, but even this improves under the alkaline treatment, the skin regains its elasticity and that peculiar feeling it gives rise to when felt by the hand, dis-

appears, but the acid odor of the patient and his anaphrodisiac long remain, the latter only yields to years of treatment, the patient being condemned to a model chastity. The genital pruritus soon completely disappears if the patient has not acquired the habit of scratching himself. As the glycosuria diminishes the amblyopia tends to disappear; those who were unable to recognize their friends at short distances are now able to distinguish objects relatively far off. This happens only if the lesions at the fundus of the eye are merely in the circulation, and not dependent on changes in the optic papilla itself. If the latter be the seat of hemorrhage or degeneration, the alkalines as might be anticipated, have no effect.

CASE I.—A gentleman from the department of the north was sent to me at Vichy by a distinguished ophthalmologist of Paris, for intense glycosuria and albuminuria. He could not read the newspaper, and was unable to move about the streets without running into somebody. A fatty degeneration of the optic papilla explained his amblyopia. Under treatment, his albuminuria and glycosuria rapidly improved, but no effect was produced on his vision.

With the soft cataracts called diabetic, the same condition obtains. The alkalines have no effect on their progress, as the patient becomes blind sooner or later. But in raising the physical status of the patient, in stopping disassimilation, in decreasing the glycosuria, they increase the chances of a successful operation. Before performing this, the surgeon should see that the patient's disassimilation has ceased, the urine nearly returned to its normal condition, and that strength has been gained. To ensure these results nothing answers so well as a course of the alkalines; their action in a diabetic cataract is indirect, but none the less salutary.

II.

Accidental injuries in diabetes are the pest of surgeons, as they are very intractable, of long duration, and have a tendency to suppurate, and are very liable to form fistulas. Nearly every topical application fails here; the only thing having any effect is the alkalines topically and internally applied. Under the use of this treatment, citratization is

often surprisingly rapid. I have seen old intractable diabetic fistules and ulcers which had resisted every form of treatment rapidly improve under the local and internal use of the alkalines.

CASE II.—May 22d, 1875, I was consulted by a patient from the department of the Gironde, who gave the following history : He had from the beginning of the winter a narrow fistula, eight tenths of an inch in depth, in the muscles of the thenar eminence of the right side. This had been produced by a splinter which was drawn out immediately, a few drops of blood escaping, at the external orifice. No importance was attached to the wound, but finding it persist for several weeks, he consulted his physician, who prescribed external applications of vin aromatic, spts. vini recti, and glycerine, all without effect. The idea of his having diabetes struck the physician, and on examination, his urine was found to be loaded with sugar. When the patient came under my charge this fistula still existed, and was suppurating freely. I ordered him to bathe it with the alkalines, and take them internally ; after the fourth bath, suppuration ceased, cicatrization began, and the patient continuing the treatment, the fistula has thoroughly healed.

The next case is equally striking.

CASE III.—M. L., of the department of the Loire went to Paris to be operated on for fistula in ano. The surgeon suspected diabetes, and on examination, much sugar was found in his urine, to the extent of two and six tenths per cent. The operation was postponed for some months, the patient being meanwhile placed under a thorough course of the alkalines. The sugar in the urine having almost entirely disappeared, the patient was placed under the influence of chloroform and the operation performed. Some days after, a slight hemorrhage occurred in spite of all exertions, which retarded the cicatrization slightly, despite which recovery was complete in a few weeks, but the wound having been injured in two or three places, local applications of Vichy water were ordered. The patient was seen by me two months after the operation ; there was then at the margin of the anus a small ulcer about the size of a ten cent piece.

There was not any pain during defecation, but pus was found every morning on his shirt. I ordered him to take a bath of the alkalines, and drink a quart of them daily. Ten days after his arrival cicatrization was complete.

For these reasons, therefore, an alkaline bath is, in my opinion, the best local treatment for injuries in diabetics, and I have no hesitation in recommending it every time the necessity occurs, with the internal treatment.

III.

The efficacy of the alkalines is equally well assured in the gangrenous and inflammatory conditions complicating diabetes.

CASE IV.—During the course of the summer of 1876, my colleague, Dr. Senlac, saw at Vichy a young diabetic who was suffering from symmetrical gangrene of the upper extremities, the thumbs alone being most affected. Seven and six-tenths per cent. of sugar was found in her urine; she was much emaciated and very weak. Baths and the internal use of the alkalies were ordered; under this combined treatment the separation of the dead parts took place rapidly the dead phalanges sloughed off and the wounds rapidly, cicatrized. The patient in November, 1878, was hardly recognizable, having regained her former healthful, blooming appearance.

This case answers very well the objections of Dr. Musset to the alkaline treatment of diabetes. "My faith in the alkaline treatment of diabetes," says he "is not very great when the diabetes is complicated by gangrene. If I were to govern my treatment by two cases coming under observation I should reject this treatment altogether, for I have seen gangrene increasing in proportion to the influence of the alkalines on the system. Was it to the use of the alkalines or to peculiar idiosyncrasies of the patient that this disastrous aggravation of the gangrene was due?" (*Union Medicale*, 1859). Durdan Fardel does not agree with these opinions of Musset but claims that when the alkalines have increased the gangrenous tendency, it is due only to a special idiosyncrasy and asks if because of this, we should reject the use of this treatment in all cases.

In my opinion alkaline baths are indicated in diabetic gangrene as it modifies the system in a salutary manner, favors the separation of the dead parts, regulates the suppuration and increases the chances of firm cicatrization. In certain cases it has so powerful an action that it produces heat, redness, and lancinating pains at the borders of the solution of continuity. These phenomena need cause no alarm for most frequently they occur with the formation of the best form of healthy granulations. All diabetic wounds need some such stimulation as they have a tendency to ulcerate and the correction of this tendency is the great advantage of the use of alkaline baths.

Combined with the internal treatment they have rendered me great service in the following case :

CASE IV:—M. L., came to Vichy with a very intense glycosuria, July 19, 1879. He passed six ounces and a half of sugar per diem and suffered from extreme thirst. This last symptom which he had endured for several years did not cause him as much anxiety as some accidents which had happened to his left foot three weeks before. His little toe showed two blackish spots about the size of a ten cent piece deeply involving the skin. His great toe was the seat of an onychia ; the nail was raised up by pus and the integument beneath was red and painful. The internal face of the leg in its lower fourth showed a pustule of ecthyma of the size of a silver three cent piece.

July 22d.—The subungueal suppuration has diminished without causing any decrease of the swelling and redness of the skin of the phalanx.

July 27th.—Part of the nail has fallen off. The gangrenous patches of the little toe have disappeared, causing slight loss of substance with some suppuration. The pustule of ecthyma still remains.

Aug. 2d.—The onychia does not suppurate any more. The remainder of the nail has fallen off, the swelling and redness of the great toe are gone. Scarcely a trace of the gangrenous patches remain.

When this patient left, the nineteenth of August, his thirst had gone, he passed but an ounce of sugar per diem,

and with the exception of lacerations in his foot, and the pustule of ecthyma, everything was doing well. During his sojourn at Vichy he had taken a bath of an hour and pediluvia of twenty minutes every day, he drank five or six tumblers of the alkalines also, besides dressing his onychia with glycerine. The patient followed at the same time the diabetic regimen prescribed by Bouchardat.

Since his departure from Vichy his recovery has not ceased to make progress, since he writes me that, on the tenth of October his foot is doing well, a new nail making its appearance, and the amount of sugar is now but half an ounce per diem.

Struck with these happy results that I had obtained in this class of complications, and mindful of the disadvantages of the use of the bistoury in diabetic phlegmons, I have been led to use the same methods in the case of anthrax of the left groin, which yielded rapidly, contrary to what I had first believed.

CASE VI.—Madame Q., glycosuric for several years, was very subject to furuncles. September 4th, 1878, she sent for me to see an anthrax which had appeared on the left side, was exceedingly painful and exhausted her so much as to prevent her quitting her bed. The inflammation measured about nine inches in extent, but the anthrax proper did not involve more than an inch. There had been much fever and general constitutional disturbance the preceding evening. Notwithstanding these general constitutional symptoms, I ordered an alkaline bath of an hour and a half, and a quart of Vichy to be drunk daily. After the bath energetic friction with ung Hydrarg. to be made, followed by a warm poultice of Sini Farina.

This treatment was continued during the three following days.

Sept. 8th.—The redness and swelling are considerably diminished. The patient can move about without much pain. From an aperture in the centre of the anthrax, a thin echorous pus exudes. No fever, altogether the anthrax is very much improved. On the following day she departed for Paris, previously giving me a promise to continue the

treatment, and at the commencement of the Winter her physician wrote me that the anthrax had disappeared soon after her return.

I cannot claim here that it was to the alkalines alone that this happy result was due, but there is no doubt that they exercised a very beneficial influence. For from the well-known tenacity of this kind of phlegmons it is difficult to admit that the cataplasmata and mercurial frictions were sufficient to cause the retrocession of the morbid process.

Pregnancy is prematurely interrupted in two thirds of the cases and at a period when the child is not viable. From this it is Hofmeier's opinion that premature labor or even abortion should be induced where renal disturbances are very violent.

Veit believed that eclampsia could occur during the exacerbations of the chronic form, or during the acute form only. If during the former, red globules would be found in the urine. This agreed with the fact that eclampsia occurred in series, showing a probable dependence on atmospheric influence.

Haussman was of the opinion that these statistics showed a rigid examination of every pregnant woman to be required and asked if pilocarpine had been resorted to.

Hofmeier said it had not, adding that in his opinion this remedy, although of value in ordinary œdema, would not be without its dangers in pregnancy.

Loehlein did not believe that nephritis of itself alone, was a sufficient reason for inducing premature labor. In his opinion nephritis should be accompanied with disquieting circumstances, which would not give way to ordinary therapeutics, and which it is expected will only give way when the uterus is emptied of its contents.

Schroeder said that if nephritis came under advantageous circumstances there was great probability that it was the chronic form which not only endangers the mother's life but lessens the chances of the child being brought to term. For these reasons he believed that pregnancy should be interrupted as soon as possible, even by an abortion, for the life of the greater number of mothers would be thus saved.

P. Runge knew of a case where, when pilocarpine had been used in a nephritis complicating pregnancy, that, within three quarters of an hour after the injection, was seized with eclampsia and died of pulmonary œdema, after giving birth to a dead child.

Oderbrecht had prescribed pilocarpine at the sixth month of pregnancy in case of nephritis with extreme œdema. In six days the œdema disappeared, as did eight days later the albuminuria. At the ninth month the woman was delivered of a child, *evidently a long time dead*. He could not say whether the remedy killed the child or not, but it had certainly had an effect on the œdema and albuminuria.

Veit claimed that the death of the fœtus might have caused the improvement by lessening the over work of the kidneys.—*Berlin Kleinische Wochenschrift, September.*

CHEMISTRY AND PHARMACY.

“Diruit œdificat, mutat.”—HOR.

ANIMAL RUBBER.—An insect which produces a species of india-rubber has been recently discovered in the district of Yucatan, Central America, by an American explorer. It is called *neen*, and belongs to the Coccus family; feeds on the mango-tree, and swarms in these regions. It is of considerable size, yellowish-brown in color, and emits a peculiar oily odor. The body of the insect contains a large proportion of grease, which is highly prized by the natives for applying to the skin on account of its medicinal properties. When exposed to great heat the lighter oils of the grease volatilize, leaving a tough wax behind which resembles shellac, and may be used for making varnish or lacquer. When burnt this wax produces a thick semi-fluid mass, like a solution of india-rubber, and it is expected that this glutinous liquid will be very valuable for cement and water-proofing.

PAPER PULP FROM POPLAR WOOD.—The Worcester *Spy* says: It surprises people to see the great logs of poplar wood go through the powerful machine at the Connecticut

River pulp mill at Holyoke. The wood, as it is brought to the mill, is about the size of cord-wood used for fuel, and in this shape the machine takes it and gnaws it up very fine. So rapidly does this process go that the machine eats about seven and a half cords of wood a day, and this makes between three and four tons of pulp. After coming from the machine the wood is put into vats and reduced by the action of chemicals. It is used for the manufacture of news and book paper, and pulp made from spruce wood, which has more fibre than poplar, is sometimes used in the cheaper grades of writing paper. Spruce is harder to reduce to pulp than poplar, and but little of it is used. The poplar-trees in this vicinity have long since given out, and the wood is now mostly brought from Canada.

GLASS SLEEPERS FOR HORSE RAILWAYS.—An English exchange says : Glass sleepers are being tried on the tramways at Stratford. They are made by a process patented by F. Siemens, of Dresden, whose methods of hardening and toughening glass we have frequently mentioned. Unlike the De Labastie glass, when broken, the Siemens product does not fly into fragments. The sleepers are 2 feet long, 4 inches wide, by 6 inches deep, and are moulded accurately to fit the rail. Bearing plates are placed under the joints, and the rails are attached to them. A sleeper resting on supports 30 inches apart breaks with a weight of five tons. Glass, unlike pine, is practically indestructible by moisture, and is not so heavy as cast-iron, with which it is compared at price per ton.

MISCELLANEOUS.

“Non omnes eadem mirantur ament que.”

CONDENSED MISCELLANEOUS MATTER FROM RECENT GERMAN JOURNALS.—Nephritis during pregnancy, (with discussion in the Berlin Society of Obstetrics and Gynecology, Hofmeier and others),

This paper was based on statistics furnished by the Berlin lying-in clinic during the last ten years.

Nephritis of the pregnant female is generally developed

in two ways. It either appears suddenly and from external causes, or gradually and from causes that elude our ken. The first form is very rare, Hofmeier finding but three cases, all ending in recovery, although two suffered from eclampsia. One third of the cases suffering from the more chronic form are attacked with eclampsia, of which fifty per cent. die. In some of the survivors nephritis persists after delivery, especially if the patient has had nephritis in her other pregnancies.

A SURGEON'S PERQUISITES.—The London *Solicitor's Journal* says: "A somewhat embarrassing legal question has arisen at Washington. A surgeon, who had amputated both the legs of a patient claimed them 'as his perquisites,' placed them in spirits, and exhibited them in the local museum, in a jar labelled with the name of the original owner. The latter, objecting to this publicity, brought an action for the recovery of the legs. No decision appears to have yet been arrived at, but the authorities of the museum are naturally somewhat anxious as to the result of the case, inasmuch as, if the plaintiff succeeds, various other limbless individuals are likely to follow his example, and so the museum may, in course of time, be robbed of much of its scientific value and personal interest. We hesitate to give an opinion on a point of so much difficulty, but we may suggest that the museum authorities should take their stand upon the principle that the legs, when severed, become dead; and that at common law there is no property in a dead human body (3 Co. Inst. 203)."

Pilocarpine in Uræmia.—Four cases are reported by Bögehold where the hypodermic injection of pilocarpine was applied to the treatment of uræmia.

1. Girl aged five years, attacked with a grave form of uræmia following scarlet fever. An injection of one-tenth of a grain of pilocarpine was followed by the stoppage of the convulsions, and the child regained consciousness. Some days after a new attack occurred which was treated in the same way with the same results. These injections

were employed every day for twenty days, when the convulsions failed to return. Ten days after the cessation of treatment, the albuminuria disappeared and recovery was complete.

2. Boy twelve years old became uræmic during convalescence from scarlet fever. An injection of one-sixth of a grain of pilocarpine caused the stoppage of the convulsions at the end of six minutes, and on two returns was equally successful ; the patient ultimately recovering.

3. A seven year old child. Injection of pilocarpine stopped the convulsions but the other symptoms persisted and death followed on coma.

4. A seven year old girl subject to chronic nephritis. Pilocarpine failed to have any influence on the convulsions. Blood-letting was tried also without effect, and the child died.—*Deutsch Med. Wochenschrift*, No. 26, 1879.

Second attack of scarlet Fever in ten weeks.—A four year old boy had in ten weeks two attacks of a high fever, followed by redness, first appearing on the neck and shoulders and spreading to the rest of the body ending in an abundant desquamation which left no doubt as to the nature of the disease.—*Fahrbuch fur Kenderheil*, Vol. XI.

Treatment of Rheumatism by Colchicum.—Seven patients attacked with chronic rheumatism and sciatica. Dose injected one-third of a grain dissolved in fifteen minims of water. The first effects were a burning and tickling, and in one-half the cases dermatitis. Six cases recovered from which the experimenter concludes colchicum can be successfully used in rheumatism and rheumatic neuralgias. It is contra-indicated in febrile conditions, and injections should not be made where the skin is irritable.—(*Berlin Klin Wochenschrift*.)

Menstruation at Three Years.—Patient had been under observation for six months, menstruation regular and abundant. Mons veneris covered with hair and the other organs arrived at the mature condition, thighs and limbs

resemble those of maturity. Parents, brothers and sisters present no peculiarity. Patient has a slight cranial asymmetry, but no other peculiarity than those mentioned.—(*Zeitschrift für Geburtshelf und Gynök B. I. & I.*)

TYPOGRAPHICAL ERRORS.—As an evidence of the allowance to be made for typographical errors, the reader will be interested in the following :—“Compositors,” Mr. Proctor observes, “make strange work of scientific statements. I sometimes fancy they are not altogether so innocent in this matter as they would have us believe, and that they compose sometimes ‘with their tongue’ very much ‘in their cheek.’ They are fond, so far as my own individual experience is concerned, of substituting ‘comic’ for ‘cosmic,’ ‘plants,’ for ‘planets,’ ‘human’ for ‘known,’ and in other ways making hash generally of my more serious and solemn statements. The most remarkable change they ever arranged for me was one of which I still retain documentary evidence in a proof of a little book on Spectroscopic Analysis, which I wrote for the Society for Promoting Christian Knowledge. Here the words which in the work itself appear—as they were certainly written—‘lines, bands, and stria in the violet part of spectra,’ were positively printed ‘links, bonds, and stripes for the violent kind of spectres.’”

ANATOMICAL FACT.—Viola Pomeroy was engaged as a prima donna for comic opera in San Francisco. She attended rehearsals of “Girofle-Girofla,” and sang in a satisfactory manner; but the manager discovered that she wore a wooden leg, and on that account he discharged her. In a letter to her he said: “The part requires a lady as nimble as a cat, and you could not possibly do it justice.” Miss Pomeroy has brought a suit for salary. Her witnesses swear that, though not as nimble as a cat, she is nearly so as most actresses. One of them said that he had seen her, as *Cassy* in “Uncle Tom’s Cabin,” jump out of a window and run over a river of ice like a whirlwind; another recollected that, as *Florence* in “The Red Pocketbook,” she jumped from a sinking ship and was rescued, just as well as any woman with two natural legs could have jumped and been rescued;

and a third had witnessed her personation of *Maffio* in "Lucretia Borgia," in which part she wore tights. Miss Pomeroy offered to dance before the Court, to show that her wooden leg was no detriment, but that was not permitted.

MEDICAL NEWS

"Nulla dies sine linea."

THE CRY IS "STILL THEY COME."

NEW JOURNALS.

The Clinical News.—A National Weekly Journal of Clinical Medicine, Surgery and Gynæcology. Philadelphia.

The Practitioner.—An independent monthly Journal, devoted to Medical, Surgical, Obstetric and Dental Science. Edited by Harvey L. Byrd, A.M., M.D., and Basil M. Wilkerson, D.D.S., M.D. Baltimore, Md., \$2.00 a year. Single copies 25 cents.

The Galveston Medical Journal was issued on the 1st of January under the editorial management of Dr. Greenville Dowell, assisted by Prof. T. J. Heard, M.D., and Prof. J. F. Y. Paine, M. D. It will be a monthly journal of 32 pages. The best wishes of this Journal are freely extended to the gentlemen editing these publications.

FUCUS VESICULOSUS has been used in Ireland for fattening pigs.—*Chicago Medical Gazette*.

THE RUSH COLLEGE CONCOURS for the lectureship on gynæcology in the spring faculty has been duly announced in the Medical Journals of the country. The concours has been held and the vacancy has been filled. Dr. R. Stansbury Sutton, of Pittsburgh, Pa., was the successful competitor, and from personal acquaintance, the *Gazette* has no reluctance in pronouncing him in all respects worthy of the honor. Dr. A. J. Stone, of St. Paul, Minn., another competitor for the same chair made an impression so favorable, particularly among the students, that doubt was entertained whether Dr. Stone or Dr. Sutton would receive the appointment. Dr. D. T. Nelson, of Chicago, also appeared

to excellent advantage. Six gentlemen entered the concours.—*Chicago Medical Gazette.*

THE answer of the Neurological Society to the Senate Committee is worthy of all praise. It is not only absolutely vindicatory of the course pursued by it, but is destructive of the last vestige of defense which a dishonest committee has sought to make in behalf of the Asylums of this State.

DR. THOMAS KEITH has not had a fatal result in the last seventy reported cases of ovariectomy. Has had but three deaths in one hundred cases. The tribute made to him by Dr. J. Marion Sims is worthy of both gentlemen.

DR. R. C. THOMAS, of Bowling Green, Ky., died suddenly at the bedside of one of his patients. Like the venerable Paul F. Eve, he died with the harness on ; a privilege granted to but few in the profession.

ERRATA.—In the hurry of going to press with the January Journal, a page and a half escaped proof-reading. As a consequence, a number of errors appeared. Viz., Soelberg Wells for Sœlberg ; Maundee for Maunder ; Collender for Callender ; Bonchut for Bouchut ; Chassignac for Chassignaïc ; Meditteraneum for Mediteraneum.

IT seems that dead bodies are stolen for dissection from Oakwood cemetery at Richmond. So it will always be, as long as State Legislators have not the manliness or the courage to pass an Anatomical Act, granting the dissecting privilege to all Medical Colleges, of pauper bodies unclaimed by friends. Instead of medical Journals seeking popularity by joining in the cry of the Demagogues, they had much better take such occasions for the opportunity for holding State Legislators up to the contumely of the people for their inexcusable and benighted dereliction in this matter.

TESTING HIGH POTENCIES.—At the meeting of the Homœopathic Association at Lake George, last summer, a member volunteered to prove the power of high dilutions by the following test : A number of bottles should be given him, all containing alcohol, and one in addition containing the fifteenth dilution of a certain drug. The doctor asserted that he could tell which was the medicated bottle by its

effects upon the system, and he agreed to undertake the experiment.

At a meeting of the Pharmaceutical Committee of the American Institute, it was voted that the doctor's proposal be accepted and the test made. A committee was appointed containing the names of such men as Dr. Guernsey and Professor Chandler. At the last moment, however, the courage of the experimenter failed him, and he sent word that the pressure of business would not allow him to attempt the experiment. The scientific world, therefore, still remains in a state of depressing uncertainty as to the physiological effects of the fifteenth dilution.—*N. Y. Medical Record.*

NEW METHOD OF PRESERVING DEAD BODIES.—The German government has recently bought the patent for a new preservative fluid. It is claimed for it that the bodies, even after years, retain their color, form and flexibility. Decay is prevented, and the muscles even keep their natural color.

The bodies are saturated in a liquid made as follows :

R. Alum.	100
Sodii chlorid.	25
Potas nitrat.	12
Potas. Carb.	60
Acid. Arsenici.	10
Aquæ.	1000

This solution is cooled and filtered. There are then added to ten litres of the fluid four litres of glycerine and one litre of methylic alcohol. From two to five litres of the liquid are used in saturating the body to be preserved.—*N. Y. Med. Record.*

SUDDEN DEATH OF PILOTS.—Two cases of sudden death of pilots, while at the wheel, have been recently reported. One was an officer on a Mississippi steamer ; the other, pilot of the Union Ferry Company's ferryboat Fulton. The cause of death in both cases was disease of the heart. These occurrences should make the people insist that there be two men in the wheelhouses, and that there be a physical examination of all the employees. This latter can be had without expense, by applying to U. S. Marine Hospital officers.—*M. Y. Med. Record.*

MISS MARY STANLEY, sister of Dean Stanley is reported dead. She is the founder of the Flower Missions which have done so much to gladden the hearts of the sick in Hospitals and other public Institutions.

DR. C. W. BERNACKI, of New York, died December 29th 1879.

DR. AUBACH, of Berlin, is now using with great effect, the Balsam of Peru for Pruritis.

CHOLECYSTOTOMY.—Dr. Lawson Tait, of Birmingham, England, writes to Dr. Marion Sims that he has recently performed this operation successfully. There were two stones, one he removed, the other he had to crush.

THE LAST NOVELTY is a paper on the Therapeutics of Swearing.

ATLAS OF HUMAN ANATOMY, containing 180 large plates arranged according to Dr. Oesterreicher and Erdl from their original designs from nature and those of the greatest anatomists of modern times, with full and explanatory texts by J. A. Jeancon, M. D. Publishers: A. E. Wilde, & Co., Cincinnati, Ohio. This Atlas is published in parts, one of which we have received, and is certainly a commendable publication. More extended notice will be made of this beautiful production in a subsequent number of this Journal.

MARRIED.—At the residence of the bride's father, Mr. N. S. Greenwood, Breckinridge, Texas, October 2d, 1879, J. S. MORRIS, M. D., to MISS BULAH GREENWOOD.

DR. W. B. HAZARD, the successful and excellent editor of the St. Louis *Clinical Record*, thrusts his editorial javelin deeply into the intercostal spaces of those polemical scientists who have doubted the connection existing between many symptoms referable to the head, and the existence of hepatic abscess.

THE NEW DEPARTMENT.—The subscribers to this Journal will be glad to learn that there has been added to it a new Department which will hereafter regularly appear; a Department of Translations. The editor has been fortunate in securing the co-operation of Dr. J. G. Kiernan, of this city, who will use in this Work the best of the French, German and Spanish Journals. His contributions will be

entirely of a practical character, and will thus be of real use to all the readers of this Journal. His assiduity and energy are so marked that one can well use for the department under his charge, the motto selected for it, "*Uni mel, ibi Apis*" (where the honey is, there will the bee be found.) There is no doubt but that this will become one of the favorite Departments of the Journal.

PRACTICE FOR SALE.—A physician owning property in a village in central Missouri, and having a large country practice in an excellent community and no competition, would sell out on reasonable terms. Address,

Mr. J. F. LLEWELLYN,
Mexico, Andrain Co., Mo.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—HOR.

MEMPHIS.

Who is there in this country or abroad that does not experience the sentiments of sympathy and condolence at the mention of this name? One of the comparatively earliest of American cities, Memphis soon manifested the ambition to become great. Exporting to the Trans-Mississippi, and importing therefrom; doing like-wise along the immense country penetrated by the Mississippi and Ohio Rivers; operating through the great belt of country known as the Gulf States, and reaching to the Atlantic ocean, it seemed almost a certainty that she would speedily realize her great dreams.

At this delightful period of her history, her marts were the scenes of busy industry. In winter, apart from her great business, her days were spent in generous hospitality and her evenings not only in widely diffused entertainment, but even at times in elegant and refined revelry.

In her summers, those who remained at home, spent their days in spacious halls and cool verandas and at the eventide were to be found on her public walks, enjoying the delightful and flower laden atmosphere.

Commercially and socially, Memphis seemed at that time to be the most enviable of American cities. But a change came over the spirit of her dreams. Memphis had been built in defiance of every hygienic law, and she was now to pay the sure penalty for it. The pestilence that walketh in darkness and destroyeth at noonday swept over her and the saddest of changes became a part of American history.

In winter those who slowly crept back to their homes, made arrangements speedily and mournfully to leave them in the early summer-time. And when this summer-season came her streets were deserted during the day, and at night time there was no sound to be heard but the tread of the physician and nurse on their philanthropic missions to the sick, and the dull rumble of funereal wagons filled with the recent dead. Darkened lights were to be seen in the upper chambers, lighting with suppressed rays the abode of the suffering and the dying; and the deserted house-dogs barked from the yards of desolate and forsaken mansions. The past of Memphis had been all prosperity and joy, her present has become the object of but pity and commiseration.

What is to be done? Is this city to be left to desolation and ruin, becoming like her African prototype one of the saddest spectacles in history? Or are the American people, with their noble hearts, to lift her up and make her bright and beautiful again. Who will say that this cannot be done?

It is but to make a noble resolution and the work is done.

All sanitariums, in their corporate or individual capacity, after visiting Memphis, have determined that she can be purified and no longer be left a cause of distress to her own people and a frightful source of danger to those who for hundreds of miles surround her.

Her yard vaults are to be disinfected and filled; she is to be furnished with an abundance of pure water, both portable and for sewerage purposes; sewers are to be constructed which shall ramify every yard and street; and the low ground about the city is to be, by the engineer's skill, saved from the water damming back from the overflowed Mississippi, and from the streams emptying into the low ground around the city.

These essentials are briefly stated, but the doing of such work necessitates the outlay of millions. Can such an expenditure be made by Memphis? All know that she is bankrupt, that many of her wealthiest people have deserted her; that she is crippled and helpless.

But there is a strong hand which can and will rescue her if proper means are taken to secure it; the hand of Congressional aid. If the American National Board of Health or the people of Memphis, or both, distribute circulars of appeal to the Municipal Boards of the chief cities, and towns, and villages of this country, asking them to hold meetings, and to send forward to their respective Congressmen, petitions asking for Congressional aid, in behalf of Memphis, the great work will be done. Whatever may be the private views of members of Congress, these would, and must be, subordinated to the will of the people so expressed, and Congress would give or loan without delay, means abundantly sufficient to purify a dangerous city, and to rescue a noble and desolate people. There is no time for delay. Such work should be and can be immediately done. Will not the Medical Press, and following their example the secular Press, take up this subject and not only accomplish a necessary and noble work, but redeem the Gulf States and the countries bordering the Mississippi and the Ohio from prospective but inevitable ruin?

If the thousands of dollars which are sent to Memphis every summer were sent in winter, for prevention instead of cure, how many a household would be saved from the hand of the destroyer, and how many of the green hillocks which mark broken hearts would never have arisen. It will soon be too late to seek Congressional assistance. All are ready to cooperate. Let such work be done immediately.

AMERICAN MEDICAL ASSOCIATION.—Preparations are being already actively made in this city for the next meeting of the Association.

The President, Dr. Lewis A. Sayre, who has done so much for the Association, both in his legislative and his professional capacity, is indefatigable in his efforts for securing the

most successful meeting in the history of the Association. The Committee of Arrangements, which is admirably constituted, has been holding meetings to prepare before hand all the details necessary for a successful meeting. Under such circumstances, and when the locality of the meeting is considered, there can be no doubt but that the next assembling of this National Body, will be one of great utility and interest.

It is to be hoped that some legislation will be enacted, whereby the Presiding Officer may be elected by open ballot, (after the nominations, on the floor, of the different candidates) for this high office ; and while in the present instance, the Presiding Officer selected is eminently entitled to the position, there can be no doubt but that the old method of a nominating committee is absolutely defective.

The Association should, at the present meeting, take some practical cognisance of the great success which has attended the efforts of the British Medical Association, in establishing a Medical Journal, which is essentially under the patronage and protection of the Association. It is time that the American Medical Association had a Journal of its own, through which, its papers could be widely disseminated and not entombed in the limited circulation of the yearly volume of Transactions. But further allusions to this subject will be delayed to a future occasion.

ADVERTISEMENTS IN THE TEXT PAGES OF JOURNALS.

—It is with regret that every one sees several American Medical Journals interleaving their text pages with advertisements of enterprising and ambitious business houses. Indeed, many of these Journals thus present so grotesque an appearance that there is suggested to the examiner the idea that the volume before him, be either an illy prepared directory of a fourth or fifth class city, or the many hued pamphlets sold as railroad guides. Surely few would suppose that a scientific editor would send forth his bantling thus decked, as for a masquerade. It certainly is not pleasant for a subscriber, while reading the result of the labors of some valuable contributor to find, in looking for the close

of one page to the commencement of the next, that the chain of reasoning is interrupted by the eulogistic descriptions of some spinal apparatus, or the special advantages of some new rectal syringe. The transition, to say the least, is ridiculous and absurd enough to do violence to the taste of the most obtuse reader ; and in a mercantile sense, such an advertisement is a failure, for it is impossible to suppose that a reader would interrupt pleasant studies, to learn the advantages of the wares advertised, or that he could fail to be provoked at the interruption.

America has been reproached abroad, with being a nation of shop-keepers, and this was in the early history of the country, to a great extent, true. Of late years, however, the representatives of the learned avocations have removed themselves far above any such reproach, and have done much to remove this stigma from their country. Under such circumstances, it is particularly mortifying, to find that the Medical Profession, not as a whole, but through its Medical Press, is doing so much to render the aspersion referred to, conspicuously just, once more. As the Profession unconnected with the Press, are unable to do anything to correct this evil, it is only proper that some portion of the Press should protest against it.

Advertisers should be confined strictly to the advertising pages, and while it may be quite profitable to an Editor to insert advertisements in the text of the Journal, it is respectfully suggested that every Editor owes it to his subscribers, and to himself, to have the text pages of his Journal devoted only to Science.

THE CHICAGO MEDICAL GAZETTE.—The first number of Volume one of this Journal was complimentarily sent to this office, as it was to many others. It was examined with care, recommended to the public with a few kind words, and placed upon the Exchange list. A few paragraphs in it were marked to be re-published. Whether from inattention in this office, on the part of the Editor or his assistant, or whether from inattention on the part of the printer, these paragraphs (consisting chiefly of abstracts from other Journals) were re-published without the usual credit.

The second number of the *Chicago Medical Gazette* has just been received, and is found to contain an article in which it is claimed that these abstracts from other Journals "appear as stolen Editorials," and other abuse is freely heaped upon the Editor of this JOURNAL.

Great allowance is to be made for an Editor who has reached only the second number of his first volume. For this reason, if for no other, one would not willingly stoop to the use of such language as has been used by the Editor of the *Chicago Medical Gazette*. He is however, respectfully informed, that it is customary among the gentlemen of the Editorial Corps when any real or alleged grievance exists, to write a letter of inquiry, when the amplest explanation is always secured.

The worst thing a young Editor can do, when he fancies himself aggrieved, is to rush blindly into print, and to use language unworthy of himself and of his periodical, repugnant to every gentleman among his readers, and wholly inadmissible in respectable Journalism. Perhaps, when the young Editor to whom allusion is made, has seen two decades instead of two weeks in the field of Journalism, he will find that in the best offices in the world, Professional or Secular, paragraphs will appear without the usual credits being given; and if his Journal lives, even he, may realize that he can be guilty of what he esteems an enormous literary theft.

ERRATA.

Although the proof of Dr. Mastin's excellent article on Tracheotomy was sent to him for correction, and although a few errors was corrected in the JOURNAL office, there still occur the following errors:

On page 4, line 33, for "*Lagnenbeck*," read "*Langenbeck*." Page 7, in Table of Tracheotomies, etc., under head of *Remarks*, first paragraph, for "Cohen in his papers on," etc., read "Cohen in his paper," etc. Page 8, in table, under head of *Authorities*, first line, insert opposite the name of Chris. Johnston, "*Maryland Med. Journal, February, 1878*;" and on page 9, under same heading, line 12, for "N. J. Rep't., etc.," read "N. J. Med. Rep't., etc.;" also on same page and under same heading, ascribe the remarks opposite the name of Waldemar Von Roth, to L. Voss. One line lower, same page and heading, last line, read "Vol. 2, No. VII," instead of "Vol. 2, No. VIII." Page 11, under head of "*Operators*," line 14, read "E. S. Bunker," instead of "E. S. Buncker." Page 13, under head of *Remarks*, 2d line, for "indigestible of food," read "indigestible food." Page 19, line 7, for "Tonsillitis," read "Tonsillitis." Page 24, 2d line from bottom, for "150," read "250." Page 27, line 24, for "a prior," read "a priori." Page 32, line 8, for "one cure" read "five cures." Page 34, bottom line, for "sixty-eight," read "sixty-three." Page 35, line 15, for "intracheal," read "intra-tracheal."

GAILLARD'S MEDICAL JOURNAL.

(Formerly the Richmond and Louisville Medical Journal.)

VOL. XXIX.]

MARCH, 1880.

[No. 3.

ORIGINAL COMMUNICATIONS.

“Qui Docet Discit.”

ART. I. *Electricity in Medicine and Surgery. With Cases to Illustrate.* By JOHN J. CALDWELL, M.D., Baltimore, Maryland. Practice limited to Diseases of the Nervous System.

The important discovery of Oersted of Copenhagen, which demonstrated the identity in nature, of static and dynamic electricity with magnetic force was soon followed by the invention of the electric telegraph. The attention of Electricians was concentrated upon Electro-Physics until the perfection of the mechanical contrivance by Morse. In due time it was made known to the medical profession that electricity was a powerful therapeutical agent, and its application in the treatment of disease wrested from the hands of quacks and charlatans. Electro-Therapy is now an important specialty in medicine. The close analogy of electric to nerve force at once caused attention to be directed to its employment in the treatment of nervous diseases; but experiment has shown that it is applicable to the treatment, the relief and cure of other pathological conditions. Electricity may be applied to produce sudden shock, by collect-

ing it in a Leyden jar, or increased by means of the Electric Battery, or continuously, or by the interrupted Faradic current. Thus it may be used as a tonic in cases of nervous debility, in cases of paralysis, so as to take the place of nerve force which presides over functions of nutrition. The nutrition of the paralysed limb is thus sustained, and likewise the revival of nervous energy promoted. It is apparent from the close analogy of electricity to nerve force, that this agent embraces a wide range of morbid conditions. Through the nervous cords which act as conductors, every part of the animal organism can be reached. In this way secretion and elimination of morbid products may be promoted, and the organ or apparatus restored to healthy action. The three great forces of nature are heat, light, and electricity. These are the forces under whose influence vegetation is produced. Heat and moisture cause the germ of life in seed to awaken, the materials stored up for the use of the embryo undergo changes both chemical and mechanical, so as to be fit for appropriation. The architecture of the plant begins. A spire shoots up from the bud, under the influence of the sun's light, the food afforded by the atmosphere is appropriated. Forces are active at the root, forces are active in the blade. There is no doubt in my opinion that electricity is one of the active forces which contributes to plant growth. We have all the conditions of its generation, heat, moisture, unequal heating of different mineral substances, causing thermo-electricity. We also have chemical action. It is impossible to draw a line of demarcation between vegetable and animal structure, and doubt not that heat, light and electricity are the physical forces under which animal structure is built up. The light of the sun is as necessary to the vigor and health of the animal, as of the vegetable kingdom. Indeed, as already stated, the two shade into each other so as to render it impossible to say where the vegetable ceases, and the animal begins. Electricity being one of the forces which contributes to the animal organism, is necessary to functional health.

The various conditions under which electricity is manifested enable us to apply it to a variety of morbid conditions.

Its wonderful decomposing power (electrolysis), has been utilized, by the physician. The intense heat incident to its manifestation by certain combinations, has enabled the surgeon to substitute in many cases the cautery for the knife, indeed to apply it to the section of morbid growths not remedial by the knife.

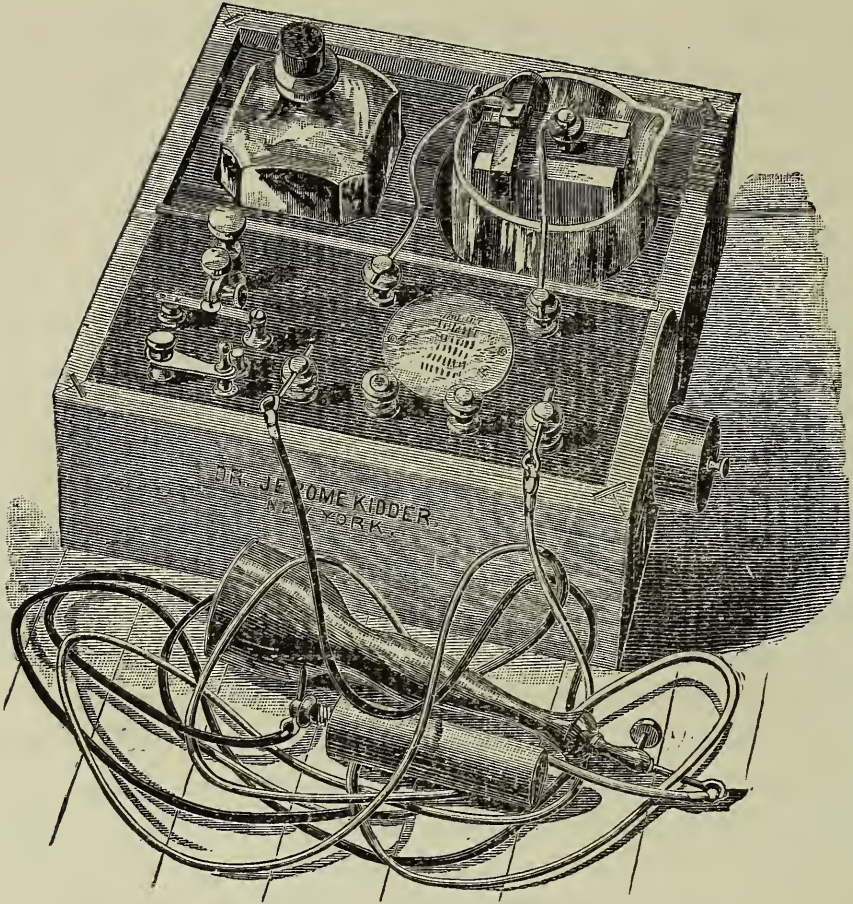
It may be stated that in order that progress shall be had in any branch of science, appropriate apparatus is necessary. Scientific speculation is a great lever, but it must be controlled by experiment, speculation must be tested by experiment, for the human mind is too apt to be seduced by the pleasures of speculative philosophy, and to prone to abandon the paths of observation and sound induction.

From the want of apparatus, and the ignorance of its different modes of manifestation, electricity as a therapeutic agent was seized upon by the charlatan, and neglected by intelligent practitioners of medicine. By a curious coincidence the discoveries in electric science and improved apparatus was accompanied by great discoveries in regard to the functions of the nervous system. Whilst Oersted, Ampeere, Faraday and others were making rapid strides in electric science, Sir Charles Bell, Majendie, Marshall Hall, Claude Bernard, Brown-Sequard and others were unravelling the intricacies of the nervous system. In no era of the world has there ever been such activity in scientific investigations, and the applications of science to the material comfort and welfare of mankind.

At last the votaries of medicine contribute their quota, and many of the most eminent of the profession are devoting their talents and energies to the therapeutical effects of electric force in the treatment of disease.

ELECTRO-CAUTERY.

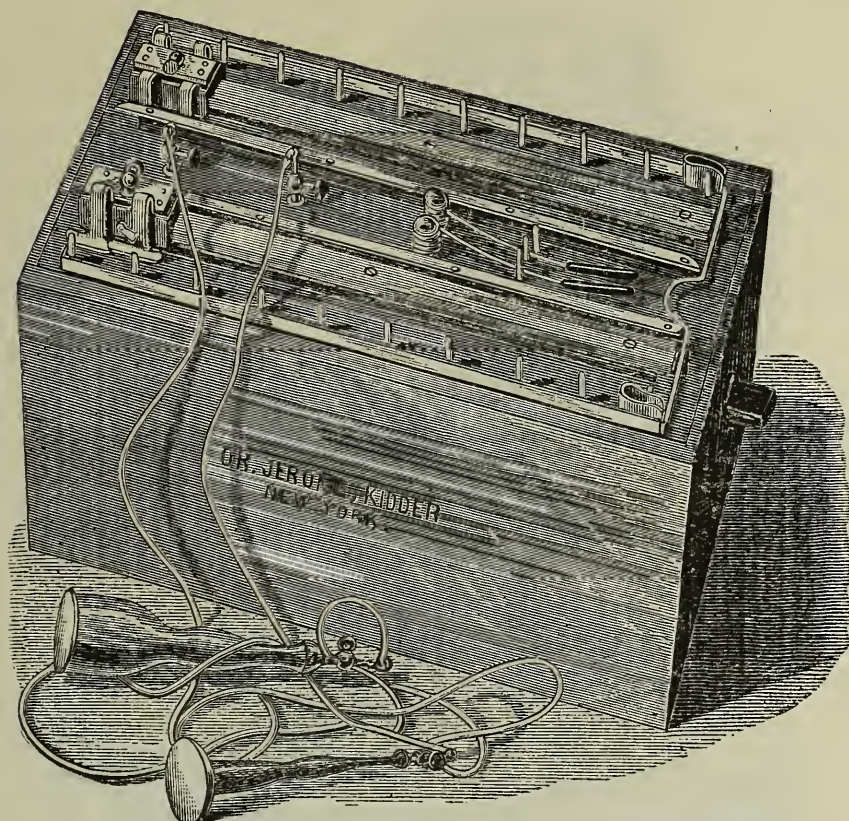
As the result of our own experience we may state that the successful application of electricity is strikingly manifested in the removal of morbid growths by the electro-cautery. This is especially true of those soft and bleeding tumors of the rectum, vagina and other passages where the use of the knife is impracticable.



Dr. Jerome Kidder's No. 4 Office and Family Machine.

Kidder's Faradic Machines and Galvanic Batteries, have proven far more enduring and reliable, giving fuller and more even currents, with better medical results than any other yet presented to the Profession.

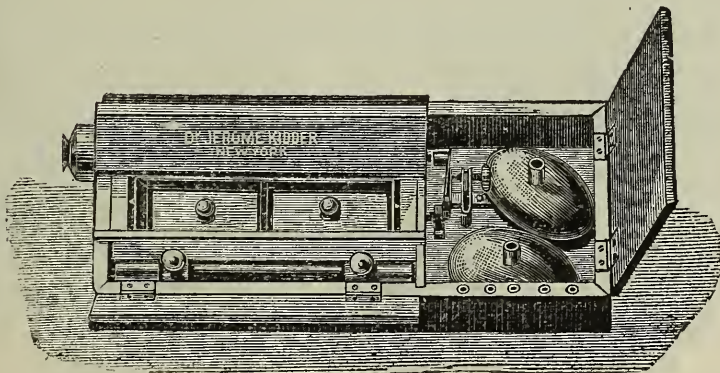
The removal of medullary or soft cancer growths can be most successfully done by the electro-cautery operation. The advantages of this mode over the knife in interior cases, are, that there is no *shock*, little or no hemorrhage, and an avoidance of the dangers which commonly attend operations within the pelvis. The mode to be pursued, is to attach a platinum wire, large size, to the ends of the insulated wire conductors which must surround the morbid growths—when the circuit is closed the wire becomes white hot, the tumor is now cut through, and at the same time the exposed surface is cauterized. The advantages over the actual cautery, are a more constant heat, and more time for the operation, also different shaped instruments may be adjusted to the various requirements of the case. Soft growths, cauliflower excrescences cannot safely be approached by any other



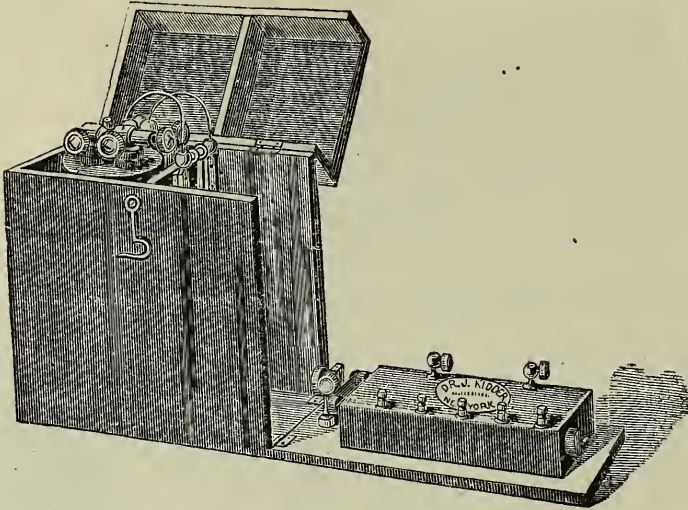
Dr. Jerome Kidder's 18-cell Galvanic Battery with Improvements.

method, especially when located in the vagina, rectum or other passages. Instruments and electrodes of various type are required for those cases.

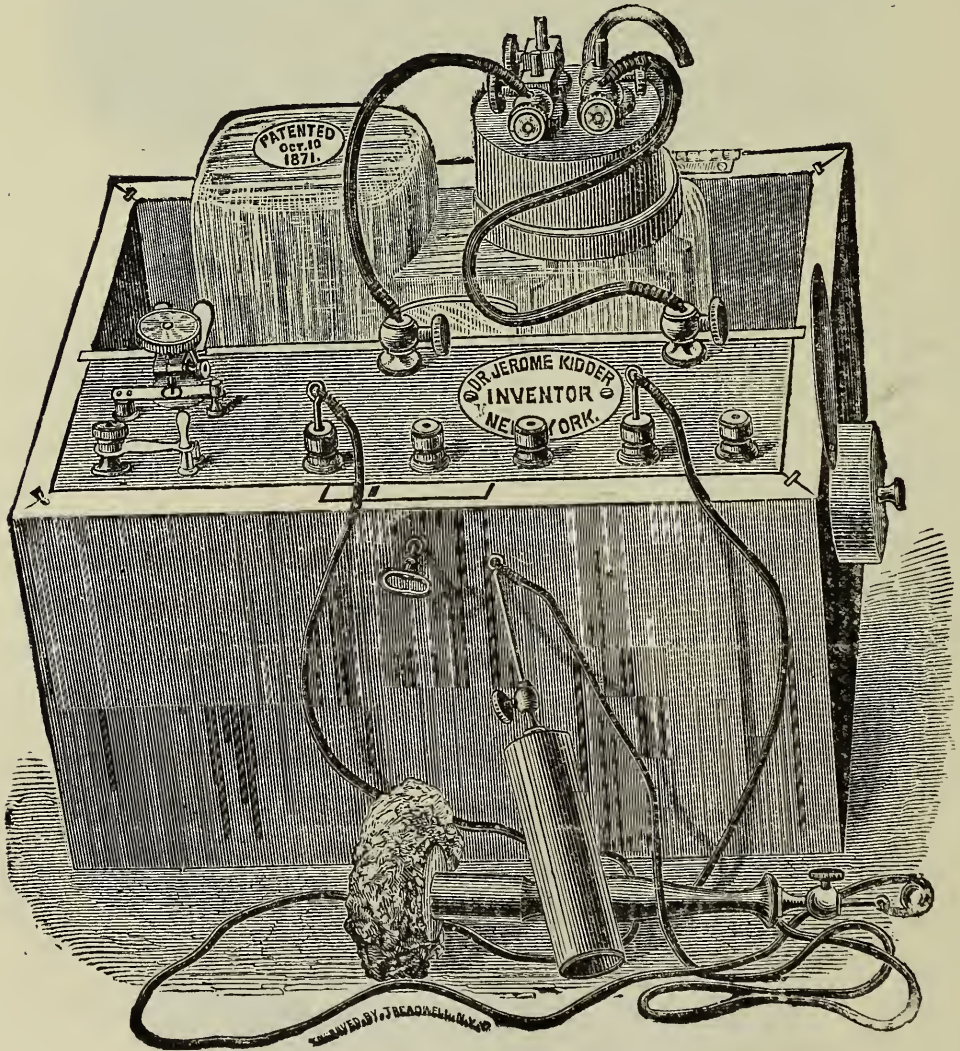
The Galvanic Caustic Battery, invented by Dr. Byrne of Brooklyn, is a most convenient and portable instrument. It is of the size of an ordinary Faradic machine, being about half the size of the smallest caustic apparatus usually found at the instrument makers. It is capable of holding twelve inches of No. 21 platinum wire at a white heat as long as required.



Dr. Jerome Kidder's Improved Pocket Induction Medical Apparatus.



Dr. Jerome Kidder's No. 2 Physicians Visiting Electro-Medical Apparatus.



Dr. Jerome Kidder's Improved No. 5 Tip Battery. (Patented.)

The following cases illustrate the effects of electro-cautery :

CASE I. Mrs. W., suffered from a growth which originated upon her left breast. Cropping out from the principal tumor was a bleeding fungoid, which involved the axilla, so as to interfere with the movements of the arm. The tumor had increased rapidly and was accompanied with severe constitutional disturbance. She was brought under the anæsthetic influence of ether, and the tumor was removed by the electric loop. She bore the operation well ; the loss of blood was not enough to stain her clothes. The disease had progressed too far to effect a permanent cure—the operation being followed by temporary relief only.

The second case was that of Mrs. M. She was fifty odd years of age, and the mother of several grown children. During a period of several months, she had suffered from constant burning pains. A bloody ichorous discharge offensive in nature issued from the vagina. On examination, we found the vagina occluded in a great measure by a soft bleeding growth attached to the right lateral wall of the vagina, encroaching upon the mouth and neck of the uterus.

It also involved the rectum so as greatly to impair its functions. Although her physicians gave her little hope, we were of the opinion that the tumor could be safely removed. The operation consisted in removing the mass piecemeal, because from its extent and attachments it was impossible to include all of it in the cautery loop. But with the electro-cautery, we succeeded in destroying it until the base was reached, which was thoroughly cauterized. The patient was under the influence of ether more than two hours. Within a few days, discharges began, which consisted of healthy pus, and carbonized tissue. At the end of two weeks, she returned home relieved, and much improved in her general health.

Such cases may or may not return ; yet under any circumstances the operation is justifiable, because followed by temporary relief, and often by permanent cure. The cicatrix must be watched, so that a return may be controlled by electrolytic applications.

Steinhil, Amussat, and Middeldorpff, have successfully operated with the electro-cautery. The last named gentleman in 1859, gave the galvanic-caustic loop its greatest reputation by successfully removing a morbid growth from the windpipe of a prominent clergyman. We have removed thus dangerous tumors in their early stages of development with entire success. These cases were reported in the Medical Journals, and to Medical Societies in New York and Brooklyn. Benedict, Neftel and other distinguished pathologists believe such tumors to be local in their origin, subsequently to effect the constitution, first local, secondly constitutional.

Clinical Notes on the Electric Caутery in Uterine Surgery.

By J. BYRNE, M.D., Surgeon-in-Chief to St. Mary's Hospital for Diseases of Women; Clinical Professor of Uterine Surgery to Long Island Medical College, etc.

The whole number of cautery operations thus far occurring within my own observation, has been seventy-two, as follows:

- 19 Cases of Epithelioma, including cauliflower cancer.
- 11 " " Encephaloid, or medullary cancer.
- 13 " " Catarrhal, inflammatory and ulcerative affections of cervical canal of uterus.
- 5 " " Amputation of cervix—(non-malignant).
- 4 " " Fibrous and fibro-cellular polypi.
- 4 " " Sessile fibroid tumors.
- 2 " " Deep ulceration of os and cervix.
- 1 " " Intra-uterine vegetation.
- 2 " " Vascular tumors of urethra.
- 4 " " Granula urethretis.
- 3 " " Hemorrhoids.
- 1 " " Perinæ-vaginal fistula.
- 1 " " Lipoma of scalp.
- 1 " " Lipoma of cheek.
- 1 " " Lipoma of ear.

Of the thirty cases of malignant disease—

- 17 were of the Uterus alone.
- 7 " " " Uterus and vagina.
- 8 " " " Perineum and vagina.

1 was of the Left Labium.

1 " " Clitoris.

1 " " " Breast.

Among the nineteen cases of Epithelioma—

7 were indurated or ulcerated only, and
12 were of the ulcerating or cauliflower character, of the latter

7 " " " Cervix uteri alone.

3 " " " Perineum and Vagina.

1 was restricted to the Left Labium.

1 " " " Clitoris.

The following table shows the date of operation, the parts involved, and the condition of patients up to date, in severe cases of epithelioma, in its ulcerating state of development.

	DATE OF OPERATION.	PARTS REMOVED.	PROGRESS.
1	May 10, 1870....	Posterior lip.....	Patient left hospital well, and though lost sight of since, believed to be cured.
2	July 7, 1871....	Entire Cervix....	No return of disease, health entirely restored.
3	July 26, 1871....	Anterior lip.....	No return of disease, died some months afterwards from other causes.
4	January 25, 1872.	Entire Cervix ...	No return of disease, general health entirely restored.
5	Feb'y 28, 1872...	Entire Cervix....	No return of disease.
6	June 5, 1872....	Conical piece from centre of Cervix.	Disease reappeared.
7	Nov. 13. 1872...	Entire Cervix ...	Operation of this kind believed to be radically curative.

NATURE OF CANCER.

Mr. DeMorgan read lately, the following thesis regarding cancer, before the London Pathological Society. That the disease, while presenting certain special characters, does not differ essentially in its mode of origin from many or most other morbid growths. That there is no evidence of the disease being caused by, or dependent on a special condition of either the fluid or solid portions of the blood. That while the actual growth is local in its origin, there may be, and possibly is, an antecedent of the part or of the system which favors its production. That possibly the germs may be present from the earliest period of development.

That before a tumor is formed, we have no reason to

suspect or anticipate the occurrence of the disease, unless, as at times is the case, some local condition be present, which we recognize as often preceding the development of cancer.

That when a tumor is formed we can explain its spread, and recurrence without reference to an antecedent diseased condition of either the solids or fluids of the blood.

That the structure of cancer specially favors this recurrence ; but that most morbid growths show more or less of the same tendency, and some to as great or greater extent than so-called cancer. That if a special state of the blood be a factor in the formation of cancer, we must also believe it to be so in most or all tumors. That the development of local disease, determined by an antecedent condition of the system is soon in the simplest forms of tumor, as warts, for example, and may be merely in obedience to the same law which governs the bodily and mental configuration of the individual.

That the fact of retrogression of cancer, while it gives a hope that in discovering its cause we may find a remedy for the disease, does not prove a special blood origin of the disease any more than would a local degeneration of a natural tissue. This is borne out by the fact sometimes seen of retrogression of cancer growth in one part, while in other parts active growth goes on.

It would thus appear from the resumé of DeMorgan, and from Byrne's table of cases, as well as from the opinions of other able pathologists, that we are justifiable in attacking cancer in all its stages, whether we regard it as of local origin, secondarily affecting the system, or as a local manifestation of a constitutional disease. The electro-cautery may be used in many cases where it is impracticable to use the knife, indeed it is to be preferred to the knife in most cases where the disease can be reached by it.

ELECTROLYSIS.

Electrolysis is a term to denote the decomposing power of electricity. This is done by a continuous current derived from a Galvanic Series. Compound substances are thus decomposed, the elements of their composition being elim-

inated at the respective electrodes according as they are attached by the negative or positive poles of the battery. Hence the classification of substances into positive or negative bodies. When water is subjected to electrolytic action, the oxygen is delivered at one pole, the hydrogen at the other.

This power of decomposition is made subservient to the treatment of a variety of morbid conditions—such as tumors, benign and malignant, indolent ulcers and the like. Not only by its electrolytic action on the tissues, but as a means of applying substances directly to the diseased surfaces. To affect the latter result porous paper, linen or cloth is moistened with a solution of the compound of one of those constituents it is desired to apply to the surface of the ulcer. To this saturated cloth the positive pole of the battery is applied, whilst the negative pole is passed gently around the ulcer, decomposition takes place, and the substance, mineral or other is deposited upon the surface. The current should be maintained for ten or fifteen minutes, and repeated daily. One effect is to lessen the sensibility of the diseased tissue, which is often a point gained. Indolent ulcers of long standing have readily yielded to this treatment after every other means has failed.

Alexander Murray, M. D., L. R. C. S., etc., who has had an extensive experience in this process says, I cover the bottom of the ulcer with a little linen, cotton wool, or granulated sponge, then wet the sponge with whatever agent the nature of the tissue may require, and apply the metal disc directly to the saturated material; while I keep one electrode stationary for a few moments, in the ulcer, I work the second conductor slowly around the diseased part; thus I have the nascent chlorine, oxygen, etc., directly eliminated and to the parts.

His paper is replete with cases and results, and is well worthy the attention of the profession. Under such treatment, indolent ulcers, flabby, livid granulations are soon changed to a healthy flesh or rose color. He denominates this method of Galvano-ozonization. Dr. Murray remarks that he can find no reference to this use of electrolysis in

any work which he has consulted on Electro-Therapeutics. In an article entitled Electro-Chemical action on cell tissues, read before the Electro Therapeutical Society of New York, and published in the *New York Medical Journal*, he introduced and particularly dwelt upon this mode of treatment of malignant growths, and ulcers, and termed it *Electrolysis*. We presented to the Society a phial of tissue electrolysed into fluid extract (beef cell tissue) at the time of reading the paper. The specimen retained its original freshness, which was probably attributable to its saturation with pure chlorine. This mode of treatment we regard with great consideration, because we think it clearly points to a new era in the treatment of morbid growths.

We have used Galvanism successfully in the treatment of parasitic skin diseases, the liquids are coagulated and the parasite destroyed. We have also employed it in the treatment of eczema with good results, but not with the brilliant success claimed by Geo. M. Beard, M. D., of New York. This arduous and original worker in the field of Electro-Therapeutics, claims to have cured eczema and other skin diseases by central Galvanization alone, without the local application. He cites many cases both in hospital and private practice.

In the treatment of neuralgia, galvanism is a valuable adjunct. We must at the same time bear in mind the origin or cause of the complaint. If malarious, use quinine ; if specific, iodine, iodoform, etc. ; if neuro-asthenic, cod liver oil, and the phosphates ; if mechanical, the interference of the surgeon is necessary. But in most of these cases we have either anemia or hyperemice of the spinal cord. In hyperæmic neuralgia, Galvanism, and hypodermic injections of ergotine ; in anæmic neuralgia, faradism and strychnine. In both conditions, there is nausea and dull pain in the stomach, as well as pain in the joints, face and other regions.

ELECTROLYSIS OF TUMORS.

In applying electricity to tumors, we use electrodes with sponge tips, saturated with a strong solution of chloride of sodium. We commence from the border of the tumor, and gradually approach the more solid parts ; suppuration is set

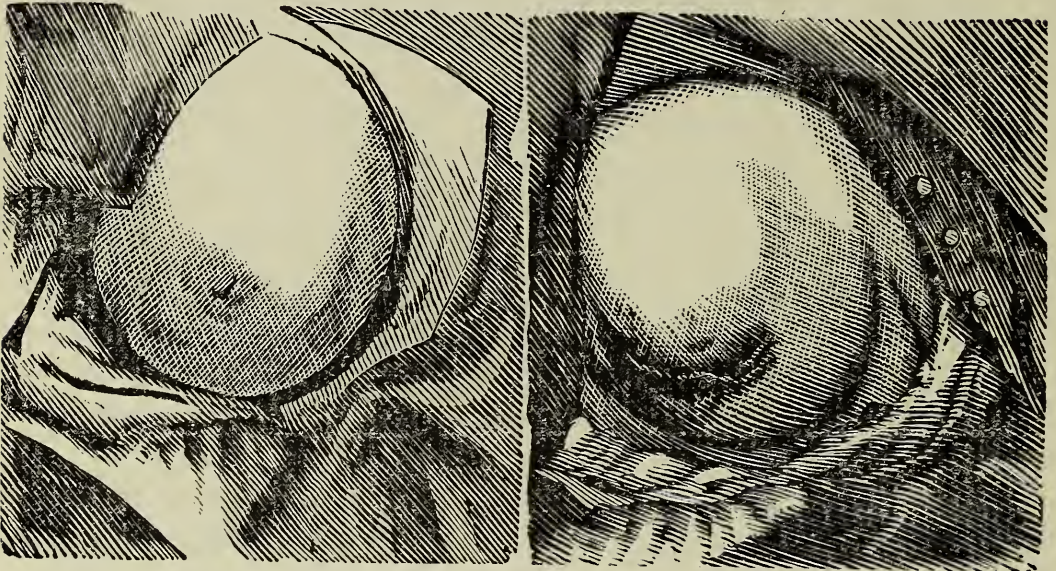
up, and absorption takes place, the result, the destruction of the tumor.

Cases which have come under our observation will best illustrate electrolytic action upon tumors. G. consulted me concerning a malignant tumor which involved the right side of the face, neck and trachea, and other vital organs. He had consulted prominent physicians without success. The case was not amenable to surgical treatment. The growth was rapid and threatened suffocation; it presented the characteristics of scirrhus. We advised the effects of electricity. A galvanic current was daily applied from a sixteen cell battery. The treatment was continued from June 5th, 1871, to July 7th. The tumor disappeared under the action of the current. By electrolysis we have successfully removed several cases of scirrhus during their early stage of development.

CASE.—Mrs. B. aged 39, the mother of three children, called Nov. 15th, to consult me concerning a tumor which occupied two-thirds of the breast, and the glands of the axilla. I regarded it as cancer. History—About a year before she noticed a small tumor in the left breast, it grew larger, and more painful. It had been pronounced to be cancer, and extirpation advised. The tumor was hard, with lancinating pain. A ragged ulcer four inches in length occupied its base. The fluid under the microscope had been pronounced cancerous. We used Dr. Kidder's Voltaic Battery (zinc and copper series), acetic acid.

Its action is to disintegrate the tissues, as a drop of water is resolved into its constituents oxygen and hydrogen, gases and salts are eliminated and coagulum formed—effects are thus produced which cause suppuration and also absorption. Electrolysis was commenced on the 17th of November, pain much diminished, appetite better. November 20th much improvement in the ulcerated. November 22d to 27th tumor softer, smaller, bright granulation, no pain. On the 30th the tumor had diminished fully two-thirds, general appearance much improved. January 3d, breast nearly well, nipple before contracted has begun to bulge. The treatment was continued at intervals until the middle of March,

when she was discharged cured. Here are two photographs of the breast taken during the early part of the treatment, which exhibit the marked improvement under the electrolysis.



In electrolysis, as above stated, we use electrodes with sponge tips, saturated with a strong solution of chloride of sodium. We commence with the border and gradually approach the more solid part of the tumor.

CASE—Mrs. J. called 25th September to consult me on account of tumour of right breast. History. Tumor first attracted attention of patient April last. Small hard tumor about size of walnut, rapidly increased in size, it now occupies base of the gland and involves nipple,—surrounding tissues hard, and irregular, skin tender and purple, two or three ulcerating points which discharge ichorous matter, pain in tumor. Diagnosis, cancer. Treatment by electrolysis, current from a battery of ten cells, duration of application from ten to fifteen minutes at a setting. The treatment was continued at intervals of two or three days to the 5th of October. On the 18th of October two or three small nodes, all that were left of the tumor.

The treatment of tumors by electrolysis is sustained by the learned Althaus. He treated sixty-three cases, of

which eleven were malignant—result, sixty-two per cent. cured, twenty-six improved, and twelve unknown.

We refer to the following gentlemen, learned and distinguished in the profession to support our views of the practical application of electrolytic treatment of tumors. Benedict, Billroth, Paul Bruns of Germany, Lawson Tait, Fogge, and Callendes of England. Lawson Tait treated a case of encephaloid disease of the femur by electrolysis, complete relief from pain followed each application.

Bruns gives an analysis of nine cases of naso-pharyngeal polypus treated by electrolysis, seven resulted in cure. Neffel destroyed a number of cancerous growths by electrolysis.

At a meeting of the British Medical Association, Dr. Bradley attempted to establish the oneness in origin of all morbid growths, characterized by the abnormal development of epithelial elements, such as scirrhus, epithelium epulis, and common warts, maintained that as electricity by coagulating the albumen it should therefore be employed in all cases of infiltrating tumors, where it is decided to eradicate the growth.

It would be out of place in a paper of this character to enumerate all the heterogenous maladies in which electricity, as electro tonic, electrolysis, or electro-cautery has proved serviceable. The electro tonic will be found highly useful in modifying irritability of nerves of special sense, whilst galvanism, (electrolysis) has been found curative in partial paralysis of the vaso-motor nerves, in troubles of the pneumogastric nerves, such as asthma, dyspepsia, etc., in primary arterial spasm, apoplectic paralysis, in cases of muscular progressive atrophy, in early stages of progressive locomotor-ataxy, and in neuralgic affection of cerebro-spinal nerves. We will mention two cases of progressive locomotor-ataxy, first stage, one the result of sexual excesses, the other of exposure to cold—both of which were successfully treated by the Faradic current. The duration of treatment was three months, application of current every other day, time each seince fifteen minutes. The case we attributed to sexual excess was in a young man recently

married, to the ardor of youth we ascribed his troubles. The second case was that of a young Englishman whose malady we attributed to excessive fatigue and extreme cold encountered during a hunting excursion. In each case the symptoms were similar, viz : A loss of power to co-ordinate movements, difficulty in walking, frequent loss of balance, an uncertain, tottering gait, like a drunken gait, could not walk with closed eyes without falling. Rheumatic, sharp pains in thighs, knees and shin bones; bottom of feet felt as though covered with thick plasters; occasional prickings as with pins and needles. When walking, required to watch legs to prevent staggering or falling; legs thrown forward spasmodically.

It was for the removal of dyspnea that led Dr. Phillips of England, to try galvanism as a remedy in asthma, by transmitting a current from the nape of the neck to the pit of the stomach, he gave decided relief in every one of twenty-two cases.

Claude Bernard believes that diabetes mellitus is due to over activity of the nerves which preside over the functions of the liver, and considers it possible that, if it were in our power to galvanize the sympathetic nerve, this would be the best mode of treating this disease symptomatically, the function of the sympathetic being weakened by the undue activity of its antagonist.

Electricity, when applied to electro-puncture in the treatment of aneurisms, has been successful in our experience. Cinicella, in the Medical Press and Circular, of London, reports many cases of success by this mode, and gives full and particular instructions as to the use of the needles, as well as the necessary apparatus.

USE OF ELECTRICITY IN CASES OF SUSPENDED VITAL FUNCTION.

We have been induced to try the effects of electricity in cases of suspended vital function resulting from narcosis, and cases of apparent death from drowning, from experiments upon living rabbits, made by Dr. Wilson Phillips of England, from which it appears that electric force was used to substitute nerve power. The pneumogastric nerve of the

animal, was severed immediately after it had eaten some parsley. After the death of the animal, which had great difficulty of breathing, and perished apparently from suffocation, the stomach was opened and the parsley found undigested. A similar experiment of section of pneumogastric nerve was made, but a current of galvanism passed along the nerve, and continued for twenty-six hours, No difficulty of breathing occurred as long as the current was kept up. The animal was killed, the stomach examined, the parsley was completely digested. It thus appeared that galvanic energy is capable of supplying nervous influence in that the process of digestion may be carried on. Similar experiments were made upon dogs with like results.

The following cases illustrate the beneficial effects of electricity to restore suspended and impaired vital function.

CASE I.—In summer of 1873, I was called to see a child, Jennie C., suffering from a poisonous dose of laudanum. Every other means except electricity had been tried without benefit. The laudanum had been swallowed some twelve hours. A powerful current was continued for more than three hours, with the result of complete restoration. The respiration from nine the minute was increased to eighteen or twenty, when the pupils began to dilate, the pulse become normal, and consciousness restored, vomiting and purging ensued.

The current was passed by placing the positive pole over the pneumogastric nerve at the angle of the sternocleidomastoid muscle, and the negative pole over the epigastrium.

CASE II.—1874 I was called to attend a person in the Maryland Inebriate Asylum, who attempted suicide by taking opium. The usual remedies had been tried and proved unavailing. A Faradic current was applied and continued from 3 A.M., until 7 A.M. The respiration rose from seven to eighteen the minute. Patient restored.

CASE III.—Was one of dyspnea from *Delirium-tremens*. Faradism was applied, but the poles reversed in order to obtain a sedative rather than a tonic effect. Within a few hours, nervous excitement subsided, aided by large and frequent doses of digitalis, sleep ensued. The patient recovered.

CASE IV.—Twenty taken from the *Medical and Surgical Reporter*, New York, reported by Ed. C. Harwood. An infant aged *19 days*, had been narcotised by morphine. He was relieved by means of the Faradic battery.

CASE V.—Reported by Prof. W. H. Pancoast, *Med. and Surg.* Reported May 9, 1874. The patient had taken 120 grains of Chloral and 8 grains of morphia. The battery was used fourteen hours and life saved.

CASE VI.—George, a colored boy, was fished out of the dock, half an hour after immersion, apparently dead. I had but slight hopes of his resuscitation. There was some heat about the spinal column and head. I applied a powerful secondary current for several hours. At length I discovered faint heart actions, then occasional sighs, which gradually augmented. The organs gradually resumed their functions. The patient was restored to life.

CASE VII.—Is reported in the *Va. Med. Monthly*, May, 1874. “Resuscitation after thirteen and a half minutes of apparent death.” At a meeting of the College of Physicians and Surgeons, N. Y., March 11, Dr. L. A. Sayre exhibited a string of beads one of which had been taken from the trachea of a child seven years of age. . . . She was relieved by tracheotomy. . . . She coughed out the bead, gave one inspiration, and died. . . . Alcohol was injected into the rectum, and the galvanic current passed through the phrenic nerve, . . . she immediately rallied and then had no further trouble.

Such are some of the wonderful effects of electricity (Faradism), in restoring suspended animation. They suggest the propriety of placing proper batteries and instruments in all life-saving stations, police head-quarters, hospitals and other institutions, so that the aid of this powerful and wonderful agent may be invoked in all cases of suspended vital functions.

This paper would be incomplete if I failed to refer to the electro-motor properties of the animal body, in order that we may have a clearer understanding of the changes produced by the action of the electro current on the various animal tissues.

Edu-Bois Reymond, "first succeeded in demonstrating the presence of specific muscle and nerve currents by deflection of the magnetic needle." He likewise ascertained that, "if the muscle or nerve be excited by electric currents, or by mechanical or chemical irritants, so that the first is physiologically active, and the latter caused to contract, and then placed at two symmetrical points in connection with the galvano-multiplier, a less deflection of the needle is produced than when the nerve or muscle is in a quiescent state. This is called the negative variation of the current." The conclusion arrived at by Dr. Bois Reymond was, that nerve and muscle contain innumerable positive and negative electric molecules which move with great regularity throughout the tissue. Perchance the power of electricity in cases of suspended animation is to restore the suspended electrical forces of the body to a normal condition, and thus reanimate failing vitality.

The effect of chloroform may be remedied in much the same way ; that is to say by appealing to the vaso-motor centres through the pneumogastric axis.

The following experiments by Drs. Bowditch and Minot illustrate the influence of anæsthetics on vaso-motor centres.

Anæsthetics in producing insensibility to have accomplished such results by antagonising the effects of irritation of sensitive nerves. One of the most constant physiological results of irritation of a sensitive nerve is a rise of arterial tension, due to a replex stimulation through the vaso-motors centers of the muscular walls of the smaller arteries, especially those of the intestines. It is ascertained that in the majority of cases, the rise of blood tension consequent upon the irritation of the *saphenous* nerves, is less marked when the animal is under the influence of ether, than when the anæsthetic is not used. The first object was to determine the effects of anæsthesia on the reflex rise of the blood tension. This was accomplished in the following manner : An animal being placed on the operating table in the supine position, a solution of curara was injected into the jugular vein, when paralysis ensued. When the respiratory movements ceased, the trachea connected by means of a glass

canula inserted into it with the apparatus for artificial respiration, which was so adjusted as to imitate as closely as possible the normal respiratory rhythm. A canula was then placed in the carotid artery and connected with a mercury manometer, carrying a pen by means of which the blood tension was recorded on a long strip of paper, which was kept in uniform motion by clock-work. The saphenous nerve was then placed upon electrodes. The irritation of the nerve was produced by closing the currents, by means of a key provided with a pen; thus recording the blood tension, which could be seen at a glance. After the anæsthetic had been administered, the nerve was again irritated. Then the blood tension was notably decreased, and so continued to be as long as these experiments were tried. But far more constant and obvious were the results obtained from chloroform. Here the irritation of the saphenous nerve caused a less marked rise in the blood tension, and sometimes there was no rise whatever. These facts present to my mind the clearest evidence in favor of the electrical remedy in cases of deep chloroform toxæmia, and the propriety of having accessibility to a Faradic instrument, complete and ready for immediate use in chloroform administrations. It is also more than probable that electricity would be serviceable in many cases of still-birth.

PARALYSIS OF FACIAL NERVE.

This nerve arises from the upper part of the groove between the olivary and restiform bodies, and near the pons-Varolii. With the portis mollis, it constitutes the seventh pair of facial nerve in the nomenclature of Willis, and derives the name portia-dura from the density and closeness of its texture. It supplies all the muscles of the face except those of mastication, which are supplied by the fifth, those of the palate, the laxator tympani, and levator tympani; also the muscles of the external ear and those of the tongue (Draper). The facial is a centrifugal nerve. If irritated near its origin there is no sensation of pain, but subsequently it obtains fibres from other sources as from the fifth and pneumogastric. It is to be regarded as the motor nerve of the face, influencing the function of

respiration through reflex action, but not connected with the function of respiration. Injury of it produces paralysis of the parts to which it is distributed, as for example, the orbicularis palpebrarum, causing inflammation of the eye, opacity of the cornea, through inability of that organ to free itself from dust and spread the lachrymal secretion over the surface. In like manner, the sense of hearing may be injured through loss of control over the muscular structures of the ear; and the acuteness of the sense of smell diminished from inability to introduce the air in a strong current, or the sense of taste, if the point of injury be previous to the giving off of the chordi tympani. In paralysis of the facial nerve, the muscles of the face become powerless, and the countenance therefore distorted. *In facial* paralysis there is entire absence of expression on the affected side of the face, the lower portions of which is drawn to the opposite side by the force of the unaffected antagonistic muscles. The principal inconvenience depends upon labial muscular action and the muscles about the cheek; owing to the paralysis of the buccinator muscle which receives its motor filaments from the facial nerve, fluids from drinking, escape at the corner of the mouth, and measurably, food, in the act of mastication.

Facial paralysis is often caused by damp and cold—an effusion takes place into the cellular tissue of the face, by which the peripheral branches of the porto-dura are compressed and their functions more or less inhibited. In cases of recent origin electricity is more rapidly successful than any other treatment. Faradism should be applied to all the paralyzed muscles individually. Voltaic alternations are useful, when the external application does not produce much benefit, the negative pole may be applied to the mucus membrane of the cheek, and the positive pole applied externally upon the skin. This sometimes is beneficial, after all modes of applying electricity have failed.

The following case was reported by Althaus, illustrates the pathological condition in facial paralysis and the beneficial effects of treatment by electricity. The patient aged 35, had been exposed to the effects of cold, from which

resulted paralysis of the left portia-dura. The physiognomic expression had entirely vanished from that side of the face. He was unable to laugh, frown, whistle or shut his eye, which appeared staring and protruded. The angle of the mouth was depressed, and drawn upon the opposite side ; that of the sound side being higher and drawn towards the ear. The cheek was flabby and loose, eating and drinking troublesome, farado-muscular contractility was diminished. The paralyzed muscles were individually faradized ; the patient regained after a fortnight's treatment, his normal physiognomic expression.

CASE.—Miss F. had been for many years a sufferer from facial neuralgia. Made an application of the galvanic current which afforded instant relief. The attack recurred again and again, temporary relief being afforded by galvanism. The disease was finally traced to syphilitic taint, and caused by mercury and iodine. We merely mention the case to show the effects of electricity in affording temporary relief even in such cases.

Case of Labio-lingual Paralysis.—Miss D., aged 14 years, presented herself for treatment for paralysis of tongue and lips. Some three years before, had a convulsive attack which left her aphonic. The tongue and lips were useless in eating. The food had to be cut fine and pushed down the throat ; lips pendant, saliva flowed freely at all times from the mouth. Galvanism and Faradism were alternately used daily—hypodermic injections of strychnine. Treatment was continued nearly a year, improvement constant but slow. She so far improved as to be able to attend school, recite her lessons, talk and sing. There remained a slight lisp, and some difficulty in articulation.

Case of General Neuriasthenia, with Partial Insomnia.—Mrs. General T. presented for treatment for melancholia with great nervous depression, circulation feeble, repose fitful and irregular. For nights had not been able to sleep until 3 A. M. General irritation of nerve centres, wild and irregular thoughts. A gentle Galvanic current was passed through the pneumogastric nerve, while at the same time what is known as constitutional Faradism was administered,

i.e., the naked feet were placed in a basin of warm salt water, which was connected with the negative pole of the battery ; then while grasping the positive with the left hand, the right hand of the operator was passed over the cranium and down the spine, as the electrode. These applications were made from the 15th November, to the 25th of December, and resulted in her complete recovery.

INFANTILE PARALYSIS, PARAPLEGIA, HEMIPLEGIA, ETC.

The cause of Infantile Paralysis remains an obscure and morbid question. It frequently occurs during dentition, but sometimes from the effects of damp and cold. It is also a sequel of diseases common to infancy—eruptive disorders, summer complaints, etc., etc. The pathology of infantile paralysis is to be studied in the spinal cord and nerves which proceed from spinal centres.

The following case of paralysis of the lower extremities of a child two and a half years old is of interest. Complete paralysis of lower extremities with tendency of double talipes-varus, partial loss of sensation with lowering of temperature, partial atrophy of affected parts. During dentition slight convulsion, for several days, coma followed by paralysis. Galvanism was applied on alternate days, fifteen minutes duration. The result was very flattering. From a paralyzed state he was able to walk around the room, to stand alone. Recovery.

CASE.—Called to see Mrs. B. C., aged fifty years. She had suffered with articular rheumatism. *Condition.*—Paraplegia of lower extremities which we attributed to rheumatic metastasis, there was œdema of feet and legs. Local application of Faradism daily with the best results. At the end of six weeks the patient was able to move about with freedom from spinal difficulty. She continued to improve for six weeks ; when she suddenly was prostrated with hemiplegia. The right side affected and eye divergent. Faradic current local and general. Medication with iodide of potassium in large doses. There was a gradual improvement, so that at the end of a year a progress to convalescence was made, so that she could sit up, and walk around the room to a limited extent.

Cerebral Paralysis.—Mr. C., aged fifty-five years, came under my care October, 1874, suffering from hemiplegia of the right side. Eighteen months previous he was suddenly prostrated. After rest and treatment he suffered a second attack. On examination I found arm and leg partially paralyzed, speech much impeded, deglutition somewhat impaired. Sensation of both sides. Nutrition preserved. Muscular tonicity and contractility preserved. In this case there seemed to be a lesion of the anterior convolutions, causing partial aphasia from loss of coordination. Digestion good, sleeps well. Regarding this condition as due to local trouble I directed my treatment accordingly. Gentle applications of constant galvanic currents to the brain and sympathetic, general medication of iron, strychnine and phosphorus in small doses. Treatment continued for four months. Results. When not excited patient is able to articulate quite distinctly for five or ten minutes at a time. Able to convey food to the mouth with his right hand, write a few words, and stand alone.

CLUB-FOOT.

TREATMENT BY ELECTRO-MASSAGE, MECHANICAL, ETC.

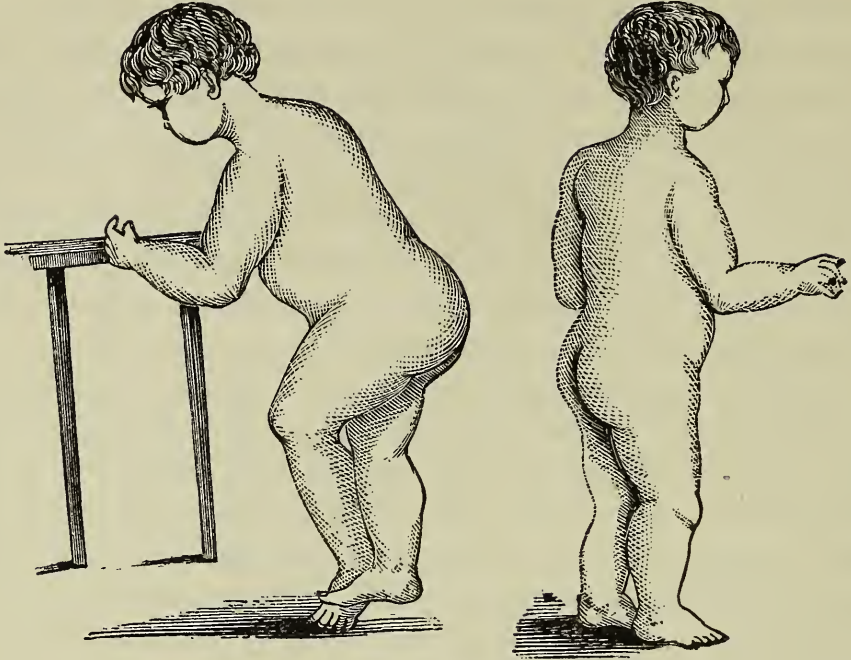
According to Prof. Crosby, "it is the theory of the Orthopædists that the diminished temperature and cyanotic appearance are due to the bending of the vascular channel out of their natural positions, by which both the ingress and egress of the blood is much diminished and retarded. If in a case of congenital talipes the foot is immediately carried into a normal position and retained there, the bent vessels are straightened, and the foot and leg may then be fully nourished and atrophy avoided. The astragalus is so deeply received between the malleolus and so firmly held by the lateral ligaments that the motion of flexion and extension are alone permitted. The ankle is thus a Ginglymoid," (or hinge-like) articulation.

"In Talipes equinus, the foot, anterior to the medio-tarsus articulation drops down, owing to the paralysis of the extensor muscle." The Cavo-varus or (twisted arch) the plantar fascia is much shortened and contracted, by which the antero posterior arch of the foot has been exalted and

a Talipes-Cavus engrafted on the other distortion. In varus the deformity is due to spastic (or jerk-like) contractions of the anterior tibial, and measurably of the posterior tibial muscles. The peroneal (or fibular muscles) are paralytic, thus the tibial muscles rotate the foot inward; and lastly the tarsal bones, from continued pressure and neglect of proper treatment must become permanently misshapen and deformed, hence the necessity of remedial efforts, while these plastic tissues are amenable to restoration."

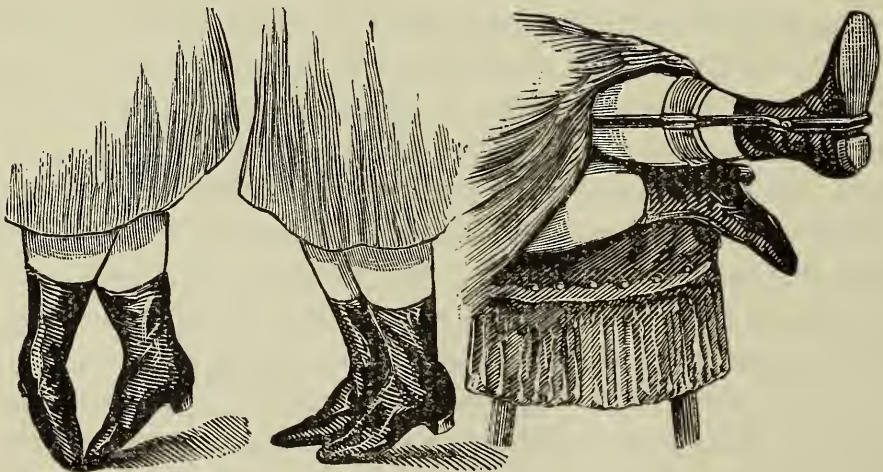
CASE.—Augusta, aged 6 years, club-foot. It may be seen that both inferior extremities are implicated. First, the varus (twisted) and superadded the cavus or (arched club-foot). Treatment. First to tone up the paralytic muscles and nerves, to revitalize the atonic vessels in order to re-establish nutrition of parts. We made daily alternating applications of Galvanic and Faradic currents. By Galvanic current we re-establish lost temperature, circulation and impaired nutrition. By Faradic application muscular irritability and contractility, and elasticity are restored. We directed the limbs to be shampooed or massaged. This treatment was made famous by Dr. Metzger, of Bonn, in the treatment of joint diseases. The combined modes we have denominated Electro-Massage Treatment. To overcome deformity apply the club-foot shoe and lateral brace so constructed as to allow free vascular and muscular action and yet retain the parts in their natural positions. In the case before us, we were able to restore much of the rotundity form a shape of the affected parts.

In Electro-Massage the hand of the operator must be an Electrode, so that each faulty weakened muscle may be massaged and revitalized. In this patient the dorsal-pedes muscles were restored so as to elevate the tarsal bones, the plantar fascia expanded, lengthened and strengthened, thus lowering and graduating the arch. The tibial and fibular muscles have been co-ordinated and restored so as to evert the foot and give a natural rotundity to the legs. The cold, blue and shrivelled appearances have disappeared, but little of the old distortion remains.



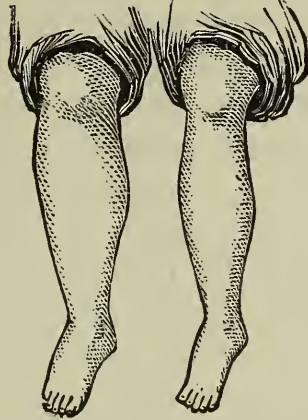
HIP JOINT DISEASE.

Case of Jennie. Injury caused by fall from a carriage. Abscess about the joint pointing in groin and vagina. Treatment, rest, good diet, friction, and Faradic current. After twelve weeks treatment she was placed upon her feet—(recovery).



Case of a little girl from Savannah, Georgia, aged 10 years, duration of disease twelve months. Great atrophy of affected limb especially of lower part. Treatment—rest,

good diet etc., etc., to restore the diseased joint. Assured of this result, we applied the Franklin or Friction Battery. Treatment continued five months, discharged cured.



CASE.—Atrophic muscles with partial Talipes varus. Eugene, aged 12 years, atrophic paralysis of muscles of leg and partial talipes varus, operated on when an infant, only measurably relieved. Ankle was braced with suitable appliances, daily applications of the electro-massage currents, small doses of strychnine. Under treatment two months and thirteen days. (Discharged well.)

CASE.—Tumor of the thyroid. Miss K., goitre of the left thyroid gland, rapidly growing. Under the direction of Althaus and Moritz Meyer, alternate daily applications of currents galvanic and Faradic batteries, each seance 15 or 20 minutes. Sponged-tipped electrodes saturated with salt-water, were placed over the diseased surface. These currents were carried to the extent of producing thorough congestion at each application. Treatment continued two months, tumor dissipated.

The above named authors have reported many similar cases, with like beneficial results.

Resumé.—It is thus evident that electricity is applicable to the treatment of a large number of pathological conditions. It would appear that in some forms of its manifestation its effects are similar to nerve force itself, acting upon the secretments in some way so as to stimulate the secretory powers. Its application must therefore be highly useful in

torpidity of such organs as the kidneys and liver, when there is no organic disease. Electricity is a stimulus also of the nervous system, increasing its action by its direct effect and indirectly by promoting nutrition of the nervous centres, aiding in this manner to restore normal function. It is thus applicable to various kinds of paralysis, partial and complete. Upon such *modus operandi* do we use it in cases of narcosis, as from opium, promoting the elimination of the poisonous element. In profound stupor from alcohol it may be used on the same principal. In such cases the system is relieved through the lungs mainly, through whose functions the hydro-carbons of the blood are eliminated. But we have reason to believe that all secernents co-operate to this end, the liver which is vicarious to the lungs and the kidneys, which are the sewers of the system, nor must we omit those great eliminators, the intestinal canal and the skin so plentifully supplied with exhalents. Profound anæsthesia is also one of the conditions in which electricity is applicable.

Its mechanical effects are illustrated by the electro-cautery. In many cases taking the place of the knife in actual cautery, but capable of application in a large number of cases which can neither be reached by the knife, or by the actual or potential cautery. Its chemical effect is illustrated in the treatment of aneurism, by its power to coagulate the blood the tumor may often be occluded and the sac in time obliterated. Electricity may thus be used in connection with pressure in such cases. But its chemical action in the treatment of ulcers and tumors by electricity excites our admiration and wonder, in the series of cases enabling us to apply remedial agents their elementary state, and as salts, as may be indicated, and in the second series (tumors) actually decomposing morbid growths, enabling us to reach every part, causing them to be thrown off by the process of suppuration, and finally inducing a healthy state of the parts, and thus to set in operation the reparatory forces of nature.

Lastly we have seen that electricity is a potent adjuvant in the treatment of club foot, serving to restore tone to the

muscles and nerves stimulating the vascular supply to the parts. Thus is nutrition increased, so that in time good digestion shall wait on appetite, and health on both.

Physiology, Pathology and Treatment of Genital Neuroses by the Administration of Electricity, Damiana Rest, Steel Sounds, &c.

Says Jewell, no nervous centre can act of its own motion or originate action. It must be excited to action. We might as well speak of sight without the action of the waves of the luminous ether, or sound without the vibration of sonorous substances. In investigation medicine has called to her aid other physical sciences. Natural philosophy has furnished the explanation of the mechanical contrivances, and we look to Mechanics, Hydraulics and Pneumatics to aid us to interpret the phenomena of locomotion, circulation and respiration. It has furnished in electricity the probable means of interpretation of the force which operates the mechanism, the phenomena of nerve power; she has furnished the microscope to enable us to see things invisible to the naked sight, whilst chemistry has laid before us the knowledge of the fluids of the body, and enabled us to solve the mysteries of digestion. These sciences have been called the handmaids of medicine, they are in fact parts of the whole, without them no physiology, without physiology no art of medicine.

But with scalpel, microscope, and chemistry we fail to delineate the anatomy of the nervous system. It is a truth that, that which is, is but the sequence of that which was. The results of to-day could not be had without the investigations of yesterday. In like manner will the knowledge of to-day be the basis of the conclusions of to-morrow—such is the law of intellectual development—such is the sequence of scientific advancement. Sir Charles Bell first showed that the nerves of the human organization are distributed with regularity. It is the basis of the physiology of the nervous system. He first called attention to the functions of the spinal nerves, pointed out their different structures, and their different functions; distinguished the

sensory and the motor. Marshall Hall succeeded Bell, and we had his excito-motor system. Others succeeded Hall to explain nervous phenomena, among whom stands pre-eminent the great Claude Bernard.

But we owe more to Marshall Hall than the explanations he has given of nervous phenomena. He demonstrated that when the scalpel and the microscope fail, to determine its anatomy, we can yet map out the anatomy of the system. A physiological fact is as certain an indication of nervous distribution, as though we could follow its ramifications scalpel in hand, or microscope to eye. Observation and experiment is the thread which leads out of the labyrinth, without which we must be lost in its intricate mazes. Marshall Hall has given us a map of the excito-motor system of nerves. Bernard has shown their peripheral distribution. The functions of the brain and spinal marrow are to be laid before us by perusing the same line of investigation. By experiment. The number of devoted investigators give us an earnest promise that the science of life may yet be illustrated, that the opprobrium that medicine is only an empiricism may be expunged, and that the day will yet arrive when medicine will be practiced upon laws or principles known and recognized.

ERECTILE TISSUES.

We should first consider a few anatomico-physiological facts.

It is often difficult to give a definition which will convey a clear idea of what we desire. Under such circumstances, we resort to more extended descriptions. When the genital organs of the male or female become enlarged, turgid and firm to the touch from excitement, we say they are in a state of erection, and the organ is composed of *erectile tissue*. This is merely a physical description. When we further examine this tissue during erection, it is found to be full of blood. This is merely the physical condition and conveys no idea of anatomical structure of the parts, nor the accessory condition necessary to a state of erection.

It was natural to suppose that erectile tissue is confined to the genital apparatus of the male and female, and such

seems to be the opinion of Boeckel and Robert ; but when the anatomical structure came to be carefully examined, other views had to be adopted. Perhaps no better illustration of the fact above insisted upon, viz.: that function depends upon structure—can be adduced than by the study of erectile tissue. It will be found that erectility depends upon peculiarity of tissues and their arrangement—the chief elements concerned being vascular and muscular, which are presided over by nervous tissue, which receives its power from certain portions of spinal nervous tissue. The vascular tissues are arterial and venous, whose structural arrangement is peculiar, so that blood may flow to the parts, and be impeded in its return. It appears that in order to effect this result, muscular tissue of a peculiar structure and arrangement is necessary. When in a state of erection, the sensibilities of the parts are in a state of excitation. There is great vascular and nervous excitement—exaltation. Hence there is a sudden and remarkable accumulation of blood in the tissue which is the immediate cause of the erection. The return of blood is prevented, and the erection continued on account of the peculiar mechanism of the tissue itself ; pressure is exercised on the veins or sinuses by bands of muscular fibres, so that there is an accumulation of blood which has been rapidly conveyed to the parts through the arteries. These muscular bands are supplied by nerves, in much the same way as the vessels—from centres located in the spinal cord, and are often called *nervi-erigentes*. It follows that whenever we find the peculiar arrangement of the peculiar tissues, we have tissue capable of erectility—we have erectile tissue.

It will be seen that this kind of tissue is not confined to the genital organs, although here we find it in greater quantities and most clearly to be determined by the anatomist. Erectile tissue exists in the walls of the vagina, in the uterus (which we regard as an erectile organ), in the extremities of the Fallopian tubes, and in the rings of the ovary. It exists likewise in the iris and in many other parts of the body. In all, the property of erection depends upon the peculiar arrangement of the vascular, muscular and nervous tissues.

The nervous influence is conveyed by the vaso-motor system, which term is descriptive of the function. The peripheral vaso-motor nervous apparatus consists of a great number of small ganglia situated in the walls of the muscular vessels, and give off nerve fibres to the same, and connect through other ganglia with the spinal cord and act by reflex power from the vessel to the cord, or *vice-versa*. Besides these nerves, certain others emanate from the spinal cord to terminate peripherally in the ganglia known as *vaso-dilators*, and are inhibitory, or act to arrest, in varying degrees, the vaso-motor action, thus diminishing the tone of the vessels and permitting them to expand under the pressure of the blood.

The whole forms a beautiful piece of mechanism, whereby under the orders of certain nerve centres it is set in motion. Blood flows in by the arteries regulated by the vaso-motors; the veins receive it, and dilate under the direction of the vaso-dilators; the muscular bands are brought into play by the nerve power conveyed to them, the result being what we call erection. When nerve power is exhausted, or its exaltation diminishes, muscles relax, veins contract, the parts are freed from blood, and the tissue shrinks into its usual state of indifference.

Whence comes this nervous influence? We have said from the spinal cord. This leads us back to a genito-spinal centre in the cord, vaso-motor, but as above stated, no nervous centre can act of its *will*—that is, originate action. There must be an excitant to action to generate nerve force to act upon the apparatus which composes the erectile tissue. The opinion has long obtained that the spinal marrow presided, so to speak, over the organs of generation, that here was generated the nerve power concerned in the preparation for their functional activity, which, by its connection with the brain, gives rise to the ecstatic sensations necessary to excitement, resulting in procreation; and which in like manner, excited in the brain, brings these spinal functions into activity.

But medical science did not rest satisfied with so vague a declaration as that the spinal cord presides over this function.

Experiment goes far to show that the lower part of the spinal cord presides over the motions of the generative organs. Budge laid bare the spinal cord of a rabbit, and at the same time exposed the testicle, the *vas deferens* and seminal vessels of one side. On irritating the lumbar portions of the cord corresponding to the fourth lumbar nerve, active motion in the *vas deferens* and seminal vessels were produced, beginning at the testicle and were propagated towards the corresponding seminal vessels. The irritation of no other part of the cord produced such effects.

These experiments have been made on the female with similar results, exciting movements of the uterus. It is therefore inferred that the development of the Graafian vesicle and the escape of the seminal fluid are attended with much nervous excitements and with the pleasurable excitement which ends the act of coitus.

The nervous centres which are connected with the brain, on the one hand, through the spinal cord, and on the other, with the organs of generation may be excited to action, and their influence manifested both by the emotions originating in the brain, or may be propagated by excitement commencing in the organs of generation themselves. The impression originating either in the brain, or in the organs, being propagated to these centres, will be manifested by erection and other phenomena, if the necessary conditions obtain.

It would therefore appear that the functions of the organs of generation are intimately connected, more or less dependent upon the vaso-motor apparatus which are the carriers of nerve force to erectile tissue, and further, that the inhibitory action exerted by the sensory centres throughout the cord exercises an important influence over the circulation. To this we must attribute the periodical and rhythmical action of the heart and respiration, blushing, rage, pallor and suffusion. To the intimate relation and anatomical connection between all parts of the nervous system with the brain must we attribute the fact that there is not an action of the body, whether voluntary or involuntary that may not be influenced by the peculiar state of the mind at the time.

IMPOTENCE AND STERILITY.

Impotence.—A distinction may be drawn between impotence and sterility. Sterility in man results from non-production of spermatozoa ; in woman from non-ovulation. Impotence may be applied to any morbid state which may impair or destroy the vitality of the ova or spermatozoa after their secretion, or which may prevent that contact necessary to fecundation. It follows that in man impotence may be congenital or acquired, or due to malformation of the penis, to deficient development, or the effects of disease preventing the deposit of the semen within the vagina, so that it may be conveyed to the ovary or ovum. On the other hand, the mechanical apparatus may be in perfect order, and yet the forces necessary to put it in operation may be wanting—I mean nerve power.

A variety of causes may impair, either temporarily or permanently, the production of this nervous force or energy. Thus what various mental conditions, such as violent emotions of any kind, anger, anxiety, grief, disgust, want of confidence, impair the sexual functions. These are temporary in their results, and require no medical treatment, only “minister to a mind diseased pluck from the memory some rooted sorrow,” etc.

Protracted fevers and chronic diseases generally impair the nervous system, the intellectual faculties, and those centres which preside over the function of generation. Opium eating, excessive use of tobacco, especially pipe and cigarette smoking, also lessens genito-urinary excitability ; chewing, however is not so injurious as smoking. In small quantities, alcoholic drinks, more especially the French wines, excite the amatory desire ; although when used in large quantities, especially whiskey, the person whilst under its influence, is impotent, and his desire for the future is blunted. Excessive venery also exhausts this function. And lastly masturbation will, in time, utterly destroy the procreative powers, ; and what is a curious fact, destroy on the part of the victim of the vile practice, all desire for the opposite sex, and the power to perform the act of amatory collision.

The same line of remark applies to impotence in women, any condition, congenital or acquired, which prevents the passage of spermatozoa to the ovary, or which prevents the descent of the ova to the uterus will cause impotence. Among congenital causes may be mentioned imperforate hymen, adhesion of the labiæ, and the various abnormal conditions of vagina, of uterus or Fallopian tubes. Among the acquired causes may be mentioned flexions and prolapsus of uterus, diseases of the os and neck, cervical and vaginal leucorrhœa, conditions which prevent the upward passage of spermatozoa, or destroy their vitality. Causes which impair the nervous energy of the system, such as already mentioned when considering impotence of men, equally apply to women, in addition to which may be mentioned dysmenorrhœa, and more especially that variety called *membranous dysmenorrhœa*.

Syphilis is rarely (most unfortunately) the cause of impotence in men ; in women more frequently it is a cause of sterility because it is one of the most potent causes of abortion.

Sterility is a rare condition of men ; more common with women. It may be congenital from defective development. The testes may be absent in man, the ovaries in women. Sterility may result from disease, or accident ; disease of testicles may result in sterility in man, disease of ovaries in women. Malposition of testes is said to cause sterility ; whilst the act of generation may be performed there is no contained spermatozoa.

Treatment.—The limit of this paper will not permit the discussion of all the causes and constitutions which result in impotence and sterility in men and women, but simply the general principles involved. It is evident that a full consideration would require a volume of no inconsiderable size. Having presented some of the important points, we will now as briefly as possible consider the principles of treatment and some of the remedies which in our hands have proved efficient.

As much as women dread the consequences of matrimony, there are none who do not desire children. They like not

to be a reproach among men. As for the men, there is nothing which is so abhorrent. They regard it as a reflexion on their manhood. It is therefore a most vital subject, and should engage the earnest attention and research on the part of the physician.

It is evident that there is no remedy for those cases in which the necessary organs are absent from want of development or in consequence of disease. We will not here consider those conditions which are amenable to surgical skill, either in man or woman ; nor yet those cases caused by disease of the vagina or uterus, as these belong to the department of the gynæcologist. We are thus limited to that class dependent upon general or special causes which produce impotence or sterility from want of due nervous energy or nerve power.

Those cases which arise as the consequence of protracted disease, or low grade of fever will generally recover under the use of those remedies which repair the ravages of the disease, such as stimulating diet, nutritious food, tonic, malt, beef-steak, exercise, mountain air or sea bathing. These invigorate the general system, enrich the blood, repair the nervous system and restore its function—"when good digestion will wait on appetite, and health on both."

One of the finest restoratives when the patient can react is the *shower bath* poured upon the lower part of the spine ; vigorous friction with flesh brush or coarse towel must follow its use. This is most excellent for old men and women, who are gradually losing power which is generally lost before desire.

Electricity—But the most potent stimulant to the nervous system which we possess is electricity in some form, either static, dynamic or interrupted. It has long been known that muscular contraction may be caused by electricity. This is due to the action of this agent upon the nervous system, stimulating the production of nerve force as well as the direct stimulation by the agent to the muscles themselves. In cases of partial paralysis, electricity acts in both ways, not only on the nerve centres, but also on muscular tissue and the vaso-motor and inhibitory apparatus ; circulation is

thus promoted, and also the process of nutrition and repair. Thus the entire apparatus—nervous, vascular, and muscular—are often restored to health and vigor. In those cases where erection is imperfect, or where ejaculation takes place too quickly and without pleasurable sensation, electricity is a powerful adjuvant to treatment. Westring, a Swedish physician, reports the cure of such a case, the result of debauchery, by the continuous current. M. Slacxus cured a case of impotence by shocks from a Leyden jar. M. Duchenne has been successful with Faradization of the testicles and spermatic cord. M. Scultz and M. Rauband report good results from Galvanic treatment of such cases. Want of erectile power is curable by electricity, by Faradization of the ischo-cavernous, and bulbo-cavernous muscles. It is applicable to cases of sexual hypochondriases where patients for some reason or other imagine that they are impotent, but where virile power is not really impaired. Anæsthesia of the sexual organs may be relieved by electricity; it is always a powerful adjuvant in such cases.

It is not unreasonable to suppose that the secretion of semen may be restored by galvanising the spermatic nerves or the testicles in those cases in which there is want of nervous innervation. At least in such cases the power of electricity deserves a trial.

We have said that masturbation is one of the causes of impotence in man. This practice is accompanied by spermatorrhœa. We do not pretend that electricity alone will cure these cases; but when we remember that such cases are attended with profound disturbance of the central nervous system, it is evident that so potent a nerve tonic and stimulant as this agent is known to be, must be a most powerful adjuvant to other treatment.

In regard to the mode of applying this agent a word may be said. According to Benedict we should place the copper pole of the *constant battery* over the lumbar vertebra and pass the zinc pole, forty or fifty times, in the direction of the spermatic cord; then transversely over the different zones of the upper and lower surface of the thighs, and

then likewise in the perineum. The sittings should last two or three minutes, about three times a fortnight. The copper pole should be applied by means of a catheter shaped round to the vicinity of the ejaculatory duct, and passes should be made with the zinc pole in the direction of the spermatic cord, if there are any particularly indensitive places. Benedict uses Faraday's galvanic brush, and if the testicles are particularly insensible, he passes a strong current through them. The sittings should take place every day, and should be continued for some time, as improvement does not take place for months in some cases.

Schultz in Vienna, has for a long time used the induced current for pollutions and impotence. Under this treatment, the success was very poor ; but he claims that it is greater since he has commenced using the constant current. He places the positive pole over the fifth dorsal vertebra, the negative over the sacrum, or on the perineum. The sitting should last from one to three minutes, to be repeated three or four times a week. Schultz employs a battery with twenty or thirty Stöhrer elements of medium size.

Electricity is applicable to the treatment of many cases of *Amenorrhœa*. Dr. Golding Bird expresses his belief that it is the only direct emmenagogue we possess, and that it always excites menstruation where the uterus is capable of performing that function. Electricity is especially valuable as an emmenagogue in young women where the menstrual function has not yet been fully established in consequence of a torpid state of the vaso-motor nerves of the ovaries and uterus ; and also when the catamenia have been suppressed after labor, or in consequence of a chill or emotion. Faradization of the womb has been practiced with good results. Electricity may be applied also to those cases of defective involution of the uterus in which this organ is enlarged, and impotence the result. Galvanic pessaries have also been used with good results in such cases. Dr. G. Murray succeeded by the introduction of the Galvanic pessary in reducing, in the course of a fortnight, the large and flabby uterus to its normal and healthy condition.

* *Damiana*.—We will next ask attention to the following cases which have been treated by electricity, and also to the effect of other remedies, and more especially to *Damiana*. Before any permanent effect can be derived from *Damiana* the system must be fully brought under its influence. There should be a dessert spoonful of the extract given three or four times every day, and continued for one, two, or three weeks. I regard it as purely tonic in its effects upon the nervous centres which preside over the urino-genital apparatus. My attention was called to its use by my friend † who obtained it from the western part of Mexico. I gave it to a young man (by way of experiment) who suffered from a passive hemorrhage from the lungs. The tincture increased his appetite and improved digestion, but he was forced to discontinue its use on account of its exciting action upon the urino-genital organs causing increase in the secretion of urine and excessive sexual desire. In the case of Mr. ———, a large athletic man, a specific effect was produced after its use for nearly three weeks. In the case of Mrs. K., sexual desire was increased or rather restored by the use of a drachm of the fluid extract twice a day for three or four weeks.

The following case exemplifies the power of electricity and *Damiana* to restore sexual power and invigorate the general health. It was the case of Mr. ———, aged 55, who was the subject of alcoholism, from which resulted impotence with partial paralysis and atrophy of the lower extremities. Tincture of *Damiana* was given in half ounce doses three times a day, and electricity was applied externally. There was much irritation of the spinal cord throughout. Different parts of the spinal cord were subjected to the galvanic current, the coccygeal spine, the

* My attention was called to this new and valuable remedy by my friend Dr. F. O. St. Clair, Department of State, Washington, D.C., who introduced it to the American profession and who imports the genuine herb for the manufacturing Chemists.

There is on the market a *Damiana Rheumatica*, which is minus the Aphrodisiac qualities of the true *Damiana Turnera Aphrodisiaca*.

† Dr. F. O. St. Clair, Department of State, Washington, D.C.

nape of the neck, back of the ear and through the brain at the lambdoidal suture ; the current was passed also over the temporal process, through the pneumogastric and sympathetic etc., etc. This treatment (continued a year) resulted in the restoration of health and sexual power ; good diet aided the cure, whilst alcoholic drinks were forbidden.

We have used Damiana in combination with electricity in many cases of partial loss of virility with marked success. I have satisfied myself of the power of Damiana alone in relieving persons in whom there was reduced sexual power, when I could find no organic lesion of the sexual organs. Thus I was consulted by Mr. F. W., who complained of failure in his effort at copulation, because of partial loss of power of erection. The history of the case showed the cause to be excessive venery. He was relieved by use of Damiana (fluid extract) in tablespoonful doses.

I was consulted by a gentleman who complained of loss of power and desire for sexual congress ; he had pain in the head, an indescribable sensation about the head. He had much business trouble. A free use Damiana was followed by marked improvement.

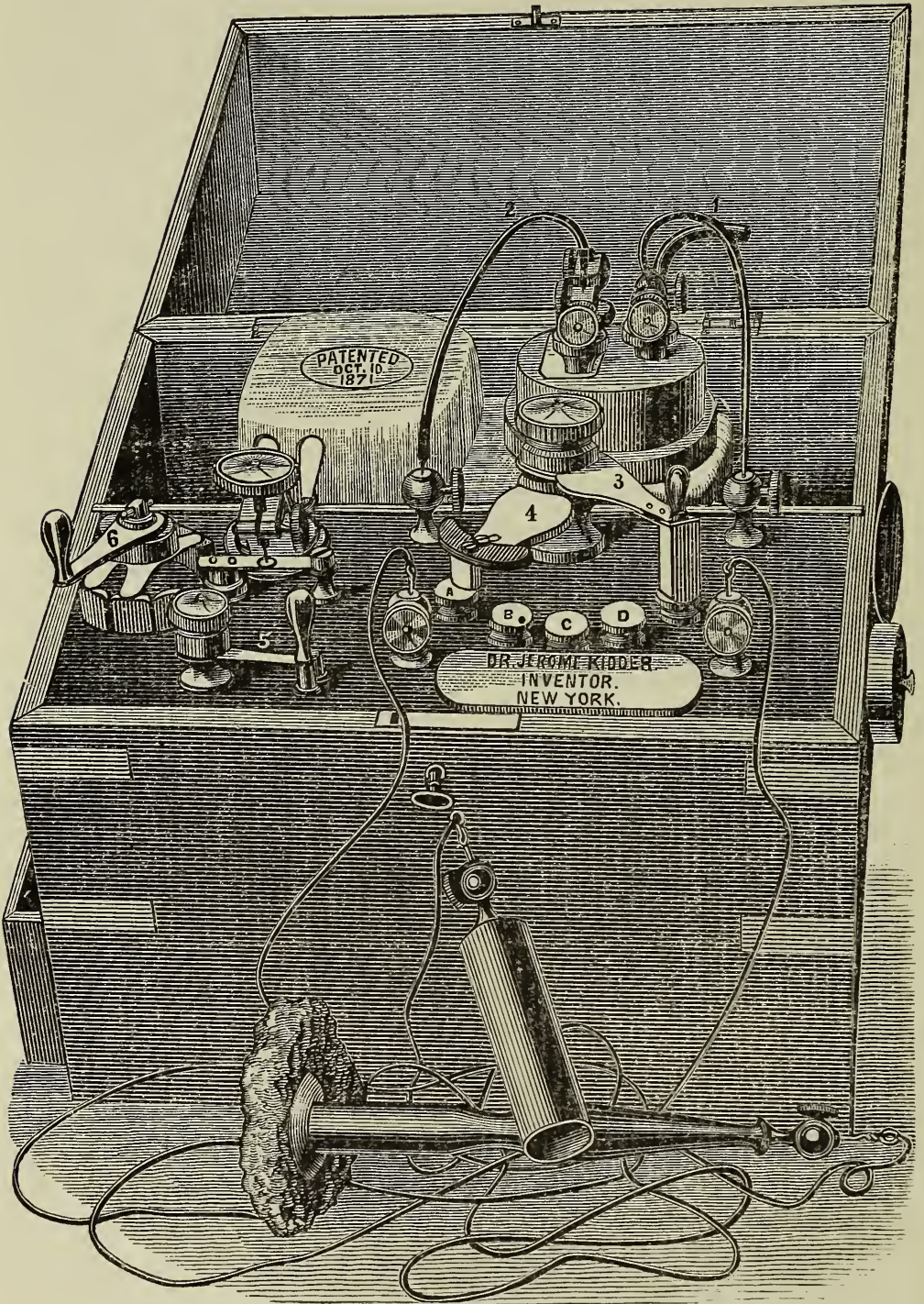
Mr. ——'s case presents some interesting points. When in bed alone, his erections were sufficient, but in company with a woman he utterly failed to perform the act. There was no lesion of the organs. I reported this case as a failure. Electricity, rest, cold bath, and the free use of Damiana utterly failed.

In cases of impotence from masturbation, accompanied with spermatorrhœa, we find morbid changes of the vesicular seminales, ejaculatory ducts, bulbous portion of urethra and prostate gland. Such cases require surgical and special treatment, but I have found much advantage to result from the use of electricity and the free use of Damiana. These agents possess a tonic power over the nervous apparatus generally, and they act most favorable upon the nerve centres presiding over the functions of the urino-genital organs. I do not hesitate from my experience in the use of Damiana to continue my recommendation of it to the consideration of the profession, asking for the genuine article, a fair trial.

I will conclude this article by asking attention to the application of electricity in diagnosing the condition of the urethral canal, and long dark passages which have undergone organic changes from the effects of disease. A silver or silver plated sound must be used, lubricated with a saturated solution of fresh iodized oil. This sound is to be passed into the urethra and then connected with the positive pole of the Galvanic battery; the negative pole is attached to a large, fine sponge saturated with a solution of chloride of sodium. The sponge is to be applied to the sacral spine or perineum. After the lapse of three to five minutes, the sound is withdrawn, when the shape and size of the ulcers will be found to have been shadowed upon the sound by a deposit of iodide of silver.

In conclusion, we are glad to notice a discussion between Professors T. N. Otis and H. B. Sands, in regard to urethismus or chronic spasmodic stricture. We refrain from giving an opinion on the merits of the controversy. But medical controversies when properly conducted, must result in benefit to the profession; from the collision of two such men, light must be emitted, and what we most desire is Light! Light! more Light!

99 NORTH CHARLES STREET,
BALTIMORE, MD.



This plate represents the latest improved Battery of Dr. Kidder.

No. 1 Physicians Office Electro-Medical Apparatus.

ECLECTIC DEPARTMENT

“Carpere et colligere.”

ART. I.—*On Indurations of the Breast becoming Cancerous : their Diagnosis and Treatment.* By SIR JAMES PAGET, Bart., F.R.S., etc.

In a paper published in the tenth volume of the Reports (1874), I pointed out the frequency with which portions of mammary gland become cancerous after long-enduring eczema or other eruption on the nipple and areola. My observations were wholly clinical; and for a partial explanation I could only suggest that which Mr. Butlin has since proved. In papers in the *Medico-Chirurgical Transactions* (vols. lix., lx.) he has shown that structural changes may be traced extending from the diseased part of the skin along the epithelial linings of the gland-ducts in the nipple, and thence along their branches into the acini of the cancerous part of the gland. These “become dilated and filled with proliferating epithelium, which is at length, so to speak, discharged into the surrounding tissues. . . . The carcinoma thus formed is, therefore, essentially a disease of epithelium.

The cases of cancer thus following eczema are illustrations of a general rule, that a part which has long been the seat of constant or often-recurrent inflammation, or, if I may write with intentional obscurity, of frequent or constant “irritation,” is apt to become cancerous. Similar instances of the rule are observed in tongues long affected with psoriasis or ichthyosis, in uteri long or often ulcerated, in scars that often “break out,” in lower lips long cracked or excoriated, in warts often irritated, sore and scabbed, sometimes in old scrofulous or other ulcers, or in sinuses. But in all these and other like cases we may observe that irritation alone, or under all conditions, is not sufficient to induce cancer. The change rarely, if ever, happens unless in parts which are apt to become cancerous, even without evidence of previous morbid change, and unless at the time of life at which the part is, as if of itself, chiefly liable to cancer; and

it is the more likely to occur the stronger the inherited disposition to cancer. It may, therefore, be deemed very probable that the chief or sole effect of "irritation" is, by inducing a degeneration, to render the parts more fit for the invasion of a disease which is essentially of internal origin.

A chief interest in all these and the like cases is that they give good opportunities for the study of the process of "becoming cancerous," a process of the highest importance in both pathology and practice. Some of the structural changes ensuing in it are known; but the visible changes do not explain the much greater changes in the method of life, and in the influence, of parts which have become cancerous. As we watch an inflamed or irritated part in any of the cases I have cited, we can be sure that there is some long time in which it is not cancerous; and that if it can now be cured or removed, the probability of the patient having cancer is annulled, or greatly diminished or deferred. But we can be nearly as sure that if the irritation continues cancer will appear, and that when this change shall have ensued we shall be powerless to reverse its course. The change is as great as that engendered by the fertilising of a spore. It would be hard to name a morbid process more worthy of study from every point of view.

I cannot hope that the facts which I have now to tell will be directly useful for their study. If they be useful for it, it can only be by provoking such researches as Mr. Butlin's. But though perhaps useless for exact pathology, I will yet hope that they may teach something for surgical practice.

Among the occasional difficulties of diagnosis of the scirrhous cancers of the breast, one of the most frequent is that in which a portion of the mammary gland appears to be merely hardened, as if by some slow inflammatory or cirrhotic change.

Of many instances of this kind that I can remember, some have got well; the hardening has disappeared, and the breast has again become healthy, and remained so; but some have been or have become cancerous. I wish that I could give such sure guidance to signs for diagnosis in these cases as would tell always how the better may be dis-

tinguished from the worse, but I can only indicate the characters that may generally be relied on.

The history of the cases rarely helps in diagnosis. Whether cancerous or not, the induration may have been found "by chance," no pain or discomfort having preceded; it is often observed, scarcely changing, for many weeks or months. It may have followed injury or have seemed spontaneous; and similarly like cancer, it is not, unless by accident, associated with fever, or any defect or disturbance of general health. What the patient feels is a little decisive. Commonly scirrhus cancer, in its early stages, is painless, and so are the simple indurations; but in either case the fear of cancer, and the watching for its supposed characteristic pains, is very likely, in some persons, to produce subjective imitations of them.

Signs more to be relied on are that the indurations least likely, or not likely, to become cancerous are indicated by degrees of hardness less than those of scirrhus cancers of the same size and observed duration. They are more tough than hard; commonly, also, less rounded, less nodular, and less well defined. I say, "they," but I have never seen in a breast more than one induration at all resembling cancer. If there be many, they are not likely to be or to become cancerous. Moreover, mere indurations do not involve the skin, do not invade or infiltrate it, or produce in it any puckering or dimpling, as by drawing a part of it towards their own mass. In this, indeed, I think there may be an almost unfailing diagnostic sign. When the nipple or any part of the skin of a breast is drawn-in to a subjacent hardness, this is almost certainly cancerous. It may have been so always, or it may lately have become so; but there are few diagnostic signs more sure, even though the retraction or dimpling may not be visible unless in certain positions of the breast or certain methods of holding it. Such dimpling may, in very rare instances, appear when an induration is suppurating at its centre, but I do not know any other condition in which the retraction over cancers is imitated; and in this case the diagnosis may rest on the fact that the retraction over cancer takes place towards a part of the in-

duration which is harder or not less hard than the rest, while that over suppuration is towards a part softer or much more elastic than the rest. Softening, or a feeling of elasticity, at or near the centre of an induration may always be regarded as a favourable sign, but the observer must take care lest he mistake for it the softness of a thick layer of subcutaneous fat over a deep-seated cancer. Such softness or elasticity probably indicates either suppuration such as may happen in chronic abscess, or else the gradual increase of fluid in a cyst formed by dilatation of a gland-duct within a toughened portion of the gland. This character should be carefully searched for. Few diagnoses in surgery are more difficult than that between some serous cysts and some cancers in the breast, and the sign mainly to be relied on is the presence or the absence of elastic tension on firm, deep pressure over the middle of the "lump."

This same feeling of elastic tension may be the chief sign for diagnosis between cysts surrounded by tough gland substance, and another disease, which may also closely resemble both scirrhus cancer and the probably cirrhotic induration of part of the gland, of which, chiefly, I am writing—namely, a mammary glandular tumour (adenoma) of unusual hardness. The uniform hardness of such tumours may distinguish them from cysts; and from both cancers and simple or cirrhotic indurations they may generally be known by their giving a sensation when we press them alternately on one border and another, as if they moved *in* the surrounding gland-substance, not *with* it. The difference is difficult to describe, sometimes difficult to perceive; but it is a real one, due, probably, to these tumours, however hard, being encapsuled, and not, as are cancers and indurations, continuous with the surrounding substance of the gland.

If now, with such signs as I have indicated, a diagnosis may be made that an undurated portion of a mammary gland is not cancerous, yet it must always be borne in mind that it may be becoming so; that changes may be taking place in it, such as those which Mr. Butlin has traced in the eczematous breasts; and that we do not know the time in which the changes may become complete and irremediable.

A sure means of timely cure would be of huge value. I cannot pretend to know one ; yet I can hardly doubt that cure may sometimes be effected with liquor potassæ alone or with iodide of potassium.

The plan which I have usually followed is to direct that the hardened and adjacent parts of the breast should be covered with belladonna plaster, and that the patient should take a drachm of liquor potassæ and two grains of iodide of potassium three times a day after meals, in not less than four ounces of any simple liquid. (Nothing destroys the nasty taste of potash better than a little liquorice.)

I do not suppose that the belladonna plaster has any direct medicinal value ; but it may alleviate pain, and it has the great advantage of saving the diseased part from being constantly touched or handled. Of the curative influence of the liquor potassæ I think there is sufficient evidence. I have seen so many instances of induration of the mammary gland disappearing during its use, that, after allowing all that can reasonably be claimed for the belief that they might have disappeared even though no treatment had been used, there would remain facts enough to justify the belief in its efficacy. And this gains some confirmation from the reputation which the liquor potassæ once enjoyed for curing cancer. I have given it very often, and never saw reason to believe that it has any other influence on cancer of the breast than that of amending some of the conditions, such as gout or the lithic acid diathesis, with which the cancer being combined may be made more acute or more painful. I believe that the cures, if any, which it effected were those of indurations of the breast such as I have described, and which were mistaken for cancer.

Hard mammary glandular tumours, such as I have referred to, should be removed without delay. I think they are likely to become cancerous, though this change very rarely if ever happens in the common and softer form of the same tumour. It can be easily and completely enucleated, there is no need to remove any of the surrounding substance of the gland. If it seems continuous with this substance, a very wide excision is advisable, or the removal of the whole breast.

For the indurations which the liquor potassæ fails to cure, a similar course may be right. It may seem an unreasonable thing to perform a serious operation for a disease which may never, or only at some uncertain time, become cancerous. Yet I cannot doubt that the operation should be advised for such an induration of the breast as I have described if there be great difficulty of diagnosis between it and scirrhus cancer, if the patient be of an age at which cancer is likely to occur, and if the induration have not been evidently reduced in size by treatment continued through a month or six weeks. And the manner and extent of the operation should be determined by the appearances found either by puncture with a fine trocar or by a free and deep incision into the hard mass.—*St. Bartholomew's Hospital Reports*, Vol. xiv., 1878, p. 65.

ABSTRACT DEPARTMENT.

“Qui e nuce nucleum esse vult, frangit nucem.”

The Benefits of Sanitary Progress. By CHARLES KELLY, M.D.

The labors of Dr. Farr and the Registrar-General give an accurate record, for the past forty years, of the general mortality in England, the rise and fall of epidemics, and the prevalence of particular forms of illness in one locality more than another. Death-rate varies in a certain proportion to density, yet it is possible to maintain a large number of persons on a square acre if they are properly distributed. The pulling down of old houses, the extension of open spaces, and the construction of wide streets, have done much to improve the public health. The main conditions of health are good air, good water, sunshine and food. The improvement in the water supply of large cities has caused a great diminution in the deaths from cholera and enteric fever. In reply to those who maintain that by the prevention of disease not only human life is prolonged but that a large number of the weakly are preserved who in their turn bring up unhealthy offspring, it may be shown that they are incorrect. The agencies which bring about death

bring about disease in a much greater ratio, and sanitary improvements not only diminish the number of deaths, but diminish in yet greater proportion those cases of disease of which the deaths form only a small part. *Scurvy*, that dread disease of the early navigators, has almost ceased to exist since the food-supply of the navy has been improved. *Consumption* is the most fatal disease in England and is associated with cold and damp, with insufficient food and clothing, and over-crowding. The mortality from this disease is not more than two-thirds of what it was twenty-five years ago, and this is to be attributed to the gradual advance of the laboring classes. *Ague*, formerly a common cause of death, rarely kills any one at the present day. *The continued fevers* have been reduced and typhus fever has not been epidemic for thirteen years. *Small-pox* under the compulsory vaccination laws has almost disappeared. The value of sanitary reforms may be strikingly seen in the army returns. The mortality formerly frightful has been greatly diminished, and few men comparatively are now lost from disease. In the prisons and dungeons, centres of infection, it is now rare to find a case of small-pox, typhus and enteric fever, erysipelas, diarrhœa or dysentery. Infant mortality is a good test of the health of a district, and here there has been a marked improvement of late years. Owing to sanitary reforms there has been a distinct lowering of the death-rate in England in the last seven years. The adulteration of food is far less common than four years ago, and whereas formerly injurious substances were added, now the more common adulteration is dilutions with water. But it is not to legislation alone that sanitary measures must be due, health and comfort of mankind rest to a great extent upon each individual. Education and sanitary work must continue to check those causes which, amid the conflicting elements of social life and in the eager struggle for existence, are ever at work tending to increase disease and suffering.—*The Lancet*.

Prurigo Secundi or Operative Delirium. By M. VERNEUIL.
M. Verneuil describes that disease amongst would-be

surgeons which has created such havoc in this country as well as in Europe and calls it *prurigo secundi*, a sort of operative delirium. It is not necessary to be a professed surgeon, but it is enough to read the journals to remark that for several years, surgery has begun to march in a singularly audacious path. To indifference in the treatment of certain chronic affections, has succeeded a sort of operative delirium carried so far that one is sure to see one day or the other, the application to the living subject of every operation practicable on the dread subject. Thus the larynx, the spleen, and the kidney, are cut out not only when diseased, but when merely displaced. Women are castrated by the removal of the ovaries for nervous disorders, a piece of the stomach or esophagus or intestines is resected and great carnage is practised on unfortunate women the uterus being hacked and hewed in every conceivable way. One fellow proposes to cure sterility by practising catheterism of the Fallopian tubes. Another on the contrary, proposes to create sterility by cauterizing the orifices of the Fallopian tubes. M. Verneuil says he expects every day to read in the journals of the methodical proceedings for the removal of the vulva or of the liver in cases of jaundice or asthma. He does not know if he is suffering from senile weakness, but he is absolutely unable to see in this sanguinary debauch, the character of veritable therapeutic progress. *Primo non notare* is an axiom which real surgical therapeutics ought never to forget. Surgeons flatter themselves that they can undertake everything with the aid of the antiseptic method. M. Verneuil declares that for ten years he has advocated the antiseptic method and supported its principles, but in counting on it too much surgeons deceive themselves. If it is sovereign for external wounds, it effects little as yet deep operations performed upon the cavities, as for instance lithotomy, tracheotomy, and removal of tumors from the rectum. It will not do therefore, to shelter oneself behind it and to demand of it more than it can give. M. Verneuil therefore expresses the hope that the enthusiasm of operators in future would not go too far, and that they would be good enough to remember that, if operative surgery does in

fact usefully and brilliantly intervene in the cure of certain diseases, it does not follow that it is a panacea for all the ills that flesh is heir to.—*The British Medical Journal*.

CLINICAL RECORDS.

“Ex principiis, nascitur probabilitas: ex factis, vero veritas.”

Frost Bites. Substance of a Clinical lecture delivered at the Charity Hospital, (Paris), by Professor GOSSELIN, Dec. 17th, 1879. Translated from *Le Concours Médical* for GAILLARD'S MEDICAL JOURNAL.

I.

At No. 25 of the Woman's Ward is a patient who entered the hospital on the 16th of December. On the middle finger of her right hand and in the index of the left you will find suppurating blisters. These are situated at the extremity of the fingers and have been for several days accompanied by an accumulation of pus under the cuticle and nail. They are in fact, felons formed beneath the skin. From an etiological point of view, this woman's malady offers no precise indications. As far as she knows, her fingers have not been subjected to any traumatic action, and she assures us that she has undergone no immediate exposure to cold.

An ordinary observer might consider these festers frost bites, more especially as they appeared simultaneously on one finger of each hand. But this opinion should be rejected inasmuch as phlyctenæ arising from excessive cold would be accompanied by others on all the fingers. Also, there is no indication of that particular erythema which constitutes the first degree of frost bites, and which is usually designated by the name of chillblains, although it can exist with or without a hardening of the cuticle or chapping. In this instance nothing of the kind is apparent. We must therefore, renounce the idea of cold, and as we are unable to attribute it to any traumatic cause we are forced to admit that the festers are spontaneous.

This is not the case nevertheless with two other patients in the Men's Ward, whose malady we may consider an ex-

cellent type of frost bite in the second degree. These men, aged respectively 64 and 42 years, were formerly employed in removing the snow which fell upon the track of the belt line of cars. Although they felt their fingers were completely benumbed during this occupation, they continued to work at night from ten till eleven; in the morning they perceived that their fingers caused them intense pain. The extremities, red in places, were covered with festers extending round the nails. In this condition they entered the hospital, and their hands were immediately dressed with a plaster containing much opium.

In a short time the phlyctenæ which were rather watery became thick and filled with pus. The cuticle which was much puffed owing to the collection of liquid produced by inflammation, was then removed and a layer of oil and lime water spread upon the cutis. The suppuration had invaded the skin beneath the nail upon two or three fingers, and the nails themselves had fallen off; nevertheless, to-day the pus has considerably diminished; dessication is rapidly taking place, and all the symptoms seem to promise a speedy recovery. The skin under the nails will in proportion as it heals, unite with the matrix of the nail in such a manner that the fallen ones will be replaced.

You must not think however, that all cases can be so easily managed. Very often after the cuticle has been removed, a purulent secretion will form in the derm sometimes of long duration, resisting all treatment for a considerable length of time. In regard to this circumstance, our two patients are very much favored; there is not the slightest indication of any consecutive suppuration arising.

There are however, some precautions to be taken. While we are speaking of the phlyctenæ, the suppuration of certain parts and the simple erythema of others, it is just as well to mention a slight bloody exhalation which appeared in two or three places upon the derm, and which in drying presented the appearance of a hard, dry crust. We are at present unable to indicate positively what produces these little clots, and what their precise evolution is. Perhaps they are merely expelled leaving the nearly healed surfaces bare.

This would be the most favorable issue, but they may possibly be veritable scars. On one finger of the patient at No. 39, we can already affirm the existence of a scar, small indeed, but still perfectly visible. In all cases we can easily foresee that if similar scars appear upon the patients of this class, they will be but slight and heal rapidly.

The lecturer said further that he admitted the same classification for frost bites that Dupuytren has already established in reference to burns: 1st degree; erythema probably accompanied by ulceration; 2nd degree; phlyctenæ; 3d degree; scars comprising the epidermis and a portion of the derm; 4th degree; a scar entirely destroying the skin; 5th degree; mortification of the skin and part of the underlying tissues; 6th degree; gangrene of all the tissues.

How can the mechanism of these ulcerations be explained? Larrey, after the campaign of 1812, during which he unfortunately had ample opportunity of observing the various injuries produced by excessive cold, formed a theory of his own, which went the round of all scientific circles. According to his idea, we must admit of two phases in the mechanism of frost bites. First of all there is a considerable obstruction of the capillary vessels produced by the cold. Thence, diminution of heat, paling of the tissues which present a bloodless appearance, etc. If the exposure to cold continues for a lengthened period, the obstruction persists, increases if possible, and gangrene quickly follows.

If previous to reaching this stage however, the patient is removed from the exceedingly low temperature to a higher one, the phenomenon ceases abruptly and shortly afterwards a great influx of blood succeeds the former insufficiency. A vivid reaction sets in and a congestion appears similar to that occurring in burns, so that the cold first provokes the obstruction of the capillary vessels and finally ends in congestion, which in burns always occurs at the beginning.

At the present time there is a great tendency to interpose another element than that of the capillary vessels. I mean the nervous system.

Cold would certainly paralyze the vaso-motors, the blood instead of flowing plentifully after a period of obstruction,

would distend the vessels whose teguments would be paralyzed also. In order to explain the existence of the scars, we must first suppose, according to M. Gosselin, that besides those capillary vessels which receive too much blood, there are others which do not get any at all.

Definitely then, there is a practical conclusion to be drawn from these theories, namely, that concerning patients suffering from frost bites, it is necessary to bring back the warmth gradually in order to avoid a too intense reaction. Frequently the phenomena of frost bites are those of burns also which the sufferers themselves or those in attendance upon them produce by warming the injured parts too quickly, which otherwise would have ulcerated but slightly. Rubbing with snow has been recommended followed by dry friction. In one word, it is necessary not to expose the patient too suddenly to a high temperature. The epidermis is renewed in phlyctenæ in the same manner as in burns. A dressing is made of oil and lime water or else an opium plaster is applied. We must be careful to remark one peculiarity of frost bites, namely, that the derm has a tendency to ulcerate after the second degree, in the same way as the epiderma does after the first.

II.

The influence of Cold upon Wounds and Festers.

(The term frost bite [*gelure*], was employed for the first time in France by Vidal de Cassis. If evident similarity exists between burns and frost bites, there are also great differences which Legonest first drew attention to in the comparison he established between the two maladies.)

Burns.

Instantaneous alteration of the tissues—serious phenomena generally.

1st degree.—The skin very red and dry but not swollen. It resumes its normal condition without any desquamation.

2d degree.—Appearance of phlyctenæ containing watery matter, rarely of a reddish color but sometimes purulent. The epidermis remains intact.

The scars of different degrees according to the nature of

the burn, are of a tawny yellow, golden, or brown. The epidermis is altered, so are the underlying tissues.

Around the burn lesser degrees are found. The scars are instantaneous, as they are due to the carbonization of the tissue.

More intense pain in the lower degrees than is met with in frost bites. A movement towards reaction and inflammation is likely to occur, and the practitioner should guard carefully against visceral affections.

Recovery from burns is very rapid and easy.

Frost Bites.

Attenuation of the tissues slow and gradual. Local reaction.

1st degree.—Slight swelling, reddish brown discoloration, moisture, no pain. When reaction sets in a painful itching occurs which is augmented by heat and oftentimes becomes intolerable, only ceasing as the temperature decreases.

Sometimes ulcerations form and heal when the temperature grows warmer.

2nd degree.—This is characterized by phlyctenæ of medium size surrounded by a reddish brown circle, and filled with a purulent watery matter formed from grayish granules which partake of an ulcerating character and sometimes produce blood. This is never the case with burns.

The scars are of a black, livid color, and conserve a certain softness. They never acquire any resistance unless the entire part is mummified. This does not always happen, however. When it does the gangrened portions fall off a moist, pultaceous detritus.

In frost bites the epidermis remains intact, and sometimes the scars belonging to the flesh beneath can be seen through it. There is a total absence of lesser degrees around the frost bite. As the scabs fall off instead of exposing rosy flesh on the point of healing, they present on the contrary, exuberant ulceration of a spongy, soft, blackish appearance, suppurating abundantly, bleeding freely and generally excessively painful. The scabs are produced by the local asphyxia which is more or less extensive and prolonged, and also by the reaction which establishes itself in the parts themselves or close by.

The pain is not so severe as it is in burns especially in the lower degrees.

There is depression of the economy, little fever, and from the beginning attention is called to the digestive tube.

The steps towards recovery are slow and not very decisive.

These are the principal features of this parallel which we found interesting enough to recall to our readers.

The action of cold upon the tissues can be carried to an excess. We can, indeed, in these cases, find many alterations in the liquids of the economy, in the skin and adjoining tissues, in the muscles, bones, articulations, nerves, and vessels.

Generally speaking frost bites proceed very slowly and last for a long time.

When the freezing is very intense and similar to those Legonest and Valette observed at the Crimea, diarrhœa was the phenomenon which preceeded death. Valette, therefore, gives us the two following rules which are very important.

First. When freezing in the fourth degree is complicated by a diarrhœa existing at least for two months and proving rebellious to all remedies usually employed for that complaint, it is necessary to amputate in order to render the economy impressionable to these agents.

Second. When irrevocable gangrene of both feet is announced by a brownish circle around the lower extremity of the legs, you must amputate in order to prevent the patient from falling a victim to an incoercible diarrhœa.

Numerous remedies have been recommended for frost bites, and we see that M. Gosselin employs an ointment composed of opium, lime water and sweet oil which can be prescribed in the following manner :

Lime water and sweet oil,	. . .	100 grammes.
Sydenham's laudanum,	. . . . .	2 " "
Laurel water,	. . . . .	1 " "

This is a most excellent remedy and has proved very successful in cases of this kind.

When the frost bites present a spongy appearance, cauterize the parts with nitrate of silver.

As far as surgical operations are concerned, (which often proves necessary) they only require prudence and time.

Before terminating these remarks we must recommend the general treatment which consists in the employment of tonics, restoration of appetite, administration of Peruvian bark, etc.

While speaking of frost bites we think it may be useful to recall the effects cold produces upon wounds. We all know what immense losses armies have sustained by leaving their wounded on the battle field exposed to the night cold. M. Verneuil has collected notes which prove that wounds formerly in very good condition have been influenced very much for the worse by exposure to cold, assuming gradually a more unfavorable aspect accompanied by fever at 39 and 40°, until the patients life was endangered.

One of M. Verneuil's cases who had his shoulder dislocated during the month of January, being exposed to the air for half an hour discovered that most alarming symptoms had set in which did not disappear for some time afterwards. Another who was wounded, took an antiseptic bath and in getting out became chilled through. The following day the limb, which otherwise might have been saved, had to be amputated. The third case is that of a patient suffering from a compound fracture of the humerus. While the students were examining his injuries which occupied considerable time, his limb was necessarily exposed to the air. Several of the young men touched it without causing him the least pain ; but that evening the temperature went beyond 39°, and the patient declared that he had experienced an acute sensation of cold during his examination in the morning.

Let us recall once more the influence produced by cold upon prolonged suppurations.

Besides the examples already given, erysipelas and lymphangitis often follow exposure to cold when the patients are already suffering from injuries. The explanation of these facts is very difficult to give. However, M. Verneuil, considers himself capable of throwing some light upon this subject by having recourse to a very interesting experiment

first performed by M. Pasteur. It was generally believed that birds could have no carbuncles as M. Collin had never been able to inoculate chickens. M. Pasteur however, succeeded by reducing the temperature of the birds. "Have we not seen," said M. Veneuil, "that erysipelas, lymphangitis, and pyrhemia are more frequent in winter than in summer? If a man were to put poison into his wound would he not be more apt to absorb it should the temperature decrease?"

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.—*Concluded.*

SECOND DAY.—AFTERNOON SESSION AT 3 O'CLOCK.

The first paper was by Dr. W. A. Hardaway, of St. Louis, on a "Case of Multiple Tumors of the Skin, accompanied by Intense Pruritus." The patient was a lady of fifty-one, and the disease had lasted for twenty-two years. The first lesions, according to her account, were "blisters" accompanied with itching; and whenever the fluid from one of these blisters came in contact with sound skin, another blisters was formed within a short time. Not long afterwards tubercles made their appearance, and had continued ever since. When an examination was made, it was found that the disease affected only the hands, the arms as far up as the shoulders, and the legs below the knees. The principal lesions were tubercles and tumors, ranging from the size of a small pea to that of a hickory-nut; the two being in about equal proportions. When not interfered with, they are covered with thickened epidermis, but this had generally been removed by scratching, which had greatly irritated almost all of them. To the touch they presented a horny feel, and some of the tumors had come together, making a large nodular mass. There were also a number of pathces, of the size of a child's palm. Most of the lesions were on the outer aspect of the arms and legs, (though not confined to these localities); and they were, as a rule, symmetrical. They were characterized by intense itching, and the patient stated that this also occurred in any part where a new tumor or tubercle

was about to make its appearance. She also said that none of the lesions had ever disappeared from the first ; and, as far as could be ascertained, no fresh ones had become developed for at least sixteen months. One tumor of the size of a hickory-nut was incised for the purpose of obtaining microscopical specimens, and it was interesting to note that it had recurred in the same situation. The pruritus had been almost unbearable all along ; but the patient thought it had diminished somewhat during the last four months. She had taken iodide of potassium, arsenic, mercury, and other remedies, and cauterizations of the lesions had also been made, without much apparent effect.

Dr. Hardaway said the case presented analogies to giant prurigo and urticaria pigmentosa, but he believed it to be a unique one on account of its limitation of, and its persistence, the intense pruritus characterizing it, and the good general health of the patient. Dr. Heitzmann had made microscopical examinations of specimens from it, and stated that there was hyperplasia of both the epithelial and connective tissue, and that it was essentially an inflammatory affection of the upper layers of the skin. The papillae were remarkably slender and branching, and the deeper layers were scarcely at all affected.

Dr. Heitzmann remarked that he had never met with or heard of anything like it, and that he considered it a most extraordinary case.

In answer to a question of Dr. White, Dr. Hardaway stated that the great bulk of the lesions consisted of connective tissue.

Dr. Duhring asked if the tumor that had returned partook of the nature of the cicatrix or of the disease itself ; and Dr. Hardaway replied that it presented all the physical characteristics of the growth that had been removed.

In answer to a question by Dr. Wigglesworth, Dr. H. said that so far as was known, the patient had made use of no cosmetic nor had she engaged in any special occupation which would affect the hands injuriously.

Dr. Duhring then read a paper entitled : " A Supplement to a Case of Inflammatory Fungoid Neoplasm." This was the important case which he had presented, together with the patient herself, at the last meeting of the Association. The published notes of it, (which appeared in the *Archives of Dermatology*), carried it up to October 1st, 1878. From this time until the fatal result was reached, May 5th, 1879, the patient gradually lost ground ;

although her condition was always exceedingly variable from day to day. During this period, as previously, remarkable activity was shown by the various lesions, and the suppuration, now accompanied by the most extreme fetor, became more and more profuse. A preparation of Thujia diminished the itching, and caused a reduction of the popliteal lesion for the time being ; but the effect was not permanent. About the first of December very small doses of bichloride of mercury were tried in connection with cinchona ; but almost immediately the most marked ptyalism was produced. Ulceration of the gums followed, and then sloughing of the tonsil, which wholly disappeared, leaving a huge fetid cavity ; a result which Dr. Duhring attributed rather to the disease than to the mercurial.

By February the cachexia had become still more profound, and many of the growths had increased greatly in size, while the discharge from them was even more profuse and offensive. Those upon the forehead bore a striking resemblance to a huge roasted tomato. Then came violent neuralgia about the arms and shoulders, followed by the loss of power in the limbs and almost uncontrollable vomiting and hiccough. On the 21st of February the tumors upon the forehead and on the popliteal region were removed by means of the galvano-cautery, and without any hemorrhage whatever. About the middle of March the mind became affected for the first time, and after this the patient failed rapidly until the fifth of May, when she expired.

The autopsy was made by Drs. Duhring and Morris Longstreth, and microscopic specimens were taken from various portions of the body. The only internal organ that showed any special evidence of the disease so marked upon the surface of the body was the bladder, on the mucous membrane of which there was a lesion precisely resembling those upon the integument. As to the nature of the disease Dr. Duhring stated that he had little to say. He expressed the opinion, however, that it was not in all probability sarcomatous. The rapidity of evolution and subsequent disappearance of the lesions and the non-involvement of internal organs, with the exception of the bladder, pointed away from this. Some of the microscopic specimens, indeed, seemed to indicate sarcoma ; but others belonged clearly to an inflammatory affection. On the whole, he confessed himself unable to classify the disease, and thought it must be regarded as *sui generis*. Including the present case, the one of Dr. Piffard referred to last

year, and those of Hebra and Geber, in Vienna, there were now four instances of it on record ; and he exhibited a chromo-lithograph of Geber's case which had recently been sent him. Dr. Duhring also read a letter from Dr. Longstreth, in which the latter expressed his views as to the pathological character of the affection. These were in the main to the effect that it was of an inflammatory rather than a sarcomatous nature. Reference was made to the characteristics that is attached to the epithelial surfaces and that the internal organs remained unaffected ; while the rapidity of the changes noted seemed, he thought, to be attributable to the condition of the blood.

Dr. Heitzmann said that he regretted that Dr. Duhring did not accept his diagnosis, since he had acknowledged the truth of many of his conclusions. From the microscopical examination which he made of specimens from the case sent to him, he determined the disease to be sarcoma, and gave an unfavorable prognosis. At the same time, there are certain very peculiar features about the case. One of these was the appearance of the tumors under circumstances denoting inflammatory action ; another was, the absorption and disappearance of the lesions, and a third, the ulceration. He could not coincide in the conclusions of Dr. Longstreth ; nor was he willing to admit the correctness of his microscopical examination. The pathological process did not, according to his own observation, attack the epithelium, but was confined to the connective tissue, as is ordinarily the case in sarcoma. Again, Dr. L. had said that no internal organs were affected ; but there was, as Dr. Duhring had related, a lesion upon the walls of the bladder, which he believed to be secondary to the skin affections. In the third place, the assertion that the disease was due to a morbid condition of the blood (in other words that it was a blood-dyscrasia) was not justifiable at the present day. Finally, he asked, who had ever heard of an inflammatory affection proving fatal with such insignificant lesions, or without attacking any internal organ ? On the whole, he saw no reason for making any new disease out of this case.

Dr. Atkinson remarked that we are all apt to lose sight of the fact that we cannot expect nature to go by leaps, as it were. There are connecting lines between different pathological processes, and he thought any one must admit that there were certain cases in which it was impossible to say definitely whether the

disease were sarcomatous or inflammatory. Then the histological characters of the tumors were to a great extent inflammatory; but combined with these were those of a new growth. This was, therefore, a case which showed the border land between the two. The lesson to be learned from it was, then, that we ought not to mark out strict boundary lines for nature, and expect her always to keep entirely within them.

Dr. Taylor thought Dr. Heitzmann's view of the case was the correct one. As for the idea that this was a disease of which there were only four cases in the world, he was not willing to accept it. Diseases varied very greatly under different circumstances and in different constitutions; and this case, he was willing to admit, was undoubtedly one of unusual exuberance of sarcomatous growth, which constituted a real disease. The various symptoms were easily explained by the interference of the new growth with the functions of organs and its effect on the general health.

Dr. Bulkley stated that the clinical features of the case were certainly not those of sarcoma, as we ordinarily met with it. We did not see sarcomatous growths appearing and receding so rapidly, nor presenting the red surface that was noted here; so that he believed that more reliance was to be placed upon the clinical characteristics than upon our microscopical knowledge of sarcoma in its present state. To himself personally this was certainly a new disease, and he thought that if we were to pass it off merely as an ordinary case of sarcoma, it would tend to discourage any attempts at minute differential diagnosis in the future. The affection was undoubtedly inflammatory in its clinical features, as well as in some of its microscopical; and it would certainly be desirable that a name should be given it which would embrace some recognition of both the sarcomatous and the inflammatory element.

Dr. Duhring remarked that he soon satisfied himself that in its main features the case was entirely new. As to there being only four cases of it in the world, there might be others; but certainly only four has as yet been *recorded*. It had been admitted that it was an affection *sui generis* clinically; but what was it pathologically? He would have been glad to place it under sarcoma; but the microscopical characters were not those which he had been accustomed to recognize as that disease. The boundary lines, however, were not so distinctly drawn as some would have

us believe; but it seemed to him that the cellular elements predominated to such an extent that it constituted a strong barrier to classifying it under sarcoma. Then, too, there was so little stroma in many of the specimens examined that they did not at all resemble sarcoma.

Clinically it differed entirely from the description of sarcoma given by the best authorities. Scarcely any one who had the opportunity of seeing the case would be apt to consider it of this character. Again, since two of the cases reported had occurred in Vienna, that great medical centre, and under the immediate notice of some of the most distinguished lights of the profession, including Hebra, it was at least remarkable that none of the latter did not recognize the disease as sarcoma. There it was believed that its main features were of an entirely new character. Still, Dr. Duhring said, he would be willing to call it sarcoma if the name were qualified by some term distinctive of its clinical features, and provided he could be brought to see the sarcomatous element sufficiently marked in the microscopic appearances.

Dr. Taylor expressed the opinion that too much was being made of these minute clinical phenomena, and that the underlying condition, this infiltration of cells, was too much lost sight of. The case seemed to him to be one of rapid and exuberant development of sarcoma. In this feature it was peculiar, but chronic processes might become acute, and although sarcoma was usually of slow growth and limited in extent, he thought that in some cases its development might be extremely rapid and extensive. His studies on this case had led him to think that future observations would confirm the correctness of his views. Medical wisdom was not limited to Vienna, and the views even of a great writer might be erroneous, since his field of observation was so limited.

Dr. Fox thought that the present discussion was an apt illustration of the conflict between microscopic and clinical histories. Some observers would err on one side, and some on the other. He was satisfied that both Dr. Duhring's and Dr. Piffard's cases were entirely different from ordinary sarcoma, and more, that they were both instances of the same disease. In cases of this kind, he contended that the clinical features should be the basis for diagnosis; for when two such distinguished microscopists as Heitzmann and Langstreth differed as to the minute appearances, how could the rest of us decide?

Dr. Atkinson remarked that Dr. Durhing had certainly given us a full and graphic account of a case which was undoubtedly of great rarity, and therefore he thought that it should have a name which should distinguish it, for the benefit of those to come after us as well as of the present state of dermatological science.

Dr. Sherwell said that as to Dr. Heitzmann's prognosis, it was pretty evident to all who saw Dr. Duhring's patient at Saratoga, last year, that she would die of the disease. He thought the name fungoid neoplasm a sufficiently just one ; especially as it did not exclude the idea of a sarcomatous element.

Dr. J. N. Hyde then read a paper entitled "On a Variety of Molluscum Verrucosum presenting certain unusual features." Between two and three years before, the patient whose case was related was seen (August 16, 1877), he first noticed spots on the left buttocks, which were large as pin-heads, and of a white color, and which soon spread over both thighs. These finally exhibited the features visible when Dr. Hyde first saw the case, and continued for one year, when they disappeared. Three months afterward, however, the eruption made its appearance, and when examined by him, it was found to present the following features : On the surface of the skin, were a large number of variously disposed lesions. The integument of the trunk, thighs, legs (to the tops of the boots), and the hands to a slight extent were involved, while the head, face and genitals were not affected. The lesions varied from the size of a small pin-head, to that of a split pea, and were globoid at the summit. Perspiration was normal from the affected surfaces ; nor were there any pathological products distinguishable. The lesions involved the entire thickness of the integument, and were surrounded by healthy skin. The newer ones were of a dead-whitish hue, and resembled milium in general appearance ; while the largest and oldest of them were of a delicate crimson. In every instance, however, there was a waxy white summit, which was highly suggestive of a purulent focus beneath ; but when a needle was introduced, it was followed only by blood. No pus, serum or milky fluid could be squeezed from any of the bodies, which strongly resembled papulo-fistulas in appearance and to the touch.

By January, 1878, the lesions had almost entirely disappeared, but when the warm weather returned again there was a marked recurrence of all the old lesions, with this difference, that they now rested upon the purplish maculations which could still be

distinguished as the sequelæ of their predecessors. Dr. Hyde excised a large lesion for the purpose of having a careful microscopic examination made, but the specimen became mutilated through the carelessness of an assistant. He delayed securing another until the present summer; but there had been no return whatever of the disease this season. The diagnosis, he said, was not easy, and he discussed the possibility of its being a teleangiectasis or a lymphangiomatous new growth. After referring to various other authorities, he mentioned particularly Hutchinson's cases of molluscum contagiosum, and compared his own with these. Here and there in the literature of this subject, he went on to say, might be found a descriptive hint of the peculiar features under discussion, but they are generally coupled with others which would serve to remove the case in which they were exhibited to another category. Thinking to secure further light on the case, he addressed a letter to Prof. Kaposi, of Vienna, enclosing a photograph, and the latter replied that he considered it to be an instance of molluscum verrucosum. After further allusions to authorities whose opinions bore on the case in point, the author arrived at the following conclusions:

(1.) The case is one exhibiting certain rare and peculiar features, and cannot, therefore, be made to serve as a basis for generalization.

(2.) It would seem to be reasonable to admit that there is a variety of molluscum whose characteristics differ in a marked degree from those just observed by Bateman.

(3.) There were several recurrences of the disease under circumstances particularly favorable to the growth of typical molluscum.

(4.) The term molluscum verruconum, proposed by Kaposi, properly designates the clinical features of the lesions to which the name has been limited in this sketch.

(5.) As between those authors who hold that even the atypical or wart-like form of molluscum originate in disorders of the sebaceous glands, and the authors who oppose this view, the case here described would point to an origin from the rete cells by proliferation, rather than to a disorder originating primarily in the sebaceous glands.

Dr. Fox thought this was a case upon which a microscopic examination would have thrown considerable light.

Dr. Atkinson related the case of a young mulatto woman which

he thought at first was one of molluscum sebaceum. On incising the point of one of the lesions and attempting to express the contents, however, he found that he had made a mistake, and opened a warty growth. He then excised two of the growths; but he had not yet examined them under the microscope. The patient had never returned; but he thought it quite probable that this was a case of the same character as Dr. Hyde's.

THIRD DAY—MORNING SESSION.

The first paper was by Dr. J. C. White, of Boston, on "Etiology." There was, he said, so much discrepancy among writers and so many crude ideas were prevalent in connection with it, that this subject must still continue to invite the attention of dermatologists. Primitive beliefs had been handed down in the times frequently employed, and he feared that physicians too often promulgated the popular fallacies and prejudices.

The chief points maintained in the paper were the following:

- (1.) The inherent right of the skin to diseased action.
- (2.) That the pathological processes found in the skin were identical with those met with in other parts of the system.
- (3.) That the same methods of observation and induction which were employed in all other portions of the body were applicable to the skin also.

In regard to the autonomy of the skin, he asked who was prepared to deny it *a priori*; and yet, he said, many physicians and even dermatologists practically did deny it in their writings and practice. There was no unanimity in the theories put forward to explain skin-disease. Ordinarily their authors were content merely to state the points they believed, and made no attempt whatever to prove them. In this connection he ridiculed the "dartrous diathesis" of the French school, which was believed to be at the bottom of almost every affection; and yet no one else, he said, had ever been able to make out any such thing. So in Italy gout was regarded as an almost universal influence in cutaneous diseases; but a serious objection to this was that the same diseases prevailed in localities where the "gouty vice" was unknown. Again, one of the members of this Association had claimed that either scrofula or malaria was concerned in the origin of all skin diseases; yet neither of these was by any means universally prevalent. The trouble was with such theorists that they magnified mere coincidence into essential cause; and when

they attempted to prove the truth of their assertions they signally failed.

In speaking of the second point Dr. White said that almost every one would be willing to acknowledge the unity of pathological processes in all parts of the system, and yet heretofore there had existed extreme ignorance in regard to such processes in the skin.

Under the third head he alluded in turn to the extraordinary relations supposed by various authorities to exist between the usual internal organs and the skin, and the influence of such upon cutaneous affections. In speaking of the stomach in this connection he maintained that many were disposed to attribute erythema, urticaria and other affections to particular articles of food, where they produced no digestive disturbance whatever ; and expressed his disbelief in any such thing. He also dissented from the idea that acne was dependent upon indigestion ; and in support of his opinion called attention to the fact that acne, as a rule, occurred in early life, while this was not the case with dyspepsia. He also spoke of the large numbers of individuals who suffered from digestive disturbances, and yet were entirely free from acne. He believed, therefore, that the association of the two was merely a coincidence. In the last two years he had made a special study of this subject, and he had come to the conclusion that acne had no connection whatever with indigestion. The author said in conclusion that he had in the paper endeavored to point out some of the difficulties and errors surrounding cutaneous etiology, and expressed the opinion that we could make no real progress until we swept away all this "rubbish of superstition " and these crude theories, so well calculated to mislead, and build up a system founded on the basis of observation, experience, and formal deduction.

Dr. Heitzmann remarked that it was a good consolation to his mind to hear such a paper, because he had been brought up in a school which had long ago accepted the position taken by Dr. White. He congratulated the Association on being honored with an article of this kind by the oldest and most distinguished investigator in this department in America, and stated that when he attended the meeting at Philadelphia in 1876, and heard gentlemen talk so much of the connection between rheumatism and skin-affections, and similar topics, he found that it had started on a wrong track ; so that he felt doubtful whether it would really

accomplish anything to advance the science of dermatology. The connection between eczema and gout, etc., had been supposed to be conclusively proven by the character of the urine noted; yet he had found that perfectly healthy individuals often had precisely the same kind of urine, and he believed that this idea of "diathesis" was purely fanciful. Like Dr. White, he had adopted the local treatment of diseases of the skin, as practised in Vienna, and he succeeded in curing his cases in this way. He then related the case of a gentleman suffering from psoriasis who had been told by a number of physicians that he was affected with the "gouty vice," though he had never had gout in his life. He had some dyspepsia, however, and when his diet had been properly regulated, he soon got well. Very often patients who had been cured of cutaneous affections asked whether the disease would recur, and he was in the habit of always putting a counter-question to them, viz.: "Suppose you get rid of a cold in the head:—do you think it will ever recur?" Dr. Heitzmann went on to say that his own studies with the microscope had taught him to consider diseases of the skin from an independent point of view; but at the same time he believed the skin to be under the influence of constitutional conditions, like the other tissues. To accuse the blood or various diatheses, however, of being at the bottom of skin disease, without chemical or microscopic proof, he thought absurd.

Dr. Fox said he would like to ask Dr. Heitzmann if his case of psoriasis was not in reality cured by internal treatment, since he had expressly stated that he regulated the patient's diet? Dr. White's views coincided in the main with his own. He did not believe in any diathesis comparable, for instance, to the syphilitic poison; but at the same time, he could not but recognize that there were often underlying constitutional conditions present in cases of cutaneous disease, the treatment of which would hasten the cure of the latter. He had studied dermatology in Vienna, and notwithstanding additional studies in France and England, he had been very strongly predisposed to adopt the Vienna method of treatment on his return to America. He had to confess, however, that since he had had more practical experience with diseases of the skin in his dispensary and private work, his views had changed to a certain extent. He did believe that there were some grains of truth in the popular prejudices which had so long prevailed, and in the views maintained by many of the profession which had been held up to ridicule.

Dr. Sherwell could not accept all of Dr. White's views because practically he had often seen the good effect of internal treatment in cutaneous affections. He believed that there were states of the internal organs which reacted upon the skin, and which if they did not produce disorder then, at least served to aggravate such.

Dr. Bulkley said this was an enormous subject; but without attempting to go into it, he would be perfectly willing to rest the argument for the effect of internal conditions upon the skin in Dr. White's own paper. In it so many points had to be acknowledged as to the influence of the nervous system, the reproductive organs, the stomach, etc., that the fact of the existence of important relations between these and the condition of the skin needed no further proof. No one denied that the skin was the subject of all manner of idiopathic affections; but at the same time, it was also true that skin-disease so frequently depended on internal conditions that we could not avoid giving some consideration to the matter. He need only mention, as examples, syphilis and the exanthemata. He thought Dr. Heitzmann's assertions in regard to the cure of diseases of the skin a little too broad, and stated that hygienic and dietetic treatment were believed to be of the highest avail by the most intelligent dermatologists of the present day. If we cleared away all that has been done in the past, he could not but regard it as a step backward, instead of forward, because it would be destroying the results of a vast amount of honest and painstaking research. When cases came to him which had been treated by others, Dr. Bulkley went on to say, he frequently did not change the local treatment at all, but simply corrected the condition of the general system by appropriate measures; when they got well. He should be sorry to see the charge of mistaken zeal made by this Association against those careful investigators who had, as he believed, established the internal origin of certain cutaneous diseases. It was true that the correctness of such a position could not always be mathematically demonstrated; but in such a matter it was only right that all the probabilities should be taken into consideration.

Dr. Taylor said that in the main he agreed with Dr. White; but while he thought that there were external remedies which had a marked effect on disorders of the skin, he thought that many, very many cases were benefitted by internal medication. He had long advocated the doctrine that the skin, like any other tissue,

can be the seat of inflammation irrespective of disease of the system, generally or of sympathy with morbid conditions of any organ. In all cases of inflammation of the skin, he first looks for a local cause, and very often found it.

Dr. Atkinson stated that if Dr. White meant that the skin is excluded from sympathy with other parts of the body, unlike all the rest of the organs, he could not agree with him. He could not but acknowledge that the skin must take part in the general morbid condition.

Dr. Hyde remarked that he was much pleased with the paper. We ask for facts, he said, that will convince us that these internal conditions affect the skin.

Dr. Wigglesworth thought the paper very timely and very much needed. It seemed to him that a large part of the difficulty between the advocates of external and internal treatment was due to inability of expression—a misconception of terms. It was the internal treatment of the *patient*, rather than the *disease*, he thought, which really took place. In other words, the patient had two maladies. He regarded the skin as an organ; but one which was incidentally external, and hence exposed to influences which the internal organs escaped. It was no more reasonable to suppose that the skin and one of the other organs should be affected at the same time, than that this should be true of two of the internal organs, like the heart and lungs, for instance. All treatment of disease was in a measure local, but, on account of its position, local treatment could be directed with greater facility to the skin than any other organ. When, however, there was disorder of any internal organ at the same time with that of the skin, the treatment should be directed to that also.

Dr. Van Harlingen thought Dr. White's paper would have two effects, the first on the members of the Association, and the second on the profession at large. The remarks arrived at the overthrow of antiquated ideas indicated in such expressions as "driving the disease in," and others that Dr. White had referred to were certainly much needed. So far as the members themselves were concerned, no one, he thought, would treat all diseases of the skin either by exclusively local or internal measures. While in syphilis internal medication, and in some other affections local treatment, were imperatively necessary; there were still others which stood on debatable ground. Personally, he would most gladly commence with the local origin of skin diseases, and from

that proceed to consider their internal relations, rather than commence with the rubbish that was at present too credulously accepted by many of the profession, as well as the laity.

Dr. Hardaway said he was glad to see so much unanimity of opinion in rejecting the idea of diathesis and specific treatment. As for himself, he always got his best results from local measures.

Dr. Bulkley remarked that Hebra in the last edition of his work expressed himself very strongly as to the effect of other than local causes in producing eczema ; so that he had undoubtedly changed his views to some extent.

Dr. White, in a few closing remarks, thanked the different members for their kind expressions in regard to his paper. He said that he had purposely omitted any reference to the bearings of therapeutics on the subject, as he thought that at present we were too loose in our views concerning them to bring them to bear upon this question. The chief object of his paper was to show some of the errors which still existed in connection with etiology. He by no means wanted to deny the intimate relations between local skin trouble and constitutional states.

Dr. Wigglesworth further spoke of the doctrine of unstable equilibrium, and compared the constitution to a garrison, with disease as an attacking foe. It might finally succumb, but the opposing force would remain the same.

Dr. Fox thought this doctrine of unstable equilibrium was correct ; but he did not think it made much difference in our treatment. In cases, for instance, he could not cure the skin trouble until the digestive disturbance had been removed ; and this he held to be a demonstrable part.

Dr. R. W. Taylor then read a paper on the nature of syphilis. He first attempted to prove that the various appellations which had been applied to syphilis in its nosological relations, such as "a contagious and virulent disease," "a specific disease allied to the exanthemata," "a disease of the lymphatics," "a disease originating in a fungus," "a purulent diathesis," and "a blood disorder," were all more or less incorrect and unsatisfactory. His own views on the subject were as follows :

"Our own conclusion is that syphilis is a disease of the connective tissue, and not primarily of the lymphatics or of the blood-vessels ; although the blood may be temporarily modified and may be the vehicle of contagion. The secretions of syphilitic lesions are found to consist of a serous fluid containing numerous shin-

ing granules or molecules, which are masses of protoplasm, or germinal matter, holding the contagious properties of syphilis. These microscopic bodies are probably taken into the circulation by the lymphatics, and conveyed over the body. The fact that serum alone does not convey the syphilitic poison goes to prove that the corpuscles hold the contagious material.

In the secondary period these cells are very numerous, and the body may be covered with papules and tubercles composed of them. As the disease wanes, these lesions become more and more localized and fewer in number, and the blood is less contagious. Finally, these cells may be limited to a few gummous tumors; the blood no longer carries the molecules, and it loses its contagious properties. The cells no longer have a tendency to reproduction, which characterizes them in the early stages, but rather to degeneration. Hence we consider the blood and the secretions in tertiary syphilis innocuous. * * * The periods of latency observed in the course of syphilis are of interest, and may perhaps be explained in the following way: Each outburst is attended by the development and multiplication of the peculiar cells, which run their course and are finally absorbed. Some remain, and after a time are excited by unknown causes to activity. Thus repeated exacerbations may occur, each one depending on the multiplication of cells remaining from a previous outburst. But each relapse is less active and less prolonged than its predecessor, until perhaps only one nodule, and that composed of effete cells, may remain. The disease is then cured. * * *

With this view of the nature of syphilis, its effect upon the health and upon the organs and tissues may be readily comprehended. In the early active stages of proliferation the red globules are diminished, and the white increased in number. The depressing influence of syphilis is thus fully accounted for. Digestion is impaired, and the tissues are poorly nourished. Finally, the functions of vital organs may be prevented or destroyed by the cell-changes produced."

Dr. Atkinson expressed surprise at one or two statements in the paper. Dr. Taylor, in the first place, referred to a specific cell. In nature, he believed, there was only a certain kind of cells; and he could not see how any different cell could be formed. Again, he could not imagine a condition in which these cells could be so old in the body as not to be productive, if they were alive at all.

Syphilis was a blood-disease only so far as that in it the blood contained syphilitic particles. We had the proof that the body now became entirely syphilitic in the fact that in many cases of inoculation one failed. If syphilitic virus was present in every corpuscle of the blood, for instance, one should expect more certainty in this. So the entire surface of the body would be covered with the eruption, instead of the latter selecting certain portions, and appearing only in spots.

Dr. Heitzmann remarked that the expression "molecules of protoplasm" was a somewhat indefinite one to him, and he would enquire if these conveyed the disease.

Dr. Taylor replied that it was not positively known that they did; but he believed that this was the case. The term had been used by many good men and he saw nothing of vagueness about it.

Dr. Heitzmann then asked how it was known that it was not the fluid in which they floated, rather than these bodies themselves, which conveyed the disease, to which Dr. Taylor replied that the fluid was simply scum, and therefore had no such power. It was assumed that it was the albuminous element, rather than the watery, which carried the disease.

Dr. Heitzmann remarked that everything in Dr. Taylor's paper seemed to be assumed; while what we wanted was proof. If we could only first demonstrate what syphilis was, we might then form any number of hypothesis. Everybody knows how it was thought that the corpuscle of syphilis had been discovered in Vienna, and how it had failed. There was no doubt that the nature of syphilis was to-day a perfect puzzle; and this paper, like whole libraries on the subject, was filled merely with hypothesis. That mercury was a good thing in syphilis was in reality about all that we have definitely concerning it. How many theories had already been put forth about its nature, and yet we still insist on building magnificent superstructures founded merely on the imagination. The whole mass of syphilography was at present based on a vast number of crude clinical observations thrown together without any regard to system. The future of syphilis, however, was in the microscope, and his own studies had led him to believe that through this agency we would in time be able to make the diagnosis of syphilis as readily as of cancer, sarcoma, etc. In two years more perhaps he might make his discoveries known to the world; but just now he needed the accumulation of hundreds and hundreds of facts in order to make his position sure first.

Dr. Taylor remarked that Dr. Heitzmann seemed to think that no one had ever studied syphilis under the microscope except himself; and that when he once took the subject up, the whole matter would be adjusted without the slightest difficulty, and all the scientific world would then bow down to him, and accept his opinions as infallible. He wished it to be distinctly understood, nevertheless, that the various points stated by him in the paper had been studied with the microscope in the most minute and careful manner by such authorities as Lancereaux, Wagner, Connil, and many others equally distinguished. He was astonished that Dr. Heitzmann did not seem familiar with the amount of work done with the microscope by the French and Germans especially. His remarks certainly led to the inference that the Doctor thought the subject as yet unstudied. He would await with considerable curiosity the results of the Doctor's studies and investigations, and he would remind him that they would like those of all other observers have to stand the test of criticism. He was amused at the insinuation thrown out by Dr. Heitzmann that the matter would be settled by him in a year or two in a satisfactory manner if *he* only took it up. He would remind him that the most eminent authorities here and abroad, had already pronounced some of his views upon microscopic subjects false and visionary, and that his results of investigation with that instrument were accepted only by a few, most of whom were his students.

The last paper was by Dr. Hardaway, on "A Simple Method of Obstructing the Varicose Veins in Rosacea." The method was essentially the same as that described in Dr. Hardaway's paper of last year on the removal of superfluous hairs, viz.: by means of electrolysis. The only difference was that it was unnecessary to introduce the needle to such a depth, or keep it in the tissues so long, as when the design was the destruction of a hair papilla. Six or eight cells of a moderately good battery were sufficient, and a few seconds all the time that was required for the operation. If the vessel was a long one, however, one puncture was not enough; two or more being required along its course. When a small needle (such as was recommended) was used, the parts presented nothing abnormal afterward; no cicatrix remaining. He had done the operation very successfully in several instances; but he was not willing to speak of it with any great amount of confidence as yet, his idea in presenting it now being rather to induce other gentlemen to make trial of it.

To a question by Dr. White as to whether he coated the exposed portion of the needle in any way, Dr. Hardaway replied that he did not. Dr. White then inquired upon how many observations he based his results; to which Dr. Hardaway replied that the cases were comparatively few as yet, but though in some of them several months had elapsed, there had been no return of the vessel up to the present time. Dr. White next asked if he ever failed to obliterate a vessel in a single operation, and Dr. Hardaway said that in some instances he had not succeeded in accomplishing the desired result the first time, but that the second time he tried he had been invariably successful.

Dr. White stated that he had asked these questions because we were so much in need of a good method of treating these vascular growths. If we had at our command a positive means of obliterating the vessels, he should consider it a great advance. He would like to inquire the experience of other members in treating this condition.

Dr. Sherwell said that he had treated two cases by his tattooing method with very marked benefit.

Dr. Wigglesworth asked Dr. Hardaway what were the depth of the insertion, the duration of the operation, and the appearances afterwards; to which Dr. Hardaway replied that the depth of the insertion was very slight, the duration of contact a few seconds only, and the appearances afterwards entirely normal.

Dr. Hyde thought that the success of the operation was a question of the extent of the teleangectasic condition. If this was superficial, good results would be obtained, and if it were not, the reverse. So the matter of recurrence depended on the same thing. The ground had been already pretty thoroughly gone over in the discussion of Dr. Sherwell's paper.

Dr. Bulkley remarked that he had not as yet employed electrolysis, but that he should be glad to give it a trial. He had had success in operating with a knife, and then applying nitrate of silver along the whole tract incised. The great objection to that method, however, was the extreme pain which it caused.

The President, Dr. Duhring, on assuming the chair for a second time, congratulated the Association on the very successful meeting just closing. The papers, it was hardly necessary to say, were very able, and the discussions most interesting; while the most complete harmony had characterized all the proceedings. He was deeply conscious of the high honor that had again been

conferred upon him, and he could only say in conclusion that in the year to come he should do all that was in his power to carry forward the good work that had been done in the past, and to render the Association as useful as possible.

On motion the Association then adjourned. In the afternoon a clinical meeting was held at the New York Hospital, for the examination of cases, in accordance with the resolution passed the previous day.

APPENDIX.

A list of the publications and writings of Members between July, 1878, and July, 1879, compiled from replies to a circular letter of the President.

ATKINSON:—The pigmentary syphiloderm.—*Chicago Med. Jour. and Exam.*, Oct., 1878.

The Botanical Relations of Trichophyton Tonsurans.—*N. Y. Med. Jour.*, Dec., 1878.

Late Hereditary Syphilis.—*Amer. Jour. of the Med. Sci.*, Jan., 1879.

Upon the treatment of varicose ulcers of the legs with the solid rubber bandage.—*Trans. Med. and Chir. Faculty of Maryland.*

Digest of literature—parasitic disease.—*Archives of Derm.*, 1879.

BULKLEY:—Notes on the local treatment of certain Diseases of the Skin.—*Archives of Dermatology*, July and Oct., 1878, Jan., 1879.

Case of Recurring Exfoliative Dermatitis of the hands and feet.—*Archives of Dermatology*, July, 1878.

Clinical Conversations on Diseases of the Skin.—*Archives of Dermatology*, July and Oct., 1878.

On the use of the Solid Rubber Bandage in the treatment of eczema and ulcers of the leg.—*Archives of Dermatology*, July, 1878.

A new method of permanently removing superfluous hairs.—*Archives of Dermatology*, Oct., 1878.

On the Nomenclature and Classification of Diseases of the Skin.—*Archives of Dermatology*, April, 1879.

Reviews and Book Notices in *Archives of Dermatology*, July, 1878 to July, 1879, (except when otherwise indicated.)

Clinical Lectures on Diseases of the Skin delivered at the New York Hospital; published in the *Boston Med. and Surg. Jour.*, June 16 and 30, 1879; *N. Y. Hospit. Gazette*, Jan. 2, 1879; *Phila. Med. Times*, Jan. 4 and 18, 1879; *Phil. Med. and Surg. Reporter*, Feb. 8, Feb. 15, and March 11, 1879.

On Diet and Hygiene in Diseases of the Skin.—*Virginia Medical Monthly*, Oct., 1878.

DUHRING :—Clinical Report on Tinea Farvosa; maculo-papular eruption due to bromide of potassium; and four cases of epithelioma.—*Med. and Surg. Reporter*, Nov. 30, 1878.

Clinical Report on Tinea Tonsurans of unusual form with Tinea Circinata; purpura of unusual form.—*Med. and Surg. Reporter*, Aug. 3, 1878.

Clinical Lecture on Scrofuloderma.—*Phila. Med. Times*, May 24, 1879.

On the treatment of Eczema Rubrum by means of glycerole of the subacetate of lead.—*Phila. Med. Times*, Aug. 3, 1878.

Case of Tinea Tricophytina unguium.—*Med. and Surg. Reporter*, Aug. 3, 1878.

Xeroderma (Hebra).—*Amer. Jour. of Med. Sci.*, Oct. 1878.

Case of inflammatory fungoid neoplasm.—*Archives of Derm.* Jan., 1879.

FOSTER :—Case of Scleroderma.—*Archives of Derm.*, July, 1879.

FOX :—On the permanent removal of hair by electrolysis.—*N. Y. Med. Record*, March 22, 1879.

The cause and cure of prickly heat.—*Physician and Pharmacist*, May, 1879.

Photographic Illustrations of Skin Diseases.—*Parts I. and II.*

HARDAWAY :—Treatment of Hirsuties by electrolysis.—*Read before the Amer. Derm. Assoc.* 1878.

Report on the progress of Dermatology.—*St. Louis Courier of Med.*, May, 1879.

Reviews contributed to the *St. Louis Courier of Medicine* from Jan. to July, 1879.

Note on some of the uses of sulphur, the sulphides, and the hyposulphides.—*St. Louis Courier of Med.*, July, 1879.

Ringworm of the palm of the hand.—*St. Louis Courier of Med.*, Aug., 1879.

The dermal curette in rodent ulcer.—*Proc. St. Louis Med. Soc.*, 1879.

HEITZMANN:—Epithelium and its performances.—*Trans. Amer. Derm. Assoc.*, 1878.

HYDE:—The nurse-maid and the mother of the syphilitic child.—*Chicago Med. Jour. and Exam.*, Nov. 1878.

Anæsthetic leprosy.—*Amer. Practitioner*, Feb., 1879.

Reviews of Duhring's atlas of Skin Diseases.—*Chic. Med. Jour. and Exam.*, May, 1879; and of Fox's Photographic Illustrations of Skin Diseases.—*Chic. Med. Jour. and Exam.*, May, 1879.

Digest of literature.—infantile and congenital syphilis—*Archives of Derm.*, Jan., 1879.

PIFFARD:—Local treatment of Eczema.—*N. Y. Med. Record*, Oct. 26, 1878.

Further contributions to the treatment of Lupus.—*N. Y. Med. Record*, Apr. 5, 1878.

ROHÉ:—Two cases of Syphilis in which the infection took place in rather unusual situations.—*Chic. Med. Jour. and Exam.*, July, 1878.

Leprosy (with original report of two cases).—*Maryland Med. Jour.*, July, 1878.

Report on recent progress in Venereal Diseases.—*Virginia Med. Monthly*, July, 1878.

Causes of premature Baldness.—*Atlanta Med and Surg. Jour.*, Oct., 1878.

SHERWELL:—The use of linseed and linseed oil as therapeutic agents in diseases of the Skin.—*Archives of Derm.*, Oct., 1878.

TAYLOR:—On the treatment of the various forms of Acne and of Rosacea, No. X, Vol. III, of a series of Amer. Clin. Lectures, N. Y., 1878.

A further contribution to the study of the Xeroderma of Hebra. In transactions of this Association for 1878.

The Pathology and treatment of Venereal Diseases, 8vo, 835 pages. H. C. Lea, Phila. In collaboration with the late F. J. Bumstead, M. D.

WHITE:—Case of recurrent cutaneous hemorrhage with urticarial and bullous efflorescence.—*Bost. Med. and Surg. Jour.* Oct. 10, 1878.

Semi-annual reports on Dermatology.—*Bost. Med. and Surg. Jour.*, Dec. 5 and 12, 1878, June 5 and 12, 1879.

Digest of literature—Acute exudative Diseases.—*Archives of Derm.* Critical notices of Duhring, Fox, Squire, Liveing,

etc.—*Bost. Med. and Surg. Jour.*, and *Amer. Jour. of the Med. Sci.*

WIGGLESWORTH:—Digest of literature—new formations.—*Archives of Derm.*

Semi-annual Reports on Syphilis.—*Boston Med. and Surg. Jour.*, *April and Oct.*

VAN HARLINGEN:—On the treatment of Eczema Rubrum by means of glycerole of the subacetate of lead.—*Phila. Med. Times*, Aug. 3, 1878.

A case of Ulcerative Scrofuloderm.—*Archives of Derm.*, April 1879.

The care of the person (article in “a Treatise on Hygiene and public Health. Edited by A. H. Buck,” New York, 1879.)

ORIGINAL CORRESPONDENCE.

“Sit mihi Fas scribere audita.”

MOBILE, ALA., Feb. 14, 1880.

Dear Doctor Gaillard:

Will you oblige me by giving place in your columns to the accompanying letter from Dr. A. T. Henley, of Macon Station, Ala.; whom, as will be seen, in furnishing me with the histories of two cases of tracheotomy for croup, (as reported in my article on that subject, in the January issue of your JOURNAL) unfortunately mislead me by neglecting to credit Dr. T. J. White, of this State, with the successful one; and thus was the cause of my attributing the successful case to himself.

Whilst the error does not, in the least, affect the conclusions arrived at in my paper—since it refers simply to individual operators,—it is, nevertheless, due to the gentlemen concerned that it be rectified; and this communication from Dr. H. fully explains the matter.

Dr. Henley is a gentleman so well-known in our State, both in professional and social circles, that the mistake will be recognized at once as purely *accidental*; and if he has not performed a successful operation for croup, I might be warranted even in believing he had done so.

Dr. White, too, enjoys such a position that he can well afford to lose the credit of a score of such operations ; for his reputation as a young surgeon is established on a firm and sound basis.

With the highest consideration,

I am, very sincerely,

WM. M. MASTIN.

MACON STATION, ALA., *Jan. 23, 1880.*

DR. WM. M. MASTIN, Mobile, Ala.:

My Dear Doctor :—I have just seen, for the first time, your article on “Tracheotomy in Croup,” in GAILLARD’S JOURNAL, and hasten to correct an error which has, unfortunately, crept into it. In your article I am credited with having operated *once successfully*, while my friend, Dr. T. J. White, of Uniontown, Ala., is put down as having *unsuccessfully* operated once. The cases should be reported, “Dr. T. J. White, two cases, one successful and one unsuccessful,” and I should not be credited with either of them. It is true I assisted Dr. White in the operation in both cases, and was closely associated with him throughout in the successful case, Victor Picord ; but, by all the rules, they were his cases and he should be credited with them.

I was disposed to think, at first, that the mistake had occurred with you ; but upon an examination of a copy of my letter to you of January 27th, 1878, I must *acquit* you of all blame in the matter, and shoulder the responsibility myself. I find that I unintentionally mislead you in my efforts to give you the *points* in the case, and was not explicit enough in giving Dr. White the credit due him. I regret exceedingly that the mistake should have occurred, and hope you will do me the favor to ask Dr. Gaillard to publish this letter in justice to all parties. Dr. White’s report of the case can be found in the *Virginia Medical Monthly*, February, 1878.

Regretting, Doctor, that I have been unintentionally the cause of placing Dr. White and myself in a false position, and again acquitting you of any blame in the matter,

I am, very cordially yours,

A. T. HENLEY.

DR. E. S. GAILLARD :

Dear Doctor :—In order that the “ errors ” referred to by Dr. Landolt in his letter in the February number of your JOURNAL may be referred to their proper source, I beg leave to state that my translation of his book was made (at his special request) from his revised French edition, and that the MSS. was thoroughly revised by him before it was sent to the printer. The book was set up in strict accordance with this revised copy.

He, therefore, and not the translator or publisher, is responsible for errata he may see fit to print in an appendix, in addition to those to be found in the book as published by Dr. Brinton.

Yours very truly,

SWAN M. BURNETT.

1215 I St., Washington, *Feb.* 18, 1880.

NEW YORK, *February* 12, 1880.

My Dear Doctor ;—The case of which I have the honor of reporting here is one of a kind that occurs but rarely, for which reason I think it worthy of record. During the past week I was called to see an infant whom I found with a slightly flushed face, an almost imperceptible pulse, slow, feeble and at times apparently absent, skin cold and clammy except where it was covered with eczema. One pupil was widely dilated while the other was almost equally contracted. The history of the case is as follows : The patient, a child six months old, had been treated for eczema, which becoming erysipelatosus, the following lotion was ordered :

℞	Liq. Plumbi Sub Acet,	. . . . .
	Tr. Opii,	. . . . .	aa $\frac{z}{3}$ ss.
	Aqua,	. . . . .	$\frac{z}{3}$ xvi.

M. ut. ft. lotio.

About one ounce of this mixture had been used ; an hour after the child was seized with a convulsion followed by deep sleep with stertorous breathing, suffused face, slow, full pulse, and a dry, warm skin. The patient at this stage was seen by the physician in charge who injected hypodermically

one-fortieth of a grain of Atropia Sulphas which was followed by a change in the respiration and pulse, a flushed face, one pupil dilating at the same time ; in addition cold water was rapidly dashed over the child. This improvement lasted but a few moments when the child sank into the condition it was on my arrival. On consultation with the physician in charge we agreed on the use of the Faradic current which produced slight but temporary improvement. We again resorted to the battery and during the improvement a hypodermic injection of Ex. Fl. Guarana twenty minims to the drachm of brandy the improvement became permanent, and being followed up by cold douches soon resulted in recovery. The points of special interest are : 1st. The absorption of the opium through the skin. 2d. The improvement under atropine followed by its complicating the original poison. 3d. The marked improvement under guarana and brandy, all of which seem to me to render the case unique and of much general interest.

Very respectfully,

JAMES G. KIERNAN, M.D.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

“Judex damnatur cum nocens absolvitur.”

* *Thirty-sixth Annual Report of the Managers of the State Lunatic Asylum at Utica, N. Y., for the Year 1878, Albany, 1879.*

It is held by the State Commissioner in Lunacy in his argument against the investigation of insane asylums in this State, made before the Senate Committee on Public Health, that “whenever these institutions make reports, their reports are *prima facie* evidence of their workings.” This is true, and some of these documents themselves afford the strongest proof of the necessity of the investigation demanded. In justification of this belief it is here proposed to analyze, as briefly as possible, the last annual report of the State Lunatic Asylum at Utica, the oldest and best known of these institutions.

The greater part of the managers' report is occupied with a description of the mode of warming and ventilating the asylum, prepared by Dr. Gray, in reply to

* As much that is said here, in noticing the Report of the Utica Asylum, is equally applicable to the Annual Reports of similar Institutions, a review of the fallacies annually presented to the public has been carefully and it is hoped justly made.

“ an application, made through the State Department by the British government, for a detailed statement concerning the appliances and method.” This method the managers consider “ the safest, most economical, and best,” and Dr. Gray’s description so clear and concise “ that they embody it, as a document worthy of permanent record, for use and reference.”

Some doubt is thrown upon the economy of the method by the fact that the expenditure for fuel, at the asylum, has been a little more than \$10,000 a year for the last three years. But whether it is the safest and best for its purpose, is a question of more interest and importance. Dr. Gray’s description for the British government and our State Legislature, which is substantially the same as that read by him before the State Medical Society last winter, should at least be satisfactory upon this point.

It is now twenty-five years since the method referred to was introduced into the asylum, by an English engineer who was then engaged in the work of warming and ventilating the Capitol at Washington on the same plan. The practical imperfections of the work done in the Capitol are well known, and the method has since gradually fallen into disfavor with architects and other authorities. But it may yet be well adapted to the peculiar needs of an asylum for the insane, and of this the public and the medical profession would be glad to know. It is, therefore, with much regret that Dr. Gray’s description is found to be inaccurate and misleading.

Each half of the asylum has its supply of air forced in by a fan, in the form of a wheel, five feet in diameter and thirty-eight feet in circumference. Cold air is drawn in through an opening in the case of this fan, on either side, and thrown off into a cold-air chamber, about 500 feet in length. From this chamber, parts of which are at right angles to the main trunk, the air is forced, at a right angle from its current, into flues leading to the several corridors and rooms of the building. In each of these flues it passes over steam pipes, in such a manner as to bring, as nearly as possible, every portion into contact with the heated surface ; and in this passage is turned many times at right angles in its course. According to a well-known law, the loss of momentum of air in motion is as the square of the velocity, and directly as the length of the conduit. It is plain that from simple loss of momentum, from friction at the sides of the current, and from the retarding effect, the angles, the impulse given to the air by the fan will be almost, if not entirely, spent before its destination is reached. In fact, this impulse is felt as a wind, with a velocity of 30 to 40 miles an hour, near the fan, while, as Dr. Gray observes, “ it produces no appreciable current ” in the wards. The amount of air actually supplied to the wards may, of course, be calculated approximately by measuring it with an anemometer or air-meter at the points where it enters them from the flues. But Dr. Gray calculates from the velocity and apparent volume of the air *at the point of delivery from the fan*, that “ each fan delivers at each revolution 1,000 cubic feet of air,” and that together they “ supply 5,000,000 cubic feet of air per hour, which is a little over 100 cubic feet per minute, to each occupant of the house, night and day.” It would be hardly less absurd to calculate the amount of water thrown upon the banks of a river by a steamboat, from the velocity and volume of the current at its “ point of delivery ” from the paddle wheels. It is the force of heated air in the flues leading to the wards, to which the warming and ventilation of the

asylum is mainly due. This is proved by the experience of the insane asylum at St. Peter, Minn., whose "appliances and method" are a copy of those of the Utica asylum. Its warming and ventilation are claimed to be satisfactory, although the fan is not set in motion from one year's end to another. Dr. Gray's estimate of the quantity of air supplied to his patients is clearly from ten to twenty times too large, and his elaborate calculation of the number of pounds of coal required to raise the temperature of this supply from 10 degrees below zero to 70 above, is wholly fallacious. Indeed, all his data for estimating the value of the asylum method are made worthless by the inexcusable blunder which we have pointed out.

In his report on the State Charitable Institutions, made to the Legislature in April last, the Comptroller speaks of the impossibility of making the figures contained in the annual reports of some of these institutions "agree with themselves or with known facts accessible at the Comptroller's office or elsewhere." He does not hesitate to characterize these reports as "misleading," and believes that "a desire to avoid an appearance of extravagance has led to such a proposed arrangement of figures as should not enable the general reader to gain a full knowledge of the subject." That this is a principal purpose of the report of the Utica Asylum for 1878, must certainly be inferred from the following paragraph :

"The managers are glad to be able to say, that the current receipts from the several counties of this State and from private patients, and the income derived from the farm, has [sic] always been, and now is, sufficient to meet all current expenses of the Asylum ; and further, that they not only have never asked aid from the State treasury for these purposes, but have made improvements, and have expended on the buildings, more than \$100,000 from these current receipts."

It would be no valid excuse for the enormous current expenses of the Asylum if it were true, as stated, that the money had been mainly drawn from counties and private persons. As the Comptroller has observed in his excellent report (p. 51), whether the burdens of taxation fall in the shape of State or county taxes is of little importance. It is the same public which pays, in both cases. But the fact is, that Dr. Gray's current receipts have never been, and are not now, sufficient to meet his current expenses. This is clearly proved by a comparison of the present report with that made by him to the State Board of Charities for for the same year, 1878. In both these reports the current receipts of the year are given as \$161,854.44. In the report to the Legislature, Dr. Gray does not state the amount of his current expenses, but returns them to the Board of Charities (B. of C. Rep. p. 125) as \$179,662.31. Here, then, is a deficit of \$17,807.87, which, with the sum of \$29,661.98 for "extraordinary repairs,"—making a total of \$47,469.95—must be made up from the State treasury. And it may be observed here, that the public which pays the sums appropriated from this source, and that which furnishes the current receipts of the Asylum, are not the same. More than two-thirds of the money from the State treasury is drawn from the counties of New York and Kings, which support their own insane without aid from the State.

The method adopted to diminish apparently Dr. Gray's unusual expenditure from appearing in his weekly cost per patient—where alone it would be

observed have been various, but they are found in every one of the twelve annual reports of the State Board of Charities. In the last (for 1878), the gross sums have been more clearly accounted for than usual, but the weekly cost is reported as \$4.75 (Rep. p. 125), while the data show it to be \$5.75. The difference represents a difference of \$31,200 in the current expenses for the year. But the deficit in the current receipts of the Asylum for 1878 is much less than the yearly average for the past ten years. In the year 1877, for instance, it amounts to \$34,769.65, but this is not made clear to the public and the Legislature, for the sum of \$35,634.14 for "general repairs"—an item which is properly included in the current expenses of 1878—is changed to the account of extraordinary expenses. In this way the current expenses are reduced to \$171,812.11, which is not quite a thousand dollars less than the current receipts of the year. But even this reduction does not afford a satisfactory basis for the calculation of a weekly cost per capita, and the sum of \$11,558.32, for the items of "clothing," and "patients miscellaneous expenses,"—both of which are properly reckoned as current expenses in 1878—is also deducted. By this arrangement the weekly cost for 1877 is reduced from \$6.56 to \$5.06, which represents a sum of \$47,192.46 in Dr. Gray's current expenses for that year.

In the further correction of errors in the paragraph quoted, it is only necessary to say that the managers have distinctly asked, in former reports, for aid from the State to meet their current expenses, (*vide* 22nd Report. p. 8, and 23d Rep. p. 8); and that the income referred to as "derived from the farm" is in no proper sense income, but is from the sale of coal, hides, etc., which have been paid for out of the income of the Asylum. In fact, in the report of the State Board of Charities for this year (p. 122), the space under the head of "sales of farm and garden produce" is properly left blank.

The Comptroller, in his special report, finds that the cost of building and furnishing the Utica Asylum at its opening, in 1843, was \$429,100, and that there has been expended since, for repairs and improvements, \$492,618, not counting the sum of \$68,742 for rebuilding the parts destroyed by fire in 1857. He finds, also, that the expenditures for 1877 were one hundred per cent. greater than those of the model State Lunatic Hospital, at Northampton, Mass., representing a difference of \$108,716 in a single year, for an equal number of patients. Of this excess in Dr. Gray's expenditures, \$71,513 appear in his maintenance account, and \$37,203 in that of repairs, &c. In apologizing for the large sums spent for repairs each year, the managers write as follows:

"The science of building extensive edifices for hospital purposes for the insane was in its infancy in this country [forty years ago]. The present theories and appliances for heating and ventilation were utterly unknown, and since that period the whole subject of hospitals for, and treatment of, the insane has undergone gradual revolution, under experience and the light of science. Restraint and solitary confinement, without occupation for mind or body, was the ordinary method pursued in the treatment of the violent, and the cell was believed to be a necessary adjunct for the proper care of this class."

The science of building palatial asylums for the insane has certainly received an enormous development in this country since the Utica Asylum was built, as the extravagant plans of the Poughkeepsie and Buffalo institutions attest. But such asylums have, for many years, been unanimously condemned

by European authorities, and the superiority of more simple, plain and home-like buildings for the insane, is now everywhere admitted. Of the present theories of warming and ventilation much still remains "utterly unknown," as has been already seen. As to restraints, and the occupation of mind and body in the treatment of the insane, it has been shown by Dr. Wilbur that Dr. Gray has greatly retrograded from the practice of his predecessor, Dr. Brigham. His use of labor and occupation is far less, while that of restraints is several times greater. It is stated on the best authority, that at the date of this report forty cribs, and a much larger number of muffs, waist-belts and camisoles, were in daily use at the Asylum. Nothing like this amount of mechanical restraint, for 600 patients, is used for all the insane—more than 40,000—in the Asylums and hospitals of England at the present time. Surely, here is *prima facie* evidence of one of the worst forms of abuse to which the insane in asylums are exposed.

In Great Britain, as all know, the battle for reform in the care of the insane has been mainly fought over the field of restraint and non-restraint; and recent discussions lead us to expect that history will repeat itself upon this point in our own country. Among the advocates of restraints Dr. Gray has fairly earned the position of leader, both from his many writings in their favor and his ample experience of their use. Of all the arguments in his reports and in the *Journal of Insanity*, the most plausible is that which urges the greater safety of the insane from personal injury under the use of mechanical restraints than when restrained by the hands of attendants alone. The subject is not mentioned in the present report except in the paragraph last copied, but the *Journal of Insanity* for July, 1879, contains a paper on "Rib Fracture in English Asylums," by Dr. Lander Lindsay, which is published "here and now because rib-fracture is one of the natural fruits of *the non-use of mechanical restraint* in cases in which it should be applied." Numerous cases of rib-fracture among the insane in England, due to the violence of attendants, are cited, and attention is called to the rarity of this abuse in American Asylums. But in view of the deceptive financial and statistical returns found in Dr. Gray's reports, it will be asked whether these cases may not be equally common in our Asylums, and their history be suppressed.

Dr. Lindsay contrasts, sadly, "the terrorism which is in England exerted on asylum authorities by the bugbear of public opinion, the anathemas of the fourth estate, and the very real censorship of the Board of Lunacy;" with the manly independence shown by American Superintendents of insane asylums.

Public opinion has indeed yet to discover some method of making itself felt upon asylum authorities in this country. In England, each asylum is supported by a county whose largest taxpayers are its managers, and whose press is the jealous guardian of the interests of the public and the insane. Less than one-twentieth of the support of the Utica Asylum is drawn from the county whose local politicians are its managers, and whose press is believed to be directly or indirectly subsidized to defend it against all private or official criticism. In England, again, we find the Commissioners in Lunacy probing every suspected abuse to the bottom, and carefully explaining, in their report, the causes of an excess of sixpence per capita in the weekly cost of an asylum beyond the average of other institutions. Here is found a State Board of Charities printing as

part of its own report, for ten successive years, the incorrect returns of an asylum whose expenditures are from \$80,000 to \$100,000 yearly in excess of those of other asylums of the same grade, without a word of question or criticism. Here, also, is found a Lunacy Commissioner, whose duty "to examine into the management and conduct of asylums" has been notoriously neglected, urging their "franchises," and the possibility of reforming abuses "under the common or statute law," as a bar against Legislative investigation*. The difference is certainly a marked one, and it is to be regretted that Dr. Lindsay, who is himself an asylum Superintendent, is unable to regard it from an entirely disinterested point of view.

Twenty pages, or more than one-third of the report, are devoted to the pathology of insanity. Investigations upon this subject have been made by Dr. Gray for some ten years, at a cost to the State of \$5,000 a year and upwards. It is charged, on the one hand, that these researches are not only altogether worthless, but that they are not even *bona fide*. On the other hand, several reputable medical men have publicly certified to the character and value of Dr. Gray's investigations. A brief examination of the evidence upon this point may be of interest.

It need hardly be said that the pathology of insanity differs from that of purely bodily diseases. Science does not attempt to explain the physical conditions under which mental disorders arise, because the mind is powerless to comprehend any connection between physical and mental phenomena. Still less is it able to identify the mental and physical forces, a scheme which materialists and spiritualists alike pronounce impossible. The attempt is, therefore, limited to the associating empirically, morbid mental changes with physical symptoms and lesions. In this way it is believed possible to gain some partial knowledge, at least, of mental disorders, which may be of value in their diagnosis and treatment. It will be well, therefore, to examine, briefly, some of the theories, facts and generalizations which Dr. Gray has contributed to this possible, but as yet hardly constituted science, contributions which have already cost the State of New York \$50,000.

His fundamental theory is,† that insanity is a "morbid process" of the brain, which is "demonstrable under the microscope." This, of course, carries with it the theory that sanity is only a healthy process of the same organ. Thought and feeling, then, are nothing more than physical processes, and mental disorder is bodily disorder. In accordance with this theory he holds that there are no moral causes of insanity, but that certain moral agencies produce "ill health," which is the true cause of the insanity.‡ It would follow that normal moral agencies accomplish their purpose by first producing good health in those subjected to their influence. Thus all the vexed problems of education, moral and intellectual, become a mere question of bodily hygiene.

The simple statement of these theories is their completest refutation, and they would deserve no further notice but for the dangerous practical doctrines which are based upon them. It is beyond question that the finding of insanity

* Report of the Committee on Public Health relative to Lunatic Asylums, p. 8.

† Vide *Am. Journal of Insanity*, vol. xxx., p. 311.

‡ Vide Report for 1854, p. 15.

in any case is almost exclusively an interpretation of the mental acts. The doctrine that it is a physical fact which may be established by a medical diagnosis, is without a shadow of warrant, and opens the way to the most serious abuses. Two well-known cases of homicide, those of Waltz and Grappotte, may be cited in illustration. Both these criminals were found not insane by Dr. Gray, and a post-mortem examination in each case was declared by him to prove the correctness of his diagnosis. Commenting upon the examination of Grappotte's brain, he asserts that "in a case of true insanity the peripheric districts of the nervous centres *must show* some evidences of pathological alteration in their structure." Again, the theory that "ill health" is the immediate cause of all insanity, and that every lunatic is a sick person demanding medical treatment, must also be the source of grave abuses. The cost of medicines at the Utica asylum amounts to upwards of \$5,000 a year, for 600 patients. Judged by the reports of the English asylums, this cost is more than five times too great, and points to the use of drugs for depressing and narcotizing patients. How much more serious is this abuse of "chemical restraints" than that of mechanical appliances, no physician need be told.

While examining the theories of Dr. Gray one is compelled to notice a strange misunderstanding on Dr. Gray's part of a high authority whom he quotes erroneously. In his report for 1871 (p. 62), speaking of cases in which "the pathological changes are comparatively slight," he says: "However, as expressed by Dr. Maudsley, we know so little of the intimate condition of nerve element, or the mode of its functional action, that the difference in its condition may be the difference between life and death." Dr. M. is thus made to testify that slight pathological changes may represent the difference between life and death," and so *a fortiori*, between sanity and insanity. What he does say is as follows: *

"Nothing is yet known of the intimate constitution of nervous element, or of the mode of its functional action; and it is beyond question that the difference in its condition may be the difference [not only between sanity and insanity, but] between life and death, *without any appreciable physical or chemical change.*" Thus, mainly, by omitting the words here put in italics, Dr. Gray has directly reversed the testimony of Dr. Maudsley in respect to a fundamental question of pathology.

It is plain that little confidence can be placed in post-mortem examinations made to prove such theories as are here described. But even if the facts of Dr. Gray's report have been carefully and conscientiously observed, any bearing upon the pathology of insanity, must, still be denied to them. They are not indeed presented as bearing upon any pathological question, and in a science where the data are practically infinite in number and complexity, such facts are absolutely worthless. Those only which are connected by some theory or reasonable hypothesis in the mind of the observer, can be of any value. Bald facts, without some hypothesis to co-ordinate them, are mere rubbish even in physical science, where general laws are known and deductive conclusions possible. An hourly record of the color, shape and dimensions of the clouds from a given point of view, for example, would be without value to meteorology.

* *Vide Reynolds' System of Medicine*, vol. i., p. 48.

How much more in the study of mental phenomena, whose data are far more numerous and complex, and whose primary laws are unknown, must a like record of facts be rejected ! For this reason, Dr. Gray's scheme* of examining "the secretions, the skin, its temperature, color, elasticity, sensibility, &c., in the several forms and stages "of insanity," and also "*post-mortem* appearances, generally and microscopically," has been received by students with a varying degree of skepticism.

Perhaps the most positive and possibly useful facts in this report, are in the record of the number of corpuscles, the proportion of white to red corpuscles, and the amount of hæmoglobin found in the blood of each insane person examined *post-mortem* during the year. But how much more light is thrown upon the problem of insanity by these facts, than would have been thrown upon that of criminality if the same examination had been made of all the murderers hanged in the State, within the same period ? The hypothesis which presents anemia as a cause of insanity is simply not a scientific hypothesis. No doubt these two conditions often occur together, but a moment's reflection must satisfy the least intelligent observer that there is no necessary connection between them. If a certain number of the insane in asylums are anemic, so are a still larger number of the inmates of almshouses and infirmaries. This has been fairly considered as presumptive evidence of the superior dietary, and other hygienic advantages of asylums. Does it also prove that anemia is at the foundation of a pathology of poverty and ill health ? This question is a fair outgrowth of Dr. Gray's researches in the pathology of insanity.

The only one of Dr. Gray's generalizations from lunacy statistics referred to in this report, is that which is made to prove the easy curability of cases of insanity when brought under treatment in their early stages. Its complete fallacy has been often demonstrated. Of the medical treatment of insanity proper nothing whatever is yet known, and statistics fail to show any appreciable difference in the number of recoveries between cases which have, and those which have not, been treated. All must regret to find in the report what is far more unfortunate than an unsound generalization, viz.: erroneously quoted evidence of a fellow-physician upon the curability of insanity.

In analyzing a large number of cases from the records of an English Asylum, Dr. Thurnam found that of those admitted within three months of their attack, four-fifths recovered ; while of those whose insanity dated back a year or more, four-fifths proved incurable. This was only formal proof of what was already known, that a large proportion of the recoveries from insanity occur in recent cases. Its bearing is plainly upon the question of prognosis, but is cited in the report of the Utica Asylum for 1869 (p. 6), as follows :

"Dr. Thurnam, a distinguished writer on the subject [insanity] states that if cases were treated within three months of the first attack, four-fifths would recover ; but if twelve months elapsed four-fifths were incurable, and so in proportion as the term was longer or shorter."

Neither the language nor the meaning of the quotation is Dr. Thurnam's, and Dr. Gray is responsible not only for the mistaken inference, but for attributing it to another. That four-fifths of all three-month's cases will not

* *Vide* Report for 1869, p. 16.

recover under treatment, may easily be proved from his own statistics. Of 163 such cases admitted into the Utica Asylum during the five years 1870-4, only 72, or 44 per. cent., recovered, which is little more than half the promised proportion. It well may be asked of what this, also, is *prima facie* evidence in the working of that institution?

It is to be regretted that so much has been found in this report which it is impossible to reconcile with the testimony of Dr. Gray and his managers, as to the efficiency and usefulness of the State Lunatic Asylum at Utica, N. Y. The learned and distinguished Alienist is unknown to the writer of this review, and consequently what has here been said is unbiased and impersonal; but when his report is placed before the press of the country, the public has a right to expect that the press here, as in Europe, will criticise it fairly, and analyze it thoroughly. It is full time that such reports should no longer be received by the press with fulsome eulogy, censurable credulity, and blind adulation. There are no institutions in which the public should take so deep an interest, and it is a sacred duty of the press to stand as a just and fearless custodian of the trusts which States have committed to the medical profession.

TRANSLATIONS.

“Ubi mel ibi apes.”

(NEW AND REGULAR DEPARTMENT OF THIS JOURNAL. CONTRIBUTED BY
J. G. KIERNAN, M.D., NEW YORK.)

ATROPHIC INFANTILE PARALYSIS.

I.—*Etiology and Diagnosis, (read before the Paris Medical Society, by DR. ONIMUS, L'Union Medicale, December 23, 1879.)*

The disease, known under the names of essential infantile paralysis, fatty infantile paralysis, spinal infantile, and (the best name, given by Duchenne [de Boulogne]), atrophic infantile paralysis, has had most of its symptoms, and its seat definitely settled. It is therefore to such points only as are still open to discussion and have a practical bearing that we desire to call attention, as the etiology, diagnosis, and treatment. Duchenne and the majority of physicians ascribe this disease to dentition and diseases of infancy, as vomiting diarrhœa and intestinal worms; heredity, milk of the nurse, and the influence of the nurse are sometimes, though seldom given as causes. Laborde claims that the influence of all these factors is much exaggerated, and that the true cause cannot be precisely settled. Kennedy and Bouchut insist

on external influences and principally on taking cold, with which latter opinion we fully agree and claim that it is *the only cause* of this disease.

We have never failed to find when exact results were to be attained, that taking cold was indisputably the cause of this affection.

A parent is generally impressed with the influence of other causes and pays little attention to the child's having taken cold; but our attention once directed to this point we rarely fail to find both the direct influence of cold, and the circumstances under which it has been taken. There are many affections often taken erroneously for this disease, as slight hemiplegias with impaired movement, and peripheral pareses of muscular groups. The examination of the electro-muscular contractility gives the only distinguishing symptom, for even the most expert, have been deceived into regarding other affections as this disease, a diagnosis they were obliged to abandon, on examination of the electro-muscular contractility. In the majority of cases where the diagnosis is doubtful, the disease is due to a paresis of the legs, after a general fever, a variola, a scarlatina, etc., or following a general debility. The child in this case, turns the feet in, walks badly, and limps very much; being unable to raise the point of the foot, it very often stumbles, and the parents fear a grave form of paralysis. Contractility is in these cases perfectly preserved and a few séances of electricity will render the cure complete. Sometimes atrophic paralysis is confounded with infantile hemiplegia. If the latter be slight, the diagnosis is very difficult and it is this class of cases that has given rise to the opinion that atrophic infantile paralysis is due to dentition, intestinal troubles, in a word, diseases that have a reflex influence on the cerebral centres. It is in these cases that there are convulsions, these latter not being found as a rule in atrophic infantile paralysis. They indicate that the cerebral centres or the upper part of the cord is affected, and appear in atrophic infantile paralysis only when the upper extremities are and remain affected. Besides the differing electro-muscular contractility a diagnosis can be made between these two diseases, for in

hemiplegia, the motor troubles are on one side, generally the right, while in atrophic paralysis they are dissipated without order, there being sometimes an alternation, the left arm and right leg being affected, while the right arm and left leg remain free. Further, in atrophic paralysis the muscular lesions are always a feebleness and more or less atrophy, while in hemiplegia there is a minor kind of contracture. The trouble in walking, the deviations of the foot, are the consequence of this contracture; the deviations of the foot in atrophic paralysis are very dissimilar.

To return to the question of etiology, if we avoid the doubtful cases and consider those clearly defined, we find that their rheumatoid nature cannot be mistaken. The types of this disease recently observed are as follows:

1. M. A., a boy two years old, walked well until the end of last July when his room window being left open he was found to be unable to keep on his legs, but there was no evidence of his having taken cold. As he was teething the disease was attributed to that. No convulsions. The atrophic paralysis is limited to the lower extremities.

2. M. C., boy five years old, seized with fever on the 26th of August, was found unable to stand on his legs on being raised. He had had pertussis sometime previously and the disease was attributed to this. No convulsions. Paralysis limited to legs.

3. M. R., girl four years old, seized with a fever after a long walk in the sun during July. Complete paralysis of arms and legs. Convulsions.

4. M. B., girl two and a half years old, was taken suddenly with a fever lasting two days and coming on after a walk in the woods. Both legs affected. No convulsions but the disease was attributed to internal convulsions.

5. M. E., girl, taken one day last autumn, with fever of which nothing remained next day, but she was unable to stand on her legs. The right leg and some muscle of the thigh remained paralysed. An erectile tumor had been removed from behind the ear, and to this the paralysis was ascribed.

6. M. L., boy four years old, was attacked during July by

a fever accompanied by sharp pains which were thought to be those of articular rheumatism. He had taken cold baths the day previous but with great reluctance. Paralysis was localized in one leg and for a long time the fever and debility were ascribed to too rapid growth.

7. M. C., girl three years old, taken suddenly with fever in August, and her legs became useless for locomotion. The disease was attributed to the milk of a nurse who had used too much cider.

It will be noticed that many of the alleged causes of this disease are here found. To be sure they may have aided the disease by reducing the general health of the patient, and it also must be said that influence of cold does not always produce the same effects, in one case hepatic, renal or pulmonary disease, in another but happily more rarely, congestion of the spinal cord. That the latter condition is sometimes so produced is undisputable. A case of our own clearly shows this. A little girl who was perfectly well on leaving home; the nurse allowed her to sleep stretched out in contact with the ground under a tree. On awaking, the side she lay on, was found to be paralyzed. Here it is impossible to deny the influence of cold and that it is of a rheumatoid nature. Another case which we saw to-day for the first time, was that of a little girl who had her left leg uncovered during the night. She complained on waking, of pains in that limb, and on examination we detected an atrophy and paralysis, she being unable to move about. In all this we agree with Rosenthal in believing that there has been muscular inflammation with congestion of the vessels of the cord; that the gray substance being richest in vessels, it is most effected; and that the cells of the anterior cornua are affected. In a word, cold which most frequently causes pulmonary diseases, acts in certain children, on the limbs and on the spinal cord, producing the earlier symptoms of paralysis. Then the nerve cells, as the case may be, either atrophy, or regain their function. The influence of cold is, in some cases exerted equally and directly on the muscles and peripheral nerves causing an inflammation. In some cases the disease begins in the cord, in others in the muscles and sometimes both are simultaneously attacked.

This disease is more frequent in spring or fall for the chances of taking cold are then more numerous among children. Cold baths, light clothing, the habit of going about with the legs uncovered, the keeping in the shade and under the trees where there is much dampness, all are very liable to cause a chill. Changes from heat to cold are also potent factors and the warm seasons therefore yield many victims of this malady. It ought also to be said that insolation is perhaps an assisting influence as in one case already cited. Another case came on after the child had been playing all day, under a burning sun, in the damp sand catching prawns.

We have already spoken of the means of avoiding an error in diagnosis and there is no doubt that many of the cases reported cured are cases of hemiplegia, mistaken for this disease. Electricity furnishes a certain diagnostic means, for in atropic paralysis, reaction to the induced current is very feeble.

II.—*Treatment of Infantile Atrophic Paralysis*, by JULES SIMON. *L'Union Medicale*.

This depends on the period at which the disease has arrived, whether it be in the acute symptoms of the first stage, or in the stage of paralysis and limited atrophy, or in the stage of deformity. In the first period I endeavor to secure a powerful reaction on the cutaneous surface, giving every day a three or four minute bath of hot air, enveloping the lower extremities in cloths wrung out of mustard water which are also applied along the vertebral column, or making with Tincture of Iodine or Simonson paste (Oil Tiglii Cocoa butter and Wax) an artificial eruption of some duration, to the intent of influencing the medullary axis. Internally I give preparations of Conium and Aconite in Cherry Laurel water.

The child should be kept in a room with regular temperature and confined to bed. The object of this treatment is to reduce the activity of the myelitis and diminish spinal congestion.

At the second period the acute symptoms have disappeared, the paralysis is acquired, atrophy begins to appear, and we must by all means combat this fatal tenden-

cy. Here warm and stimulating frictions should be resorted to. The limbs should be covered with flannel and warm clothing, for they are always cold and sometimes cyanotic. The use of mild constant currents from twenty to thirty minutes each day is to be recommended.

Internally Strychnine or Nux Vomica should be given for five or six days, then treatment suspended, then recommenced after lapse of the same time. From time to time the actual cautery should be applied to the upper part of the vertebral column. Tonics should of course be used and sulphurous baths. In the third period the same treatment should be continued with the use of special gymnastics adapted to the part affected. If club foot result the special orthopedic appliance in addition to massage, etc., are indicated, and the results are often encouraging. I close by recalling to you that infantile atrophic paralysis is an alteration of the gray substance of the anterior cornua, that appears suddenly, with or without fever, with or without (rarely the former) convulsions from the age of nine months to twenty-six, that it is at *first* characterized by partial paralysis localized in this or that group of muscles, in this or that limb or part of limb most affected, *followed* by a coldness, an atrophy, a cyanotic condition, and *ultimate* deformity. It gives rise to neither, cerebral nor sensorial conditions, sometimes improves markedly, but more frequently, is never completely cured. I recommend a cautious *prognosis*, a careful *diagnosis*, and a *treatment*, without being discouraged, of equal tenacity and attention to the length and serious nature of the disease.

CHEMISTRY AND PHARMACY.

“Diruit ædificat, mutat.”—HOR.

The New Anæsthetic—the Bromide of Ethyl. By R. J. LEVIS, M.D., Surgeon to the Pennsylvania Hospital and to the Jefferson College Hospital.

It is generally admitted that there are essentials of anæsthesia which are not satisfactorily attained by the anæsthet-

ics in ordinary use. The inconveniences of ether and the dangers of chloroform have suggested further inquiry among the large number of chemical substances which are capable of producing insensibility to the impression of pain.

In April, 1879, my attention was directed to the bromide of ethyl by Dr. Lawrence Turnbull, of this city, who was, I believe, the first to experiment on the human subject with its anæsthetic properties, testing it originally on himself, and afterwards on patients undergoing surgical operations, but its physiological action on some of the lower animals had been previously determined by other experimenters.

I have since that time continued to give practical attention to the subject of the anæsthetic use of the bromide of ethyl, and, whilst recognizing the fact that a very large number of administrations is essential to determine its merits comparatively with other agents, I have now had sufficient experience upon which to, at least, base some very decided impressions of its value.

Its principal physiological characteristics which will concern the surgeon, are its rapidity of action and the quickness of recovery from its effects.

As far as observed by me, it does not influence the circulation, excepting to sometimes produce a slight increase in the rapidity of the heart's action and in arterial tension or pressure. The cerebral anæmia and the fatal syncope of cardiac depression, to which chloroform is liable, are dangers which do not appear to threaten in the anæsthesia of the bromide of ethyl.

Respiration is but little influenced by the bromide of ethyl, as I have administered it, beyond the ordinary characteristics of all anæsthetic sleep; but in this respect its action seems more to resemble that of ether than that of chloroform. While making these assertions, I fully recognize the fact that the ultimate effects of all anæsthetics show that they are depressing agents.

Nausea and vomiting appear to occur less frequently in the anæsthesia of the bromide of ethyl than in that of ether or of chloroform, and the rapidity of recovery from its effects must render such impressions very brief and transient.

Commencing with the occasional and very cautious use of the agent, I have more recently adopted it to the exclusion of other anæsthetics, and am recording a series of detailed observations as to its effects.

Bromide of ethyl, or hydrobromic ether, is a colorless liquid, with a specific gravity a little greater than that of water. It has a decided and characteristic odor, which is thought to resemble that of chloroform, but is less agreeable. It vaporizes more readily than chloroform, and in this respect and in density is intermediate between ether and chloroform. It seems to be entirely eliminated through the lungs, and in this regard has a decided advantage as to safety over chloroform. The high vaporizing point of chloroform does not permit its rapid elimination from the body, and it is not entirely removed by the lungs. So, when some secreting organs happen to be, from disease, incapacitated, the nervous system is liable to become overwhelmed. The odor of the bromide of ethyl remains for a longer time on the breath of a patient than does that of chloroform, but it seems to be quickly dissipated from the apartment in which it has been used. Its vapor is quite unirritating to the respiratory passages when inhaled, and in this quality has the advantage over both ether and chloroform.

General excitement and the tendency to struggle occur far less frequently than in the early stages of the anæsthesia of ether, and, apparently, even in that of chloroform. It is evident that the impression on the motor centres must be very rapid, and I estimate that complete anæsthesia is accomplished in one-third less time than is the case with chloroform. The recovery from its effects is even comparatively more rapid, in the greater number of cases not exceeding two minutes after the inhalation has ceased. Muscular co-ordination is so quickly regained that the patient is often able at once to stand and to walk on awakening from profound anæsthesia. The pupils dilate as soon as complete anæsthesia is induced, and, as the sentient state returns they resume their normal condition. I suggest that the condition of the pupils may be an index and guide in the administration.

Anæsthesia with the bromide of ethyl is usually effected in from two to three minutes. The most rapid production of complete insensibility, in my experience, has been in one minute, in the case of a girl eight years old ; the longest period has not in any case exceeded four minutes. When carefully administered, the quantity consumed has varied from one fluidrachm in the case of a child, iridectomy being performed, to eleven drachms used during an amputation of the forearm of an adult, occupying forty minutes, including the ligation of the vessels and the dressing of the stump.

The quantity of the article consumed in effecting anæsthesia will greatly depend on the method and manner of using it. Much of it is, of course, wasted by diffusion in the atmosphere. With great regard for economy, this waste may be prevented by imperviously covering the material on which it is poured. My own plan, with adults, is to pour two drachms of the bromide of ethyl on a small napkin folded up to a space of about four inches square, and then laid on a larger napkin, folded so as to be large enough to cover the entire face of the patient. It is well to secure the two napkins together with a pin.

The vapor of the bromide of ethyl is not inflammable ; indeed, when dense, it extinguishes a flame if brought into contact with it. In this respect it is free from the danger incident to ether when administered at night in proximity to lights, or when the actual cautery is used. The article used by me was made by the firm of Powers & Weightman, manufacturing chemists, of this city.

The ordinary essentials of the proper and safe production of anæsthesia are required in the use of bromide of ethyl. That these essential details are apt, through ignorance or carelessness, to be disregarded, every practical surgeon is aware, and the frequent difficulties and occasional calamities will attest. When it is stated that whole pints of ether, or many ounces of chloroform, were used in the production of anæsthesia in a single case, he knows where was the fault. When it is asserted that "ether would not act and chloroform had to be resorted to," he knows why it "would not act."

It is becoming evident that the dread of unavoidable disasters from chloroform and the inconveniences of ether are tending to prevent their humane administration in many cases where the blessing of anæsthesia is due to the sufferer. This is particularly so in localities where etherization, simple and safe as it is, seems strangely ignored. In a prominent French hospital I not long ago witnessed the application of the actual cautery and other painful procedures without the resource of anæsthesia.

Whilst feeling inclined to impress caution in regard to the use of so powerful an agent as the bromide of ethyl, I am, from a basis of experience, inclined to recommend its use to the profession.—*From the Philadelphia Medical Times, Jan. 17, 1880.*

MISCELLANEOUS.

“Non omnes eadem mirantur ament que.”

TREATMENT OF HEPATIC CALCULI.—Some very positive statements on this subject are made by Dr. T. H. Buckler, in the “*Boston Medical and Surgical Journal.*” Referring to Dr. T. G. Thomas’s enumeration of the operation of cutting into the gall-bladder as one of the recent surgical triumphs, he asserts that such a procedure is unwarrantable. Cholesteric gall-stones can always be dissolved away by large doses of chloroform, especially if combined with succinate of iron. The latter agent also may alone accomplish the desired solution and effect a cure. In Dr. Buckler’s last three cases, treated successfully, he gave ten drops of chloroform every four hours, and a teaspoonful of Stewart’s hydrated succinate of the peroxide of iron half an hour after each meal. He has sometimes given a teaspoonful of chloroform every six hours without causing any bad symptoms to the patient, and with the result of a cure within a week.

The succinate of iron contains, according to Dr. Buckler, more nascent, appropriable oxygen than any other known therapeutic agent, and is one of the best of the ferruginous

preparations apart from its solvent power on the gall-stones. It is better than nitric acid in affections of the liver. Chloroform, we are told, on being swallowed passes to the acini of the liver, then with the bile to the gall-bladder, where it dissolves the gall-stones with the inexorable certainty of mathematics. Dr. Buckler's experience with ether and with the various mineral waters has led him to consider them of no value in this trouble.—*N. Y. Med. Journal.*

PUTTING A GRADUATE THROUGH THE NEWSPAPERS.—Dr. Bishop was a great favorite in the late graduating class of the Medical College of the Pacific. He had also been a great favorite with the theatre-going people of San Francisco for a number of years. One of the newspapers takes advantage of his well-known good nature after this manner: "The performance at the Baldwin was within an ace of being postponed last night, through the medical knowledge of the well-known comedian, Dr. C. B. Bishop. Before the rise of the curtain, in conversation with Miss Jeffreys Lewis, he almost succeeded in convincing her that she was suffering from diphtheria, and in persuading Mr. Bradley that he had elephantiasis of the right leg. The prompter, according to his advice, had a large blister behind each ear, and a mustard plaster on his chest, and was so sick that he could hardly stand up. He had during the afternoon pulled out three teeth from one of the scene shifters, and cupped Mr. O'Neill so thoroughly that he could scarcely walk. He had further persuaded Lewis Morrison that he was apoplectic, and bled him freely, and almost induced Mr. Maguire to allow him to put a seton in the back of his neck. The boy in the box office having caught cold from the draft, Doctor Bishop immediately snipped his tonsils, and took his uvula out, and at latest dates he was trying to force an emetic of hot mustard and water on the Treasurer. In fine, since he graduated with medical honors, he is not safe to leave at large in a theatre."

VACCINATION AND VARICELLA.—A physician of this city recently informed us of a case in which he had performed

vaccination on a child, followed in a few days by the usual signs of a successful result. But on the seventh day the child was attacked with varicella, and the redness, etc., disappeared around the vaccinated surface, and all signs of irritation passed away. On the fourteenth day, when the varicella had run its course, renewed signs of the vaccine impression began, and a perfect vesicle was formed, following the usual course. Thus, the virus had lain dormant in the system during the presence of the acute disease. Can similar instances be furnished?—*Phil. Med. and Surg. Reporter.*

COLD BATHS IN TYPHOID FEVER.—In the last volume of the St. Thomas Hospital Reports, Dr. Ord continues the subject of baths in hyperpyrexia, on which he published an instructive paper in last year's Reports. He now details ten cases of enteric fever in which the graduated bath was used, and two of which ended fatally. Notwithstanding this somewhat average death-rate, he is of opinion that the systematic employment of this kind of bath as early as the seventh or eighth day of fever is likely to contribute importantly to the reduction of mortality from enteric fever in hospitals. He sums up, most concisely, his observations, as follows :

“ That the graduated bath—reduced during a period of from twenty minutes to thirty minutes, from between 90° and 100° to 70° and 60° Fahr.—is a powerful agent in the reduction of febrile temperatures ; that in enteric fever it is most efficient and most safely applied early in the disease ; that it is not contra-indicated by intestinal, cerebral, or pulmonary complications, but, on the contrary, distinctly tends to check them ; that it is contra-indicated by excessive feebleness or rapidity of the pulse, or by great exhaustion ; that it is desirable in many cases of intense fever to use the bath more than once, in fact, to repeat it so long as the fever is unchecked, but not to repeat it at shorter intervals than twelve hours, an apparent revival of the temperature often subsiding after such a period.”

ENGLISH PHARMACY.—The following, from a recent let-

ter of Professor L. P. Vandell, is rather a remarkable statement respecting the state of Pharmacy in London.

“In nothing is London worse off or more behind the times than in her pharmaceutical preparations. The other day I wanted some citrate of iron and quinia pills, and I was told at one of London’s chief retail establishments that pills could not be made of cit. fer. et quinia, or rather that no way could be devised of preventing their running together. Finding argument and instruction useless, I suggested capsules. Positively I do not believe the people of the shop had ever seen a capsule. At any rate they were utterly ignorant of them, and declared they were never used over here. Having no fancy for a solution of ferri et quinia cit., which I was assured was the only proper way to take the medicine, I asked for dialyzed iron, and the article presented was simply shameful. In color it was correct, but it had not one other physical property of dialyzed iron.”

MRS HIPPOCRATES.—The doctor’s wife rarely appears in ancient history, and so all references to her are peculiarly interesting. Some months ago, having access to a copy of Littré’s Hippocrates, we were very much interested in a letter from the Father of Medicine to his friend Dionysius, of Halicarnassus. A large part of the letter related to his wife—shall we call her, after the fashion of the present times, Mrs. Hippocrates? Too poor to own the writings of Hippocrates, we must quote some of the salient points of the letter from memory. It appears the Abderites had concluded that their distinguished fellow-citizen, Democritus, was insane, and were very anxious to have Hippocrates visit him; but in order that the latter could make this visit it was necessary some one should come and attend to his patients during his absence, and he accordingly wrote to Dionysius to do him this favor. The wise physician states in his letter that he does not believe Democritus is seriously ill. Those, by the way, who are curious in regard to the interview between the illustrious physician and the famous philosopher will find it very fully given in Burton’s Anatomy of Melancholy; how the latter was found engaged in

dissecting animals, and how, after a long discussion with him, Hippocrates left him and told the anxious Abderites that, although Democritus was a little careless as to clothes, food, and even for his body, the world had not a wiser, a more learned, a more honest man, and they were much deceived to say that he was mad.

But what about the wife of Hippocrates? In this letter he tells his friend that although her father and mother will be there to watch over her—honest people, who will try to keep her in honest ways—yet he is not satisfied with this supervision alone, but wants Dionysius to exercise his watchfulness as well, for his belief is that a man can leave his wife more safely nowhere than in the care of a friend. It was very ungentlemanly in Hippocrates to speak such words as these: "For a woman hath need to have an overseer to keep her honest. They are bad by nature, and all lightly given; and if they be not curbed in time, as an unpruned tree they will be full of wild branches and degenerate of a sudden." Especially was there danger when the husband was absent, and therefore he besought the watchfulness of Dionysius. Doubtless Mrs. H., thus triply guarded, brought no dishonor on her husband; though nowadays no doctor would write of his wife and women as Hippocrates did.—*Practitioner, January.*

MEDICAL NEWS

"Nulla dies sine linea."

DR. BELL, first investigator of visual purple is dead.

BLACKBERRIES are reported by Dr. Lederer as having acted well as a tæniifuge.

ROKITANSKY advises the use of a fifty per cent. solution of chloral hydrate as a local application in diphtheria.

AT a sale in London gourds of *curare* were exposed for sale labelled *aloes*, but the error was fortunately detected before any ill result followed.

THE city authorities of Gotha have published a report about cremation there in 1879. Since December 10, 1878, when the first cremation occurred, fifteen bodies have been cremated. There is no dissatisfaction with the process and other cities are learning to use it.

DR. JNO. T. BANKS, Professor of Practice in the Atlanta Medical College, Ga., is dead.

THERE is a disagreement between the medical staff of the Hudson county, N. J. hospital and its lay counsel. The cause of difference is the lay superintendent who interferes with the medical treatment of the internes; the latter was about to be dismissed by the council but the staff offered their resignations in the latter contingency. Matters are just now in *statu quo* with the probability that the hospital will be left without medical attendants.

DR. JAS. S. LONGSHORE, founder of the Woman's Medical College of Pennsylvania, is dead.

"DR." JNO. BUCHANAN, the diploma vender of New York city, is again in trouble.

THE *Medical Gazette* gives the following as Squibb's diarrhœa mixture formula :

℞ Tr. Opii,	
Tr. Capsici,	
Tr. Camph.,	aa ʒ i
Chloroform,	ʒ iii
Spts. Vini Recti, <i>qs. ad.</i> , (?) . . .	ʒ i
M.	

Apart from the very palpable typographical error the formula differs from that used in public institutions of New York which is :

℞ Tr. Opii,	
Tr. Camph.	
Tr. Capsici,	aa ʒ vi
Chloroform,	ʒ ii
Spts. Vini Recti, . . .	ʒ x
Ms. ʒ i at a dose.	

It is a very useful formula in summer diarrhœas, cramps, etc.

IN the Riverside Hospital for Contagious Diseases, Blackwell's Island, New York, are but seven patients, all scarlatina and rubeola.

THE cold, damp summer of 1879, in Birmingham, England, reduced the death-rate from diarrhœa. In the summer of 1878 there were five hundred and thirty-four deaths from that cause, in 1879 but eighty-one.

THE *Detroit Lancet* of February says that there are not less than two thousand cases of fœticide per annum in Maine, and that it is impossible to get an attorney to prosecute or a jury to convict an abortionist.

THE National Board of Health, according to the same Journal, find *fatty degeneration of the white blood corpuscle* to be the characteristic pathological change in yellow fever.

L'Union Medicale gives the following conversation between a physician and a nurse in a Paris hospital: Physician, "Be sure to test the water by the thermometer before using it to bathe the child." Nurse, "I can tell whether its right or not without the thermometer." Physician, "How?" Nurse, "Put the child in, if it gets blue, the water is too cold, if it gets red, the water is too hot."

THE appointment of Sir B. Henniker as Registrar-General of Great Britain for purely social reasons, over the able and experienced Dr. Farr, the former deputy, rouses the just indignation of the English Medical Societies.

LONDON, England, has had one hundred and sixty-five deaths from Pertussis during the week ending January 10th.

GEORGES HERBELIN, a French medical student, lost his life while attending the sick at the Hospital St. Eugénie. He caught diphtheria from a little girl he was attending, and received while dying the Cross of the Legion of Honor. His father, who was also a physician, died under precisely similar circumstances.

"DR." TAUNER, who offered to fast for thirty days did not accept Dr. Hammond's offer to test his ability by confining him to the N. Y. University Medical Department building under watch, "because the air of a medical college does not agree with his constitution.

THE Zulus give enemata by placing the patient on his head putting the small end of a cow horn in the anus and pouring two pints of sea water there through.

MRS. JOHN JACOB ASTOR presented a beautiful silver goblet lined with gold to the N. Y. Academy of Medicine as a loving cup. It is about a foot high, six inches in diameter, surrounded with acacia leaves with the arms of the Academy and an appropriate motto.

PROF. LESTER, of London, and Prof. Balfour of Edinburgh, have been made LL.D.'s by the University of Glasgow.

A MIDWIFE in Germany tore out the uterus as "the rest of the after-birth," from a woman, leaving the ovaries and Fallopian tubes; the woman recovered after fifteen days.

DR. BUDD, of England, died recently.

DR. M. D. MANN, of this city, has been appointed lecturer on Gynæcology in the Medical School of Hartford.

THE Philadelphia College of Pharmacy pays Dr. Robert Bridges, its emeritus Professor of Chemistry, one thousand dollars per annum as a recognition of past services.

DR. A. B. COOK formerly Professor of Surgery in the Louisville and Kentucky Medical Schools has resigned both chairs.

DR. HINDMANN, the editor of the *Cincinnati Lancet and Clinic*, has been elected Lecturer on Medical Chemistry in the Ohio Medical School.

PROF. F. T. MILES of Baltimore, has been appointed Professor of Physiology and Anatomy in addition to his regular chair of Nervous Diseases in the Maryland University.

DR. MCINTYRE of Richmond, Indiana, has been appointed to a chair in the St. Louis College of Physicians and Surgeons.

Dr. PLINY EARLE reports forty persons as having made 484 recoveries from insanity.

DR. PAUL F. MUNDE of this city, is to lecture on Gynæcology at Dartmouth next winter.

A LATE journal says the Neurological Society is composed of a set of men, few of whom are experienced neurologists, that the profession should take its statements with caution, and be on its guard against the animus of this set

of marauders. All because the State Commissioner in Lunacy confessed that the Middletown, N. Y., (Homœopathic) State Asylum was not officered according to law, which the aforesaid Society printed in its answer to the "Canal Ring" Senate Report.

THERE is to be a new private asylum at Rye Point, N. Y., under the care of certain Roman Catholic Sisters.

WASHINGTON.—The profession of the District is watching with great interest the progress of a proposed bill for taxation, in which the medical practitioner is to be taxed fifty dollars per annum for his license or privilege. There seems to be a determination on the part of merchants and others who are to be heavily taxed for the carrying on of their business that physicians shall feel the burden of a similar weight, but it is hoped that a better understanding of the subject will prevail, and the imposition not be enforced. If it is it will drive some worthy men out of the profession, and enable others, by ways that are dark, to evade the law without injuring themselves, and seriously affect the practice of their colleagues; there are many men holding office as clerks who can afford, by receiving the means of a livelihood from the government, to remove all vestiges of business from their professional advice, and rely upon the gratitude of their friends and patients to supply them with gratuitous *douceurs* which will fairly set off the asked-for fee.—*Medical and Surgical Reporter*.

UREMIA.—It has been the fashion, on the authority of Frerichs and Gallois, to deny that the symptoms commonly known as uremia are due to the circulation of urea in the blood. Experiments made by injecting urea into the blood of dogs failed to educe uremic symptoms. Recently, however, M. Picard, of Lyons, has repeated these experiments on dogs, using larger quantities of urea, and has produced epileptiform convulsions, vomiting, urinary suppression, etc., demonstrating the necessity of further study of the effects of urea.

THE *Homœopathic Times* says that there is a breach on ethics in that school of medicine and that it is unlikely to be

healed. It accuses several zealous *pure* homœopaths of giving *massive* doses of ergot, of using chloroform in *all* cases of labor, and of prescribing *fifteen grain* doses of Chloral, and says honesty has to be taken into account in reading homœopathic case reports.

IN London there are to be sea water pipes introduced into dwellings. Sea water baths will then become at all times practicable.

A NEW ANTHELMINTIC.—The *ocinum basilicum*, a plant known in Buenos Ayres under the name “albochaca,” has an action of such a nature that the worms in every stage of development rapidly leave their location after the juice reaches them. Its use is so much the more to be recommended since in the event no worms are present, no injurious effect results from the plant, but a laxative and disinfectant action is the only result. Fifty grammes of the juice is given, followed in two hours by a dose of castor oil. A free discharge of the worms may be expected.

The above observations of Dr. Lemos and the results obtained are very encouraging, and invite further investigation, the more since the number of anthelmintics is limited, and their action often unsatisfactory.—*Med. Neuigk.*, No. 34, 1879.

EDITORIAL.

“Nullius addictus jurare in verba magistri.”—HOR.

A BILL was recently introduced into the New York State Senate, by Gross of New York City, prohibiting what is known as the tenement house system of manufacturing segars. Few of the readers of this JOURNAL may be aware that a custom has long obtained among the segar makers of carrying on their trade in their own apartments, which are generally the illy ventilated rooms of tenement houses. Here in a limited number of rooms rarely exceeding two, under an atmosphere of nicotine and tobacco dust, live, sleep, eat, and labor entire families, all, from the little child of six to the grey haired crone of eighty, engaged in making segars,

frequently from four in the morning till ten at night, while they at the same time breathe in the tobacco dust with the air, and take it in with their food, for it pervades everything.

The Board of Health claims to have reduced infantile mortality, yet this crying evil appears to have almost altogether escaped notice, which is best explicable on the grounds that those interested in this system are in full alliance with the medical and political clique controlling that body. It is to be hoped for sanitary and humanitarian reasons that Senator Gross' bill will pass.

LUNACY REFORM IN NEW YORK.—At the Cooper Union public meeting, held December 18, 1879, to consider the interests of the Insane, Drs. E. C. Seguin and G. M. Beard, Messrs. Church, Eaton and Whitehead, Mrs. A. H. Gibbons and Miss A. A. Chevallier, were appointed a Committee "to devise a plan for the organization of a Lunacy Commission to present to the next Legislature a bill for its creation and to advise with the Governor and the State Board of Charities in the election of its members." This Committee have just made a provisional report which contains letters from Dr. H. Maudsley of England, and D. B. Eaton of the Committee, on the working of the English Lunacy Board, together with the proposed law. The latter provides for three additional members of the State Board of Charities, two physicians of ten years New York practice, and one lawyer, with the same qualification. An experienced physician shall be appointed as Secretary in Lunacy to the Board, shall be removable for cause but shall not be a member of the Board but be subject to its direction. He will receive a salary of \$4,000 per annum. The Committee have in press a pamphlet containing the act, the letters aforesaid, the speeches made at the meeting by Drs. Seguin, E. C. Spitzka, Storrs and Bellows, and Mr. Geo. W. Curtis, together with other information relevant to the subject, which they will send to any one desirous of the same.

IN a recent investigation before a coroner in New York city, after questioning suggested by the N. Y. Neurological Society, a state of things was revealed in the Female Muni-

cipal Insane Asylum on Blackwell's Island, that almost challenges belief. Frequent casualties were found to occur in the short space of the last two months, and it was ascertained that three violent patients, under no special surveillance, were allowed to sleep in one cell ; one of these met her death at the hands of her companions, thus leading to the inquest. There is a consulting board attached to this institution, but its members, not being specially interested in psychiatry, perform their duties in a purely perfunctory manner. As might be expected casualties showing gross neglect are of frequent occurrence in his asylums. The only remedy for this and cases of the Cowley kind is a strict supervision of all charitable institutions. The inquest is not yet ended and from the manner of conducting it little is to be expected in the way of reform.

While dealing with this subject it may be well to allude to the fact that although the city of New York appropriated \$80,000 for a new wing to the City Insane Asylum three years ago nothing has been done except to build a foundation and cover it up for two years, although 315 patients are in a building never intended for an asylum, and 805 are crowded into a building intended for the reception of 434. In any other community but the much enduring city of New York the Commissioners of Public Charities and Correction would soon find themselves out of office and indicted for malfeasance.

MOST of the readers of the JOURNAL have by this time read of the sentence and conviction of the Reverend Edward Cowley for cruelty to Louis Victor. The incidents of the case have been widely spread and it is only to the medical aspects that attention is at present to be directed. An interesting medico-legal point was raised by the attorney for the defense in the relation to the existence of rickets which he did not strongly support and very soon abandoned. The physician who was called for the defence, Dr. Hawes, said that in his opinion the child was suffering from rickets, but admitted he knew nothing as to the food it received, but that if it was of the kind stated it would be sufficient

to produce the appearances he ascribed to rickets; on the other hand, it was the unanimous opinion of Drs. F. H. Hamilton, J. W. Ranney, E. C. Spitzka, A. Jacobi and the physicians of St. Luke's Hospital, that the child presented no symptoms of rickets. The defence soon abandoned this point and the lesson was taught Dr. Hawes to be more careful in examining patients in charitable institutions. The Recorder in his address cited the case of the "*Peculiar People*" who were tried for causing the death of a child of one of their number by refusing to provide medical aid other than the laying on of hands; the question naturally arises in the regular medical mind whether if these "*Peculiar People*" had called their system "Theopathy" and claimed it as a medical system, they could have been convicted for "neglect of medical aid" any more than the disciples of Hahnemann and Thompson. The law is very indulgent to pretenders whose claims have ugly interested motives, but deals severely with sincere, if ignorant, fanatics. The decision in the Cowley case was a just one, and as it is not the province of this JOURNAL to speak on the humanitarian aspects of the case other than to hope that the vultures who prey on the community as almoners of charity, may, like Cowley, meet their deserts.

THE NEW ANÆSTHETIC, BROMIDE OF ETHYL.—Dr. R. J. Levis of Philadelphia, has recently called the attention of the profession to the value of the Bromide of Ethyl as an anæsthetic. It was discovered by Serullas in 1827. A few years ago some experiments were made with it on animals, but Doctor Lawrence Turnbull of Philadelphia, was the first to experiment with it in this country on human beings. He gave it first in September, 1877. Since that time he has given it in twenty-five cases, varying from forty seconds up to one hour, and in quantities varying from two drachms to eight ounces. In April, 1879, Doctor Turnbull called the attention of Dr. Levis to the new anæsthetic, and he has used it extensively in both hospital and private practice.

Doctor Levis being, fortunately Surgeon to the Pennsylvania Hospital and to the Jefferson College Hospital, had a

large field for experiment ; and for his experience with it the readers are referred to his article on the subject on page 339. Dr. S. W. Gross, Dr. Drake, Dr. George F. Sowers and other surgeons in Philadelphia have used it and all speak enthusiastically of it. From the influence and teachings of Dr. Levis it is being adopted as an anæsthetic by many in different parts of the country. It has not been used so far as is learned in any hospitals here yet, but Dr. J. Marion Sims has performed operations where the Bromide of Ethyl was used as an anæsthetic, varying in time from a few minutes up to an hour and a half. It is learned that he is to read a paper on the subject before the New York Academy of Medicine on the 19th of March. Whatever may be the purport of this paper and the discussion on it, will be before the readers in the next number of this JOURNAL. It has been often said that whoever would give to the profession an anæsthetic as pleasant to take as chloroform, and safe in its effects as ether, would confer a great boon on surgery, and a greater one on humanity.

A few weeks or months, will in all probability determine whether the Bromide of Ethyl will fulfill these indications or not.

SALICYLIC MEDICINE COMPANY.—It will be observed that the advertisement of the Salicylic Medicine Co., is dropped. The text of the advertisement and the irresponsibility of the house have induced this step.

THE readers of this JOURNAL have long desired a comprehensive article on the therapeutics of Electricity. Such a paper, illustrated, has been furnished in this number. Its length however, is such as to necessitate an abridgement of all of the other departments.

GAILLARD'S MEDICAL JOURNAL.

(Formerly the Richmond and Louisville Medical Journal.)

VOL. XXIX.]

APRIL, 1880.

[No. 4.

ORIGINAL COMMUNICATIONS.

“Qui Docet Discit.”

ART. I. *Needles, Pins, Etc., in the Tissues of the Body.*
By J. H. POOLEY, M.D., Professor of Surgery in Starling Medical College, Columbus, Ohio.

Among the common accidents of life, that are generally regarded as of trifling importance, one of the most annoying and perplexing at times, is the introduction of sharp slender bodies such as needles and pins, which when imbedded in the tissues often tax the patience and ingenuity of the surgeon extremely, and sometimes baffle him altogether in his efforts for their extraction. Nor are they always without painful, and even dangerous consequences for the patient. We have thought it therefore not unworthy of our time to present some of the facts and considerations relative to this subject derived from some little study and experience.

Ordinary sewing needles are the bodies most frequently introduced into the flesh, generally by accident, but strange to say, sometimes also by design. Pins are as a rule prevented from entering by their head, though they sometimes effect an entrance in spite of it. Needles may pass in whole, but are more frequently broken off in transitu, so that only a portion is lodged in the tissues.

At times a needle will pass in with a portion of thread attached to the eye, which may serve as a guide to the situation of the needle, or even afford a means for its ex-

traction. The parts of the body through which they most frequently enter, are, in the order of their frequency, the hands, the feet, the knees, the nates, though they may pierce the surface at any other point, and many instances are on record of their having been swallowed, or thrust into the urethra, vagina, rectum, etc. Needles, or fragments thereof, find their way into the hands of washerwoman, while washing articles of clothing in which they have been carelessly left, or into those of mothers and nurses while dressing or undressing children, and in various other ways ; into the feet of those getting out of bed at night, and stepping on them as they lie concealed in the carpet, or of barefoot boys in the street ; into the knees of children creeping about the floor, or those engaged in playing with them in a similar posture ; into the buttocks of those who sit down upon them inadvertently. They are swallowed and introduced into the natural passages by hysterical patients, mainly females, who also thrust them through the skin, sometimes in astonishing numbers, as will appear in the sequel. These little bodies often give rise to scarcely any pain when introduced ; sometimes the pain is very severe, the difference depending upon the nature of the tissues upon which they impinge. When a nerve is thus wounded the pain may be very acute.

One of the most remarkable characteristics of needles, etc., when introduced into the body is their tendency to change their place, or even traverse large areas, piercing through in their progress the most distant parts, and important organs. This is owing, no doubt to muscular action, aided by the slender and sharp nature of these invaders.

I have removed a large needle from the thigh which had penetrated the sole of the foot some weeks before, and we have account of their traveling considerable distances in the course of a few days. A medical friend of mine once opened a small abscess on the side of a young man's neck, and drew therefrom a slender straight piece of broom corn stalk, about two inches in length. The patient remembered two weeks before, that while picking his teeth with it, it had slipped back and become entangled in the folds of the faucial mucus

membrane. It gave him a good deal of trouble for a time, which ceased however, and he did not know whether he had hawked it up or not, indeed had almost forgotten all about it.

Whatever distance these bodies travel, or however long they may remain, they often give the patient no trouble whatever. This is by no means always the case however, they may give rise to severe and protracted suffering, and have even caused death. In most instances, they sooner or later make their appearance near the surface, either as a perceptible hard point under the integument, or a spot of circumscribed suppuration, when they are easily removed. The time of their sojourn may vary from a few days, or weeks, to many years ; or even a lifetime, being only discovered after death.

Upon their removal, even after a short time, needles are generally found more or less corroded, or discolored by contact with the fluids of the body. There is one case on record where a needle removed from the larynx about an hour after its entrance, was thoroughly discolored.

Pins seem to retain their brightness and polish longer than needles.

Diagnosis. When the needle has but recently entered the flesh, and remains broken off, or buried in the part, not having had time to change its position, it may be recognized by the puncture exhibiting a dark spot or speck, by the feeling of hardness and resistance afforded by the foreign body to gentle palpitation or pressure ; this ought never to be violent or rude, lest it drive the body further in or otherwise displace it. Further assistance to the diagnosis may be rendered by attention to the sensations of the patient, who upon pressure being made over the suspected point will feel the unmistakable sensation of pricking produced by the contact of the further end, thus forced into the tissues.

These signs are somewhat deceptive, though they may generally be relied on when unmistakably present. It is always well when it can be done, that search should be made for any portion that may have broken off and not entered ; we may thus sometimes find out that it has only pierced

more or less deeply and not have been retained either in whole or in part. It may also if a fragment, be useful as enabling us to determine when all has been removed.

When time enough has elapsed, and sometimes very little is required, for the needle to have changed its situation, the problem of diagnosis, both as to the presence, and actual position of the foreign body, is much more difficult. We have really but two signs ordinarily to guide us, viz.: the feeling of resistance and limited hardness under the skin, and the pricking sensations of the patient, unless the intruder have been present long enough to determine a circumscribed suppuration.

The above statement embraces all our means of diagnosis unless we include the application of magnetism for this purpose, on which subject medical testimony is meagre and unsatisfactory, and I have therefore endeavored to determine its value by experiment.

In the text books on Surgery I find nothing more than a bare mention of this method, without even specific directions for its use, much less an attempt to decide upon its value.

There is a paper "On the Magnetic Indications of the presence of Iron Bodies in the Tissues," by Dr. Bence Jones, in the Proceedings of the Medico Chirurgical Society, Vol I, p. 71. This I have not seen. In the *Lancet* for 1851, Vol. I, p. 149, James H. Aveling, Esq., Surgeon, Aberdeen, writes: "It has long been an established principle in the practice of surgery, when needles have become imbedded in the living tissues, not to make any exploratory incisions in search of them, but to wait until their presence can be distinctly felt, either by the probe, or by the finger of the surgeon. This expectant mode of treatment, while it was the most judicious that could be adopted, so long as the exact situation of the foreign body was indicated only by the vague and indefinite, though sufficiently painful and distressing sensations of the patient, may, I think, be considerably curtailed in its duration; and when the intruding body is at all near the surface, it can, I believe, be completely dispensed with, by the following simple method. A needle is to be magnetized, by drawing a magnet along its surface about fifty times; it

is then to be suspended by a fibre of silk, attached by a piece of sealing-wax to the centre of the needle, so that neither the eye nor point-end may dip more than the other. This suspended magnet should then be held over the suspected part, which should be shaved if very hairy; when this magnetic indicator arrives over the part, the needle will dip and adhere to the skin, showing the exact point under which the body lies. In two cases in which this mode of detection has been tried, the portion of needle sought for has been discovered and extracted, one of the needles having remained imbedded for three months."

That the presence of a portion of needle in the tissues, may, under certain circumstances, be determined by the method described above cannot I think be doubted; but the indications become much more delicate, and may be made to show more than the mere presence of the foreign body, by first magnetizing the imbedded needle, as originally suggested I believe by Mr. Alfred Smee, in 1844. This may be done even when the needle is at a considerable depth in the tissues, by bringing a powerful magnet in contact with the surface near which it is buried. Mr. Smee reports a case where this method was used, and from it, and a general consideration of the subject, draws the following conclusions: "1st. The *presence* of an imbedded needle may most surely be determined, by making it into a magnet, by induction, and then testing for it by a minute suspended magnet. 2nd. The *direction* of an imbedded needle may be determined by making the direction in which the inducing magnet makes the strongest magnet. When the length of the imbedded needle lies in the line joining the poles of the inducing magnet, it becomes the strongest magnet. 3d. The *depth* of the imbedded needle may be determined by the intensity of the action near the surface of the skin. 4th. The *length* of the imbedded needle may be guessed when the direction is known, and the amount of magnetic action at the part of the surface opposite to the spot where the needle entered is observed. Lastly. The *motion* of the imbedded needle may be determined by carefully noting, from time to time, the changes that require to be made in the

position of the inducing magnet in order to give to the hidden needle the strongest possible magnetism." Experiments, conducted by my student, Mr. A. B. Townsend, show, that the method of Mr. Aveling is very inefficient, indeed practically worthless, and lead strongly to the suspicion that there must have been some overlooked source of error in his cases. But when the method of Mr. Smee is followed the indications afforded are precise, definite, and invariable, and fully justify the author's deductions.

These experiments were briefly as follows : A fine sewing needle was strongly magnetised, and then suspended by a fibre of silk, in such a manner as to balance perfectly, and for convenience of manipulation attached to the end of a penholder, like a fishing line to its rod. An unmagnetized needle was now placed under an ordinary pamphlet laid upon a table, the *Philadelphia Medical Times* was the book used. No reliable indications of the presence or whereabouts of the needle could be obtained, by moving the suspended magnet over the book. The hidden needle was now magnetized, while still in situ, by passing a moderately strong bar magnet over the pamphlet under which it lay. The suspended magnet now gave instant and unmistakable indications of its presence when brought near it, and enabled us also to determine its direction, whether parallel to the long axis of the book, transverse to it, or more or less oblique. This experiment was repeated over and over again, the needle being placed while the experimenter's back was turned, so that he could not have known its situation, and without a single failure. A similar trial and with the same result was made with needles covered by the lid of a pasteboard box, whose rim elevated it half an inch from the surface of the table ; and through the thickness of my hand laid flat upon the table.

Four experiments were made upon the cadaver, in which broken pieces of needle were forced under the skin, the experimenter knowing only in a general way that they were in the arm, abdomen, or thigh, as the case might be, (this simply to save time) and in each instance, the exact situation and direction of the piece of needle, in one-half an inch

of the point of a fine needle, were promptly and correctly indicated. These experiments were witnessed not only by Mr. Townsend and myself, but by other competent observers.

It appears therefore that in the magnetic test properly applied, we have a certain, and available means of diagnosing the presence of needles buried in the flesh, even when imbedded at considerable depth.

The fact that it may not always be possible to command the necessary appliances, though it narrows the sphere of its practical usefulness, by no means detracts from its real value, and it deserves to be more thoroughly known and appreciated than it appears to be.

Special Considerations in Diagnosis. The following considerations refer to the special localities where needles are hidden. In the hands, they most commonly pierce perpendicularly to the surface, in consequence of which the point of hardness felt by the finger is merely the broken end, and the subjective sensation of pricking is specially acute. In the feet they are more likely to be oblique, hence the hardness is that of a line of induration, and the pricking pain is less severe. In the knees the joint is rendered more or less stiff, generally in a bent or flexed position, and the needle is often driven and fixed in the bone, most frequently the condyles of the femur, or between them. In the buttocks owing to the fleshy nature of the part, and the action of powerful muscles it soon retires too far from the surface to be detected. In any special organs, symptoms having reference to the functions of those organs may be encountered. In the female bladder, if the symptoms are severe the urethra may be dilated and the finger introduced for purposes of exploration.

Prognosis. The prognosis should in all cases be guarded and reserved. For though in many instances no serious consequences arise, this is never to be reckoned on. Obstinate and progressive contractions of tendinous parts such as the palmar aponeurosis, etc., may be set up leading to serious and intractable lameness.

Suppuration, and abscess formation of greater or less se-

verity may supervene. Diffuse inflammation in the form of phlegmonous erysipelas and cellulitis may ensue, just as may happen from a peculiar condition of constitution, after any trifling injury.

Tetanus, and other nervous disturbances of a peculiar character have been known to follow these accidents.

Death, from hæmorrhage, the result of perforation of some large vessel by one of these wandering needles has been recorded; as also the formation of urinary calculæ around such as have migrated to the bladder, and disturbance of the function or integrity of various important organs. So that the prognosis can never be unqualifiedly favorable while the intruder remains.

Treatment. Of course it follows from the final sentence of the section on prognosis, that the treatment consists in the removal of the foreign body. However desirable this may be, it is not always easy of accomplishment, and is sometimes impossible.

As a general rule the attempt at removal should be limited to those cases in which the presence of the needle, or other similar body, at some special point is evident, or reasonably certain; though when symptoms are severe it may be sometimes justifiable to make an explanatory incision even in the absence of very definite symptoms. When a patient applies, alleging for instance the presence of a needle, or a portion of one in the hand, the first question is whether it is really there or not; having already gone over the signs which are to guide us in deciding this question, we need not repeat them here. Having evidence sufficient to lead us to proceed to its extraction how shall we do it? I think this must be a question of considerable importance, from the fact that I constantly hear of failures, and that too sometimes after numerous incisions have been made, and a great deal of time spent in the effort. Now this I consider to be generally unnecessary, and if unnecessary unjustifiable. The plan too often pursued, is, having fixed upon the point where the end of the needle is most prominent to make a straight incision down upon it. This is almost certain to fail in exposing the body sought for, the cut will be at one

side or the other of the needle, and then follows the protracted groping about in sensitive tissues, and amid flowing blood, with probs, forceps, etc., which so often fails, and if it succeeds, does so by accident rather than otherwise. Besides this, the skin of the palm is often quite thick and hard, necessitating firm pressure with the knife to cut it, and if this be made in the immediate vicinity, of the needle, pushes it deeply into the softer tissues beneath.

The proper mode of procedure is as follows: Having fixed upon the point where the needle is, make this point the centre of the base of a little triangular flap of skin, Δ this is to be dissected up with a small sharp scalpel, when there will be ordinarily no difficulty in finding and removing the needle.

I have operated in this way a great many times, and very rarely failed, I think not more than once or twice.

This little operation may be greatly facilitated by making use of Esmarch's plan of bloodless operating which may easily be adapted to it. For a single finger an elastic bandage may easily be made of one of the larger and broader rubber bands sold by stationers to hold packages of papers together. The tourniquet, applied at the base of the finger, may consist of one of those thick rubber rings sometimes used to hold the ends of the ribs of an umbrella, or another band like that around the rest of the finger. Or a very near approach to bloodlessness may be attained by taking one of these rubber rings of small calibre, and slowly forcing it along the finger from the tip to the base. When the needle is in the palm of the hand we can use the ordinary *Esmarch* just as for any other operation, if this is not attainable a roller bandage tightly applied, with a piece of rubber tubing, a ladies elastic garter, or a suspender, for a tourniquet, will answer very well. I have in this way amputated fingers at the metacarpal junction without a drop of blood. The bandage should not be applied tightly just over the needle, for fear of driving it further in. General anæsthesia may be desirable, both to avoid pain, and to secure quietness of the patient; or local anæsthesia may be produced by the spray of ether or rhigolene, the application of the Esmarch ap-

paratus alone will secure a certain amount of anæsthesia. After the removal of the foreign body, the little flap should be laid back in place, and covered with a piece of court-plaster, it will adhere at once. Should we fail in finding the needle, a little lint may be put into the wound to prevent the adhesion of the flap, and a poultice applied for a day or two ; suppuration thus established may bring it to the surface. When the needle has entered the region of the knee it is very often stuck fast in the bone, having penetrated the capsule of the joint. The proper surgical procedure would then be, if it could not be reached otherwise to dissect carefully down to the capsule, then if the end could be felt within, by pressure on either side of it, make it protrude, and withdraw it with forceps. When this is not feasible, it may be proper to open the capsule to a limited extent for the purpose of reaching the incarcerated body. In either case the most rigid rest of the joint, and antiphlogistic treatment should be practiced for several days, or if reaction sets in, until it subsides.

For those unusual cases where the body penetrates important cavities or viscera, no rules are possible, we must be guided by a sound and enlightened surgical judgment. Any complications that may arise, such as inflammation, nervous disturbances, visceral derangements, hæmorrhage, etc., are to be treated on general principles.

ILLUSTRATIVE CASES.

Agnew removed from the knee-joint a needle, the head of which he discovered in the internal lateral ligament while the other extremity was fairly within the articulation. It had at a previous date entered the thigh. And on another occasion one from the tendon of the long flexor of the thumb, which had been for a long time imbedded, and was producing contraction and spasms of pain, it was known to have entered the fore-arm several months previous.

Dr. N. S. Townsend, now professor in the Ohio State University, has related to me the following case, which occurred about twenty-five years ago, when he was practising in Loraine Co., Ohio.

A young lady while dressing for a party one evening, inadvertently swallowed a needle or pin, (the Dr. does not remember which;) it gave her so little trouble however, that she went to the party. While there she was seized with so much pain and difficulty of breathing, that a physician was called in, who after a careful and protracted examination could not find any trace or evidence of the foreign body. Dr. Townsend saw her in consultation a few days afterwards, and also failed to find any trace of it.

About two weeks after this while again standing before her glass dressing, she turned her head suddenly to look at something, and fell down dead. Upon post-mortem examination it was found that the needle or pin had entered between the atlas and axis, penetrating into the vertebral canal, and the spinal cord at that point was cut almost clean across.

Baron VonLangenbeck found a pin in the centre of a vesical calculus; on more careful inquiry it was ascertained that when a child the patient had swallowed a pin. The pin may have passed through the intestines into the bladder; here triple phosphates were deposited around it in layers, and this was possibly the origin of the calculus. Dittle had a similar experience, and others are on record. Bilroth reports the following case. "In Zurich a perfectly idiotic female deaf mute, thirty years old, was brought to the clinic with the diagnosis, typhus. No history of the case could be obtained from the patient or those about her, who were also lacking in intelligence. The patient, who often remained in bed for days, had complained for a short time of pain in the ileo-cæcal region, and had moderate fever. Examination showed a swelling at this point, which increased the following days, and was very painful on pressure; the skin reddened, fluctuation became evident. It was clearly not a case of typhus, but you may imagine what different diagnoses there were as to the seat of the suppuration, for there was undoubtedly an abscess; it might be inflammation of the ovary, perforation of the vermiform process, an abscess in the abdominal walls, etc., etc., still something could be said against all these hypotheses.

After a few days the reddened skin became very thin, the abscess pointed about the height of the anterior superior spinous process of the ilium, a few fingers' breadths above Poupart's ligament, and I made an incision through the skin ; there was evacuated a gassy, brownish sanious pus, with a strong fæcal odor. As I examined the abscess cavity with my finger, I felt a hard, rod-like, firm body in the depth of the abscess, and projecting slightly into it. I began to extract it, and pulled and pulled till I brought out a knitting needle almost a foot long, which was somewhat rusty and pointed down toward the pelvis. When I tried to examine the opening the needle must have left behind, I could not find it ; it had closed again and was covered by the granulations. It is most probable that the patient had inserted the needle into the vagina or rectum—procedures in which even women not idiotic find some incredible pleasure."

Dr. J. Mason Warren relates four cases of a needle penetrating the knee-joint, one of which is interesting enough to deserve quotation. "February 13th, 1854, a child five or six years old, while kneeling on the floor, had a needle larger than the ordinary darning needle penetrate and break off in the knee-joint. Being called to see the child in consultation, I found that a small aperture could be distinguished below and to the inside of the patella. The leg was flexed on the thigh, and fixed in that position so that it could not be extended. The needle seemed to have penetrated between the condyles of the femur, to have become fixed there, and to be broken off in the joint, as nothing could be felt of it externally. I advised that a dissection should be made as far as the capsule, but to abstain from going further unless the needle could then be detected. This was done and nothing found. The question then arose whether the limb should be left in the position in which it was fixed. I advised strong flexion and extension to be made, in case the body were lodged in the way supposed, it might either be dislodged, or else plough up for itself a cavity in the cartilage of the head of the tibia. By these measures the motions of the limb were restored. The child

was kept perfectly quiet for a few weeks, until all inflammatory symptoms had subsided ; after which he walked about without inconvenience. This patient died of phthisis some years after the accident ; and, on examination of the knee-joint, the following was the appearance : The needle, as had been supposed, was firmly lodged between the condyles of the femur. It was somewhat corroded ; and, from the motions of the joint, it had worn and maintained for itself a passage, so as not to interfere with flexion or extension. The joint itself was otherwise healthy."

Erichsen says he has had occasion to undertake somewhat troublesome dissections between the biceps tendon and the brachial artery, or in the close proximity of the ulnar artery for the removal of fragments of needles lodged in the bend of the arm and the wrist.

Also that he has known the most disastrous and disorganizing inflammation and suppuration of the knee-joint ensue, with imminent peril to life, and followed by ankylosis, in consequence of a portion of needle having been allowed to remain imbedded in this situation for some days. Ashhurst mentions a case of necrosis of the entire shaft of the humerus from a similar cause. Gibson says he once attended an old gentleman who died from a needle which penetrated the great toe immediately under the nail. And a case is related by Mr. Carmichael (*Dublin Med Trans.* Vol. II, p. 37) in which amputation near the shoulder joint was necessary, in consequence of several needles being imbedded in the pronator quadratus muscle, in the periosteum of the radius and ulna, and between these bones. Velpeau relates the case of a young man who sat down upon the point of a needle and pricked himself severely ; his master being alarmed sent for the surgeon two hours after. Finding neither a puncture nor the slightest appearance of a foreign body, he supposed the patient had been deceived. At the expiration of eight days something sharp pointed was perceived underneath the skin upon the outer side of the thigh, and which he laid bare with a suitable incision ; it was the point of the needle, which was easily extracted.

Dr. E. G. Janeway, of New York, reports a case, (*Medi-*

cal Record, Vol. 6, p. 56,) in which a child ran a broken portion of a needle into the knee, the eye with a portion of thread attached to it projecting externally. As it was evidently useless to attempt withdrawal by pulling on the thread, it was made the guide to a dissection which opened the joint, when the needle was found sticking in the outer condyle of the femur and removed. The special points of this case were the free opening of the capsule, and the control of after inflammation by cold.

A case of death from swallowing a needle occurred in 1879, at the Richmond District Asylum, England. The autopsy showed that death had resulted from hæmorrhage, due to a puncture made in the aorta by a common sewing needle which had been accidentally swallowed. The stomach contained a large clot, forming a complete cast of that organ. The needle was found partly in the aorta and partly in the œsophagus, and was quite rusty.

At a meeting of the New York Pathological Society April 25, 1879, Dr. Janeway mentioned three cases in which the needle used for making an explorative puncture into the pleural cavity had been broken by the sudden movement of the patient as it was thrust in.

In none of the instances had the portion of the needle left in the pleural sac given rise to unfavorable symptoms. Dr. Robinson referred to a case in which the same accident occurred but no unpleasant symptoms followed.

At a meeting of the Royal Medical and Chirurgical Society, held February 11th, 1873. Geo. W. Callender, Surgeon to St. Bartholomew's Hospital, presented the history of a man, who for nine days followed his ordinary occupation, in pain and with discomfort, having a needle fixed in the tissues at the apex of the heart.

On the ninth day, in consequence of his statement, and in view of the pain he was suffering, an incision was made over the fifth intercostal space, and the broken eye of the needle was found on a level with the intercostal muscle. This extremity was seized, and the foreign body withdrawn. The patient recovered without an unfavorable symptom. With this history, the exact position of the needle in the

wall of the chest was given, as also that of its probable position in the heart ; the movement of the foreign body, caused by those of the heart, being figured and their measurements added. Mr. Callender said it was quite clear that the needle had passed into the heart ; it passed through the intercostal muscles, and lodged in the heart, and swung as on a pivot, the intercostal muscles being the centre. Its movements were similar to those he had seen when experimenting on animals. It was interesting to notice, knowing how severe injuries to the heart are, how this man was able for nine days to continue at his work, only suffering from irritation of the intercostal nerves. He could not say whether the needle passed only into the muscular substance or into one of the cavities ; he thought from its position and direction the former was the case.

Dr. John Neill, Demonstrator of Anatomy in the University of Pennsylvania, reports, in the *Philadelphia Examiner*, 1849, the following :

Upon the dissection of a subject, my attention was directed by a student to a foreign body in the heart, but no orifice was detected by which it could have entered. No satisfactory examination could be made of the contiguous viscera. I removed the heart and placed it in alcohol, in order to examine it with care. After the heart had been hardened with alcohol, and cleanly washed of clots, I found imbedded in the external wall of the left ventricle, a broken needle, with its point directed forwards toward the apex of the heart ; it was much oxidized and could not be moved from its position until the cyst containing it was split up. The broken end encroached upon the cavity of the ventricle, being actually contained in one of the columnæ carnæ ; the needle was two inches in length, and a line in thickness, belonging to a variety called worsted needles.

In the *Medical Examiner* for May, 1843, Dr. Leaming reports a case of a seamstress, who had accidentally driven a needle, which was sticking in her dress, forcibly into her breast, by striking a table. In a month she had pleurisy, and subsequently pericarditis and pneumonia, and at the end of nine months she died. The post-mortem examina-

tion revealed lesions corresponding with the symptoms; the body of the needle was found embedded partly in the wall of the right ventricle, and partly in the ventricular septum, whilst the point projected for a quarter of an inch into the cavity of the ventricle.

A case is related in the *Archives Generales*, 1842, in which a soldier introduced two needles into his heart, and was brought screaming into the hospital at St. Petersburg; he had a hard quick pulse; anxious countenance; copious perspiration; distressing cough, and tumultuous action of the heart; in nineteen days he died; and upon examination after death, it was discovered that the needles had passed through the heart, and lodged in the lower part of the left lung, where they were found in an abscess. The whole track was easily recognized by the marks of inflammation.

In the *Annalist* for November, 1847, Dr. Graves, of Philadelphia, records a case of attempted suicide. A man pushed a needle into his heart expecting instant death, but being disappointed in the immediate effect, he undertook to cut his throat, which also failed; the vessels having been secured, and the wound dressed by his medical attendant. After reaction had taken place, he had great suffering; every breath being attended with a scream; the physician discovered the puncture made in the skin by the needle, and dissected through the intervening structures, until he could distinctly see the heart pulsating with the needle in it. With a pair of forceps the needle was extracted, and it was followed by a forcible stream of blood. He continued to improve up to the sixth day, when he was attacked with pleuritic pains, and inability to swallow, and died on the eighth day after the needle was taken from the heart. *Post-Mortem*.—On opening into the left ventricle, where the needle entered the cavity, there was a small membranous sac, about the size of a pea, formed in the left ventricle, which contained pus.

Agnew, of Philadelphia, says he once saw a needle lying in the cavity of the arachnoid membrane, and glued to its surface by lymph, it was an inch and a quarter in length, and considerably corroded on its surface. The subject was

a young man about twenty-two or twenty-three years old, and had evidently died from some other cause than disease of the brain. The only theory he could suggest for the presence of the needle in such a locality was the probability of its having entered between the sutures of the cranial bones during his childhood, and before their close approximation.

In the English Registrar General's Report for the week ending October 12, 1850, the widow of a tailor is mentioned as having died of paralysis at the age of sixty-three. On a post mortem examination, a needle was found in the capsule of the kidney. How it got there was not known, but most probably it was accidentally thrust into the body through the loins.

The following extraordinary case is very much abridged from an account by Edmund Boulton, Esq., Surgeon, of Bath, in *The Lancet* for 1846, Vol. I, p. 9. The case was that of a lady, aged 40, unmarried, who had during the greater portion of her life been a martyr to various forms of illness, and suffering, ascribed principally to the passage of a needle through various tissues of her body. It appears that when an infant in arms, her nurse, by some accident, suffered a needle to be run into her shoulder, although this fact was not ascertained until confession was made some years afterward. Up to twelve years of age, she had no symptoms leading to the supposition that a foreign body was concealed in her tissues. At this time, she began to be afflicted in a variety of ways, principally with pains, mainly in various parts of the abdomen, and spasmodic attacks which culminated in something like opithotonos. This state of things continued, off and on, till she was about twenty-eight years of age, when after excruciating pain she passed by the urethra, the pointed part of a darning needle about three-fourths of an inch in length. Her opinion was that as intense pressure gave some relief to the severity of the pain, she violently grasped the parieties of the hypogastric region, and by this means the needle was broken. She continued to suffer much, and much in the same way, until four years afterwards when the uterus seemed to be the main organ implicated. This attack culminated in the formation of an abscess in

the womb, which on breaking, discharged a second or middle portion of the needle about an inch in length.

Eight years afterwards she came under the care of the narrator of the case, with the same category of numerous and inexplicable ailments, which again came to a crisis by purulent discharge from the womb, in which at last the eye of the needle was found. The three pieces past during a period of twelve years, when put together, formed one perfect darning needle only changed from what it may be supposed to have been when it entered the infant's body forty years previously, by being somewhat blackened in color. The patient slowly recovered.

Cases have been observed where hysterical women, (sometimes men,) from the peculiar vanity of attracting the attention of physicians, or for some other reasons, known only to themselves, have inserted numerous needles in different parts of the body; these needles have appeared after varying lapses of time, now here, now there. Even though needles have been swallowed, they may without danger pass through the walls of the stomach and intestines, and come to the surface at any part of the abdominal wall, or elsewhere.

I will simply refer to a few of these cases, without going into detail. The most remarkable instance of this kind that I know of, is one related by Dr. Otto of Copenhagen, in which the astonishing number of three hundred and ninety-five needles was extracted from the body of a patient, at various intervals extending over a period of fourteen years.

From the Left Breast.....	22
“ between the Breasts.....	14
“ the Epigastric Region.....	41
“ the Left Hypochondriac Region.....	19
“ the Right Hypochondriac Region.....	20
“ the Navel.....	31
“ Left Lumbar Region... ..	39
“ Right Lumbar Region.....	17
“ Hypogastric Region.....	14
“ Right Iliac Region.....	23
“ Left Iliac Region.....	27
“ Left Thigh	3
“ Right Thigh.....	23
“ between the Shoulders.....	1
“ beneath the Left Shoulder.....	1

— 295

Besides 100 more in which the part of the body is not stated. Grand total, 395.

In a number of the *Iowa Medical Journal*, is a case where one hundred and thirty-two were extracted from the person of a young lady. *Lancet*, 1850, case where fifty were removed from an unmarried woman.

These cases might be multiplied almost indefinitely, but it is unnecessary.

ECLECTIC DEPARTMENT.

“Carpere et colligere.”

ART. I.—*Escape from Pain: The History of a Discovery.*
By SIR JAMES PAGET.

The history of the discovery of methods for the prevention of pain in surgical operations deserves to be considered by all who study either the means by which knowledge is advanced or the lives of those by whom beneficial discoveries are made. And this history may best be traced in the events which led to and follow the use of nitrous oxide gas, of sulphuric ether, and of chloroform as anæsthetics—that is, as means by which complete insensibility may be safely produced and so long maintained that a surgical operation, of whatever severity and however prolonged, may be absolutely painless.

In 1798, Mr. Humphry Davy, an apprentice to Mr. Borlase a surgeon at Bodmin, had so distinguished himself by zeal and power in the study of chemistry and natural philosophy, that he was invited by Dr. Beddoes, of Bristol, to become the “superintendent of the Pneumatic Institution which had been established at Clifton for the purpose of trying the medicinal effects of different gases.” He obtained release from his apprenticeship, accepted the appointment, and devoted himself to the study of gases, not only in their medicinal effects, but much more in all their chemical and physical relations. After two years’ work he published his *Researches, Chemical and Philosophical, chiefly concerning Nitrous Oxide*, an essay proving a truly marvellous ingenuity, patience, and courage in experiments, and such a power of

observing and of thinking as has rarely if ever been surpassed by any scientific man of Davy's age ; for he was then only twenty-two.

In his inhalations of the nitrous oxide gas he observed all the phenomena of mental excitement, of exalted imagination, enthusiasm, merriment, restlessness, from which it gained its popular name of "laughing gas;" and he saw people made, at least for some short time and in some measure, insensible by it. So, among other suggestions or guesses about probable medicinal uses of inhalation of gases, he wrote, near the end of his essay : "As nitrous oxide in its extensive operation appears capable of destroying physical pain, it may probably be used with advantage during surgical operations in which no great effusion of blood takes place."

It seems strange that no one caught at a suggestion such as this. True, the evidence on which it was founded was very slight ; it was with a rare scientific power that Davy had thought out so far beyond his facts ; but he had thought clearly, and as clearly told his belief. Yet no one earnestly regarded it. The nitrous oxide might have been of as little general interest as the carbonic or any other, had it not been for the strange and various excitements produced by its inhalation. These made it a favourite subject with chemical lecturers, and year after year, in nearly every chemical theatre, it was fun to inhale it after the lecture on the gaseous compounds of nitrogen ; and among those who inhaled it there must have been many who, in their intoxication, received sharp and heavy blows, but, at the time, felt no pain. And this went on for more than forty years, exciting nothing worthy to be called thought or observation, till, in December, 1844, Mr. Colton, a popular itinerant lecturer on chemistry, delivered a lecture on "laughing gas" in Hartford, Connecticut. Among his auditors was Mr. Horace Wells, an enterprising dentist in that town, a man of some power in mechanical invention. After the lecture came the usual amusement of inhaling the gas, and Wells, in whom long wishing had bred a kind of belief that something might be found to make tooth-draw-

ing painless, observed that one of the men excited by the gas was not conscious of hurting himself when he fell on the benches and bruised and cut his knees. Even when he became calm and clear-headed the man was sure that he did not feel pain at the time of his fall. Wells was at once convinced—more easily convinced than a man of more scientific mind would have been—that, during similar insensibility, in a state of intense nervous excitement, teeth might be drawn without pain, and he determined that himself and one of his own largest teeth should be the first for trial. Next morning Colton gave him the gas, and his friend Dr. Riggs, extracted his tooth. He remained unconscious for a few moments, and then exclaimed, “A new era in tooth-pulling! It did not hurt me more than the prick of a pin. It is the greatest discovery ever made.”

In the next three weeks Wells extracted teeth from some twelve or fifteen persons under the influence of the nitrous oxide, and gave pain to only two or three. Dr. Riggs, also, used it with the same success, and the practice was well-known and talked of in Hartford.

Encouraged by his success Wells went to Boston, wishing to enlarge the reputation of his discovery and to have an opportunity of giving the gas to some one undergoing a surgical operation. Dr. C. Warren, the senior Surgeon of the Massachusetts General Hospital, to whom he applied for this purpose, asked him to show first its effects on some one from whom he would draw a tooth. He undertook to do this in the theatre of the medical college before a large class of students, to whom he had, on a previous day, explained his plan. Unluckily, the bag of gas from which the patient was inhaling was taken away too soon; he cried out when his tooth was drawn; the students hissed and hooted; and the discovery was denounced as an imposture.

Wells left Boston disappointed and disheartened; he fell ill, and was for many months unable to practise his profession. Soon afterwards he gave up dentistry, and neglected the use and study of the nitrous oxide, till he was recalled to it by a discovery even more important than his own.

The thread of the history of nitrous oxide may be broken here.

The inhalation of sulphuric ether was often, even in the last century, used for the relief of spasmodic asthma, phthisis, and some other diseases of the chest. Dr. Beddoes and others thus wrote of it : but its utility was not great, and there is no evidence that this use of it had any influence on the discovery of its higher value, unless it were, very indirectly, in its having led to its being found useful for soothing the irritation produced by inhaling chlorine. Much more was due to its being used, like nitrous oxide, for the fun of the excitement which its diluted vapour would produce in those who freely inhaled it.

The beginning of its use for this purpose is not clear. In the *Journal of Science and the Arts*, published in 1818 at the Royal Institution, there is a short anonymous statement among the "Miscellanea," in which it is said, "When the vapour of ether mixed with common air is inhaled, it produces effects very similar to those occasioned by nitrous oxide." The method of inhaling and its effects are described, and then "it is necessary to use caution in making experiments of this kind. By the imprudent inspiration of ether a gentleman was thrown into a very lethargic state, which continued with occasional periods of intermission for more than thirty hours, and a great depression of spirits ; for many days the pulse was so much lowered that considerable fears were entertained for his life."

The statement of these facts has been ascribed to Faraday, under whose management the journal was at that time published. But, whoever wrote or whoever may have read the statement, it was, for all useful purposes, as much neglected as was Davy's suggestion of the utility of the nitrous oxide. The last sentence, quoted as it was by Pereira and others writing on the uses of ether, excited much more fear of death than hope of ease from ether-inhalation. Such effects as are described in it are of exceeding rarity ; their danger was greatly over-estimated ; but the account of them was enough to discourage all useful research.

But, as the sulphuric ether would "produce effects very similar to those occasioned by nitrous oxide," and was much the more easy to procure, it came to be often inhaled, for

amusement, by chemists' lads and by pupils in the dispensaries of surgeons. It was often thus used by young people in many places in the United States. They had what they called "ether-frolics," in which they inhaled ether till they became merry, or in some other way absurdly excited or, sometimes, completely insensible.

Among those who had joined in these ether-frolics was Dr. Wilhite of Anderson, South Carolina. In one of them, in 1839, when nearly all of the party had been inhaling and some had been laughing, some crying, some fighting—just as they might have done if they had had the nitrous oxide gas—Wilhite, then a lad of seventeen, saw a negro-boy at the door and tried to persuade him to inhale. He refused and resisted all attempts to make him do it, till they seized him, held him down, and kept a handkerchief wet with ether close over his mouth. Presently his struggles ceased; he lay insensible, snoring, past all arousing; he seemed to be dying. And thus he lay for an hour, till medical help came, and, with shaking, slapping, and cold splashing, he was awakened and suffered no harm.

The fright at having, it was supposed, so nearly killed the boy, put an end to ether-frolics in that neighbourhood; but in 1842, Wilhite had become a pupil of Dr. Crauford Long, practising at that time at Jefferson (Jackson County, Georgia). Here he and Dr. Long and three fellow-pupils often amused themselves with the ether inhalation, and Dr. Long observed that when he became furiously excited, as he often did, he was unconscious of the blows which he, by chance, received as he rushed or tumbled about. He observed the same in his pupils; and thinking over this, and emboldened by what Mr. Wilhite told him of the negro-boy recovering after an hour's insensibility, he determined to try whether the ether-inhalation would make any one insensible of the pain of an operation. So, in March, 1842, nearly three years before Well's observations with the nitrous oxide, he induce a Mr. Venable, who had been very fond of inhaling ether, to inhale it till he was quite insensible. Then he dissected a tumour from his neck; no pain was felt and no harm followed. Three months later, he similarly

removed another tumour from him ; and again, in 1842 and in 1845, he operated on three other patients, and none felt pain. His operations were known and talked of in his neighbourhood ; but the neighbourhood was only that of an obscure little town ; and he did not publish any of his observations. The record of his first operation was only entered in his ledger :

“ James Venable, 1842. Ether and excising tumour, \$2.00.”

He waited to test the ether more thoroughly in some greater operation than those in which he had yet tried it ; and then he would have published his account of it. While he was waiting, others began to stir more actively in busier places, where his work was quite unknown, not even heard of.

Among those with whom, in his unlucky visit to Boston, Wells talked of his nitrous oxide, and of the great discovery which he believed that he had made, were Dr. Morton and Dr. Charles Jackson, men widely different in character and pursuit, but inseparable in the next chapter of the history of anæsthetics.

Morton was a restless energetic dentist, a rough man, resolute to get practice and make his fortune. Jackson was a quiet scientific gentleman, unpractical and unselfish, in good repute as a chemist, geologist, and mineralogist. At the time of Wells's visit, Morton, who had been his pupil in 1842, and for a short time, in 1843, his partner, was studying medicine and anatomy at the Massachusetts Medical College, and was living in Jackson's house. Neither Morton nor Jackson put much if any faith in Wells's story, and Morton witnessed his failure in the medical theatre. Still, Morton had it in his head that tooth-drawing might somehow be made painless, and even after Wells had retired from practice, he talked with him about it, and made some experiments, but having no scientific skill or knowledge, they led to nothing. Still, he would not rest, and he was guided to success by Jackson, whom Wells advised him to ask to make some nitrous oxide gas for him.

Jackson had long known, as many others did, of sulphuric ether being inhaled for amusement and of its producing

effects like those of nitrous oxide ; he knew also of its employment as a remedy for the irritation caused by inhaling chlorine. He had himself used it for this purpose, and once, in 1842, while using it, he became completely insensible. He had thus been led to think that the pure ether might be used for the prevention of pain in surgical operations ; he spoke of it with some scientific friends, and sometimes advised a trial of it ; but he did not urge it or take any active steps to promote even the trial. One evening, Morton, who was now in practice as a dentist, called on him, full of some scheme which he did not divulge, and urgent for success in painless tooth-drawing. Jackson advised him to use the ether, and taught him how to use it.

On that same evening, the 30th of September, 1846, Morton inhaled the ether, put himself to sleep, and, when he awoke, found that he had been asleep for eight minutes. Instantly, as he tells it, he looked for an opportunity of giving it to a patient ; and one just then coming in, a stout healthy man, he induced him to inhale, made him insensible, and drew his tooth without his having the least consciousness of what was done.

But the great step had yet to be made—a step which Wells would have tried to make if his test-experiment had not failed. Clearly, operations as swift as that of tooth-drawing might be rendered painless, but could it be right to incur the risk of insensibility long enough and deep enough for a large surgical operation ? It was generally believed that in such insensibility there was serious danger to life. Was it really so ? Jackson advised Morton to ask Dr. J. C. Warren to let him try, and Warren dared to let him. It is hard, now, to think how bold the enterprise must have seemed to those who were capable of thinking accurately on the facts then known.

The first trial was made on the 16th of October, 1846. Morton gave the ether to a patient in the Massachusetts General Hospital, and Dr. Warren removed a tumor from his neck. The result was not complete success ; the patient hardly felt the pain of the cutting, but he was aware that the operation was being performed. On the next day,

in a severer operation by Dr. Hayward, the success was perfect ; the patient felt nothing, and in long insensibility there was no appearance of danger to life.

The discovery might already be deemed complete ; for the trials of the next following days had the same success, and thence onwards the use of the ether extended over constantly widening fields. A coarse but feeble opposition was raised by some American dentists ; a few surgeons were over-cautious in their warnings against suspected dangers ; a few maintained that pain was very useful, necessary perhaps to sound healing ; some were hindered by their dislike of the patent which Morton and Jackson took out ; but as fast as the news could be carried from one continent to another, and from town to town, so fast did the use of ether spread. It might almost be said that in every place, at least in Europe, where the discovery was promoted more quickly than in America, the month might be named before which all operative surgery was agonizing, and after which it was painless.

But there were other great pains yet to be prevented, the pains of childbirth. For escape from these the honour and deep gratitude are due to Sir James Simpson. No energy, or knowledge, or power of language less than his could have overcome the fears that the insensibility, which was proved to be harmless in surgical operations and their consequences, should be often fatal or very mischievous in parturition. And to these fears were added a crowd of pious protests (raised, for the most part, by men) against so gross an interference as this seemed with the ordained course of human nature. Simpson, with equal force of words and work, beat all down ; and by his adoption of chloroform as a substitute for ether promoted the whole use of anæsthetics.

Ether and chloroform seemed to supply all that could be wished from anæsthetics. The range of their utility extended ; the only question was as to their respective advantages, a question still unsettled. Their potency was found absolute, their safety very nearly complete, and, after the death of Wells in 1848, nitrous oxide was soon neglected

and almost forgotten. Thus it remained till 1862, nearly seventeen years, when Mr. Colton, who still continued lecturing and giving the gas "for fun," was at New Haven, Connecticut. He had often told what Wells had done with nitrous oxide at Hartford, and he wanted other dentists to use it, but none seemed to care for it till, at New Britain, Dr. Dunham asked him to give it to a patient to whom it was thought the ether might be dangerous. The result was excellent, and in 1863 Dr. Smith of New Haven substituted the nitrous oxide for ether in his practice and used it very frequently. In the nine months following his first use of it, he extracted without pain nearly 4,000 teeth. Colton, in the following year, associated himself with a dentist in New York and established the Colton Dental Association, where the gas was given to many thousands more. Still, its use was very slowly admitted. Some called it dangerous, others were content with chloroform and ether, others said that the short pangs of tooth-drawing had better be endured. But in 1867 Mr. Colton came to Paris and Dr. Evans at once promoted his plan. In 1868 he came to London and, after careful study of it at the Dental Hospital, the nitrous oxide was speedily adopted, both by dentists and by the administrators of anæsthetics. By this time it has saved hundreds of thousands of people from the sharp pains of all kinds of operations on the teeth and of a great number of the surgical operations that can be quickly done.

Such is the history of the discovery of the use of anæsthetics. Probably, none has ever added so largely to that part of happiness which consists in the escape from pain. Past all counting is the sum of happiness enjoyed by the millions who, in the last three-and-thirty years have escaped the pains that were inevitable in surgical operations; pains made more terrible by apprehension, more keen by close attention; sometimes awful in a swift agony, sometimes prolonged beyond even the most patient endurance, and then renewed in memory and terrible in dreams. These will never be felt again. But the value of the discovery is not limited by the abolition of these pains or the pains of childbirth. It would need a long essay to tell how it has

enlarged the field of useful surgery, making many things easy that were difficult, many safe that were too perilous, many practicable that were nearly impossible. And, yet more variously, the discovery has brought happiness in the relief of some of the intensest pains of sickness, in quieting convulsion, in helping to the discrimination of obscure diseases. The tale of its utility would not end here ; another essay might tell its multiform uses in the study of physiology, reaching even to that of the elemental processes in plants, for these, as Claude Bernard has shown, may be completely for a time suspended in the sleep produced by chloroform or ether.

And now, what of the discoverers? * What did time bring to those who brought so great happiness to mankind?

Long, outstripped in the race for discovery, continued in his quiet useful life in practice at Jefferson, and after 1850 at Athens (Georgia). The fact of his discovery was not known beyond his own narrow circle of friends till the use of both ether and chloroform had become general. Then his claim to honour was as little heard as one gentle voice might be in the uproar of a confused and noisy crowd. In 1853, when Morton made one of his claims on Congress for a large reward in money, it was shown that

* Those only are here reckoned as discoverers from whose work may be traced not merely what might have been the beginning of the discovery, but the continuous history of events consequent on the evidence of its truth. Long, it is true, might under this rule be excluded ; yet his work cannot fairly be separated from the history. Of course in this, as in every similar case, there were some who maintained that there was nothing new in it. Before 1842 there were many instances in which persons underwent operations during insensibility. There may be very reasonable doubts about what is told of the ancient uses of Indian hemp and mandragora ; but most of those who saw much surgery before 1846 must have seen operations done on patients during insensibility produced by narcotics, dead-drunkenness, mesmerism, large losses of blood or other uncertain and often impracticable methods. Besides, there were many guesses and suggestions for making operations painless. But they were all fruitless ; and they fail at that which may be a fair test for most of the claims of discoveries—the test of consequent and continuous history. When honour is claimed for the authors of such fruitless works as these, it may fairly be said that blame rather than praise is due to them. Having seen so far as they profess, they should not have rested till they could see much further.

Long had used the ether more than four years before him. The claim to honour could not be denied. It was admitted by Jackson, who wrote that if Long "had written to him in season," he "would have presented his claims to the Academy of Sciences of France." But nothing followed; and Long's name and worth were known to very few till, in 1877, Dr. J. Marion Sims published a full account of his observations. Long was then an old man, still at work in his profession and obliged to work very hard, for he had suffered heavy losses in the Civil War. He had the esteem of all who knew him; he was, as Jackson described him, "a very modest, retiring man, an honourable man in all respects." Last year he died, and then he was honoured by his portrait being presented by Mr. Stuart of New York to the Alumni of the University of Georgia and placed in the capitol of that State.

Of Wells, it has already been told how, after his failure in the attempt to show the value of nitrous oxide at Boston, he went home disheartened, and was long ill and unable to practice his profession. He gave up his dentistry and occupied himself in many things, the last of them picture-dealing, and he left the study of the nitrous oxide till after the full discovery of the use of ether. Then he tried in vain to prove that his method of anæsthesia was the best and safest, not in dentistry alone, but in severer surgery; he and Dr. Marcy, he said, had used ether before Morton did, and found it in no way better than nitrous oxide. But it was in vain that he tried to gain honour or reward for priority of discovery, or to recover the position and the practice he had given up. Constant disappointment weighed heavily upon him; for he was a gentle, sensitive, enthusiastic man. At last, weary and wretched, he became insane, and in 1848 committed suicide. Some twenty years afterwards, the nitrous oxide was in full use; his statue was set up in Hartford; and five years later, his widow, still in poverty, was helped by a subscription.

Morton, as vainly, but with longer contest, strove to "make his fortune." As soon as the value of the ether-inhalation was proved, he took out a patent for its use, and

Jackson was induced to join him in this wrong. But at once there arose a fierce, coarse controversy as to which of the two should have the honour of priority of discovery, and what should be their several profits from the patent. The principals did not write so much as their friends and their attorneys ; these were vehement and profuse, and the dispute was made yet more coarse and bitter by those who acquired money-interest in the patent, and by the editors of newspapers in which Morton advertised for practice and for the sale of licences to use his patent. One cannot read the controversy without utter shame at the degradation of truths which should have been told only in the pure language of science and humanity. Some of it is so written ; but more of it is foul with conflicting affidavits, special pleadings of lawyers, perversions of low journalists and mutual charges of falsehood, fraud, and imposition. Of course, no good came of it ; Jackson retired from it as soon as he could, and Morton found his patent useless. He and his friends often spoke of the ether as a new compound, and some called it Letheon ; and he set up a Letheon-establishment, but every one knew that the "compound" was sulphuric ether. Jackson never attempted to conceal it, and there was no need of apparatus in its use. The patent cost so much more than it yielded that in a year or two Morton was a very poor man, needing money help from his friends. A thousand dollars were subscribed for him, and then there was a bitter quarrel as to whether they were given for honour or for charity.

Many times he petitioned Congress for some large reward ; he spent time and money in "lobbying," and the worse means of gaining votes, but all was in vain. His petitions were met with protests from Jackson, with claims for Wells's family, or for Long, and every discussion raised the old controversy, and made it hotter with the heat of new personal and political animosities ; for the South was then dominant and Morton was a Northerner. At the end of every attempt to get money he found himself rather poorer, in less practice, and in worse repute ; people became utterly tired of the quarrel and, for the most part indifferent to the claims

of all who were engaged in it. Even the discovery itself was less esteemed in America than in Europe, so that that could be often repeated which Dr. Hayward had said of it : "The only spot in Christendom in which the discovery was received with coldness . . . was in our own country."

Thus Morton worried his way through life for two-and-twenty years. His friends helped him from time to time with money and encouragement, but at last even his rough nature yielded. After one of his many failures to obtain money from Congress, driven half wild by poverty and disappointment, he returned from Washington to New York in a state of intense mental excitement. He was kindly tended by Dr. Lewis A. Sayre and carefully watched. One day, in July, 1868, he drove out with his attendant, wanting, as he said, fresh air "to cool his brain." Returning home he suddenly jumped from the carriage, ran through a plantation to the border of an adjacent lake, put his head into the water "to cool his brain," was found insensible, and in a few hours died.

Jackson found himself in trouble as soon as his belief that ether might be used to produce insensibility in surgical operations was proved true by Morton. He seems to have had no selfish view beyond that of maintaining his claim to the honour of the discovery ; but to maintain this, he was involved in the discredit of the patent, and in all the controversies had to endure coarse abuse and the imputation of trickery and low motives. He separated himself from Morton as soon as he could, took as little part as possible in the controversy, and all that he wrote was gentle and courteous in comparison with the language of his opponents. He held on his course in the study of mineralogy and geology, wrote many good papers on them, was well esteemed in all the scientific societies of his country, and received scientific honours from abroad. But some years ago his mental power failed, and now he is in an asylum, without either wealth or honours, but happy in the peaceful enjoyment of genial and benevolent delusions.

Simpson had a more prosperous career than these. His introduction of the use of anæsthetics into obstetric prac-

tice, and the generally wider range for their employment which was due to his adoption of chloroform in place of ether, were part of the merits which gained for him, among many other honours, a baronetcy and a place among the most successful physicians of his time, a statue in Edinburgh and a memorial bust in Westminster Abbey.

It is hard to repress a first feeling of shame and anger that the American discoverers, great benefactors as they were, should have been left by their fellow-countrymen to die poor, without honour, scarcely thanked for their work. The whole world owes to them immeasurable happiness. America owes them, besides, the honour of a great national renown. Where, then, was the bounty which, in that country, in so many instances, has been splendid in its grandeur? Where the keen jealousy for national honour? It looks as if all had fallen into some sullen ingratitude and indifference.

But, if we look more deeply, we may find no reason for blaming the American people; rather, we may find that they did only what, in the like conditions, would have been done by ourselves or any others. The case was one in which it was made necessary to satisfy, if possible, both gratitude and justice. This might have been easy if there had been only one claimant; gratitude might have been profuse and bountiful, and justice might have approved or, at least, been silent. But there were never less than two, and generally four, claimants; and where gratitude might with a free hand have been ready to give honours and rewards to them all, justice was invoked that the gifts might be in measure proportioned to their several merits. Then gratitude, waiting on justice, became irresolute and cold, or was distracted by new objects.

It may seem very hard; but let any one or, much better, let any four or five, as if sitting in a council, think what they would have done; how they would have satisfied at once their gratitude and their sense of justice; how much, suppose, of any great vote by Congress they would have given to each claimant?

How much should Long have had? He first, used a true,

safe, and sufficient anæsthetic in surgery, and used it with such success that, if he had quickly published his facts, he could not but have been regarded as the great discoverer. It was the fault of his position more than of himself that his facts were not sooner known ; and for his delay he might, in so grave a case, plead prudence. But was he then to have no reward ?

And what should have been Wells's share ? He certainly discovered the use of nitrous oxide, and from his success with it may be traced, not only the knowledge of its whole present utility, but the continuous history of the complete discovery of anæsthetics. True, he soon left the field, disheartened and as if in distrust of his own work ; but before he left it he had set Morton on the track, and had thus contributed to the discovery of the uses of ether and chloroform. These, surely, were great merits ; what should have been their reward ?

Jackson's claims were of a different kind. He had what may be called a scientific idea of the anæsthetic use of ether ; but he gave it no active life, no clear persuasive expression. His mind was chiefly occupied in fields of science far apart from active surgery ; the great idea needed transplantation. But, when we see to what it grew, we must admit that he who bred and nurtured it, and then gave it to be planted, had great claims to honour.

Morton answered well to the definition given, it is said, by Sydney Smith : " He is not the inventor who first says the thing, but he who says it so long, loudly, and clearly, that he compels mankind to hear him." Without either skill, or knowledge, or ingenuity, he supplied the qualities without which the complete discovery of anæsthetics might have been, at least, long delayed—boldness, perseverance, self-confidence. While Long waited, and Wells turned back, and Jackson was thinking, and those to whom they had talked were neither acting nor thinking, Morton, the " practical man," went to work and worked resolutely. He gave ether successfully in severe surgical operations, he loudly proclaimed his deeds, and " compelled mankind to hear him." His claim was very clear.

Probably, most people would agree that all four deserved reward ; but that which the controversy and the patent and the employment of legal advisers made it necessary to determine was, whether more than one deserved reward and, if more than one, the proportion to be assigned to each. Here was the difficulty. The French Academy of Sciences in 1850 granted equal shares in the Monthyon Prize to Jackson and to Morton ; but Long was unknown to them, and, at the time of the award, the value of nitrous oxide was so hidden by the greater value of ether that Wells's claim was set aside. A memorial column was erected at Boston, soon after Morton's death in 1868, and here the difficulty was shirked by dedicating the column to the discovery of ether, and not naming the discoverers. The difficulty could not be thus settled ; and, in all probability, our supposed council of four or five would not solve it. One would prefer the claims of absolute priority ; another those of suggestive science ; another the courage of bold adventure ; sentiment and sympathy would variously affect their judgments. And if we suppose that they, like the American Congress, had to discuss their differences within the sound of such controversies as followed Morton's first use of ether, or during a war of pamphlets, or under burdens of parliamentary papers, we should expect that their clearest decision would be that a just decision could not be given, and that gratitude must die if it had to wait till distributive justice could be satisfied. The gloomy fate of the American discoverers makes one wish that gratitude could have been let flow of its own impulse ; it would have done less wrong than the desire for justice did. A lesson of the whole story is that gratitude and justice are often incompatible ; and that when they conflict, then, usually, *summum jus summa injuria*.

Another lesson, which has been taught in the history of many other discoveries, is clear in this—the lesson that great truths may be very near us and yet be not discerned. Of course, the way to the discovery of anæsthetics was much more difficult than it now seems. It was very difficult to produce complete insensibility with nitrous oxide till it

could be given undiluted and unmixed ; this required much better apparatus than Davy or Wells had ; and it was hardly possible to make such apparatus till india-rubber manufactures were improved. It was very difficult to believe that profound and long insensibility could be safe, or that the appearances of impending death were altogether fallacious. Bold as Davy was, bold even to recklessness in his experiments on himself, he would not have ventured to produce deliberately in any one a state so like a final suffocation as we now look at unmoved. It was a boldness not of knowledge that first made light of such signs of dying, and found that what looked like a sleep of death was as safe as the beginning of a night's rest. Still, with all fair allowance for these and other difficulties, we cannot but see and wonder that for more than forty years of this century a great truth lay unobserved, though it was covered with only so thin a veil that a careful physiological research must have discovered it. The discovery ought to have been made by following the suggestion of Davy. The book in which he wrote that "nitrous oxide—capable of destroying physical pain—may probably be used with advantage during surgical operations," was widely read, and it would be hard to name a man of science more widely known and talked of than he was. Within two years of the publication of his *Researches*, he was appointed to a professorship in the Royal Institution ; and in the next year he was a favourite in the fashionable as well as in the scientific world ; and all his life through he was intimately associated with those among whom all the various motives for desiring to find some means "capable of destroying physical pain" would be most strongly felt. Curiosity, the love of truth, the love of marvels, the desire of ease, self-interest, benevolence—all were alert in the minds of men and women who knew and trusted whatever Davy said or wrote, but not one mind was earnestly directed to the rare promise which his words contained. His own mind was turned with its full force to other studies ; the interest in surgery which he may have felt during his apprenticeship at Bodmin was lost in his devotion to poetry, philosophy, and natural science, and there is no evidence

that he urged others to undertake the study which he left. Even his biographers, his brother Dr. John Davy, and his intimate friend Dr. Paris, both of whom were very capable physicians and men of active intellect, say nothing of his suggestion of the use of nitrous oxide. It was overlooked and utterly forgotten till the prophecy was fulfilled by those who had never heard of it. The same may be said of what Faraday, if it were he, wrote of the influence of sulphuric ether. All was soon forgotten, and the clue to the discovery, which would have been far easier with ether than with nitrous oxide, for it needed no apparatus, and even required mixture with air, was again lost. One could have wished that the honour of bringing so great a boon to men, and so great a help in the pursuit of knowledge, had been won by some of those who were giving themselves with careful cultivation to the search of truth as for its own sake. But it was not so: science was utterly at fault; and it was shown that in the search for truth there are contingencies in which men of ready belief and rough enterprise, seeking for mere utility even with selfish purposes, can achieve more than those who restrain themselves within the range of what seems reasonable.

Such instances of delay in the discovery of truth are always wondered at, but they are not uncommon. Long before Jenner demonstrated the utility of vaccination it was known in Gloucestershire that they who had had cow-pox could not catch the small-pox. For some years before the invention of electric telegraphy, Professor Cumming of Cambridge, when describing to his class the then recent discovery by Oersted of the power of an electric current to deflect a magnet, used to say, "Here, then, are the elements which would excellently serve for a system of telegraphy." Yet none of his hearers, active and cultivated as they were, were moved from the routine of study. Laennec quotes a sentence from Hippocrates which, if it had been worthily studied, might have led to the full discovery of auscultation. Thus it often has been; and few prophecies can be safer than that our successors will wonder at us as we do at those before us; will wonder that we did not discern the great truths

which they will say were all around us, within reach of any clear, earnest mind.

They will wonder, too, as we may, when we study the history of the discovery of anæsthetics, at the quietude, with which habitual miseries are borne ; at the very faint impulse to action which is given by even great necessities when they are habitual. Thinking of the pain of surgical operations, one would think that men would have rushed after the barest chance of putting an end to it as they would have rushed to escape from starving.

But it was not so ; the misery was so frequent, so nearly customary, deemed so inevitable, that, though it excited horror when it was talked of, it did not excite to strenuous action. Remedies were wished for and sometimes tried, but all was done vaguely and faintly ; their was neither hope enough to excite intense desire, nor desire enough to encourage hope ; the misery was "put up with" just as we now put up with typhoid fever and sea-sickness, with local floods and droughts, with the waste of health and wealth in the pollutions of rivers, with hideous noises and foul smells, and many other miseries. Our successors, when they have remedied or prevented them, will look back on them with horror, and on us with wonder and contempt for what they will call our idleness or blindness or indifference to suffering.

ABSTRACT DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."

CONTRIBUTED BY PROF. EDWARD MILLER, M.D., LOUISVILLE, KY.

Paroxysmal Hæmaturia. By JOHN E. NEALE, M.R.C.S.

Mr. Neale gives the notes of a case of paroxysmal Hæmaturia a condition of the urine which has been called by various authors "hæmatinuria" or "periodic hæmoglobinuria." Roberts in his "Diseases of the Urinary Organs" gives the best description of the disease with a summary of twenty cases. Most of the cases are traced to a malarial origin or are brought on by exposure to cold and wet. Sir

Wm. Gull asserts that "a blow or an injury may be the cause of this affection," and although Dr. Roberts is skeptical on this point, Mr. Neale's case was clearly due to an injury of the spine. The attacks were preceded by so few premonitory symptoms that the urinary trouble was long unsuspected. On one occasion following a sign, dark colored urine was passed, but as no such occurrence took place subsequent to other signs, this was probably a coincidence. Counter irritation and quinine seemed to have great effect on the paroxysms. As soon as the blisters took effect the paroxysms ceased. Like most of the recorded cases, the paroxysms never occurred at night, lasted only a few hours, whilst the other symptoms which have been observed, viz.: retching, vomiting, pains in various parts of the body and retraction of the testicle, were always absent. The color of the urine and the absence of the "smoky" appearance would immediately show the difference between that condition and ordinary hæmaturia, while its microscopical and spectroscopical characters gave to it diagnostic signs, viz.: the complete absence of red blood-corpuscles, a deposit consisting principally of amorphous granular matter (urates), numerous crystals of oxalate of lime, a few hæmoglobin crystals, together with pigmented masses exactly resembling those found in the spleen, liver and thymus gland, and resembling *hæmatoidin*. The spectroscope gave evidence of *hæmaglobin* in solution, though in smaller quantity than in ordinary cases of hæmaturia. The intense color of the urine is not due to any solution of hæmoglobin nor to *hæmatin* as this occurs only in alkaline solutions, whereas the urine in this case was acid. Neither was it due to *hæmin* as this always occurs in a definite crystalline form. Where the destruction of the red corpuscles and the rapid transformation of the coloring matter takes place, is uncertain, but it is evidently not due to "sudden congestion of the renal capillaries and escape of their contents without rupture of their walls." The paroxysmal nature of the attack points to some sudden and transitory functional derangement of one of the organs employed in the destruction of the red corpuscles, but further observations will be necessary to determine this point.—*The Lancet*.

Osteotomy of the Femur in Anchylosis of the Hip. By RICHARD DAVY.

At the meeting of the Medical Society of London in November, Mr. Davy read a paper on Osteotomy of the Femur to rectify distortion following Morbus Coxæ. This distortion implies osseous anchylosis of the ilio-femoral joint at an incorrect angle, with much exaggeration of bone. The operation consists in so far weakening the femur by the use of the chisel as to admit of easy fracture at a point below the bony anchylosis. The patient is laid straight on the table and the valvular opening is made on the posterior aspect of the thigh. Mr. Davy says that this position gives the surgeon plenty of space, the best counter-resistance to the stroke of the chisel, a dependent opening and one calculated to prevent the admission of air. The femur having been cut through is brought down straight, the wound dressed with collodion, and sand bags applied to the leg during bony union. The results were most gratifying. The use of crutches was abolished and the patient walked upright with the aid of a high boot. Numerous cases were related and the paper was illustrated with photographs. One boy walked around the room, on whom Mr. Davy had performed left femoral osteotomy and a right Syme's amputation at the same sitting, the boy not knowing till a week afterwards that his femur had been chiseled. Dr. Davy considered the operation to be as good for the patient as it was interesting to the surgeon. Mr. W. Adams who first brought subcutaneous osteotomy before the profession, thought that when the neck of the femur was free from disease it should be divided in preference to the shaft of the bone. Mr. Bryant and Mr. Reeves thought the operation most useful although there had been two fatal cases. If extension was applied after the fracture of the bone no shortening would occur, and suppuration took place only occasionally.—*The Lancet.*

The Dry Cotton-Wool Permanent Dressing in Amputation.

By ARTHUR E. J. BARKER, F.R.C.S.

Mr. Barker believes that permanent cotton-wool dressings are in no way antagonistic to the antiseptic system. He

believes that Mr. Lister has been of incalculable benefit to surgery and that his beneficial influence will last as long as surgery is science. If he had done nothing more he has at least forced upon the attention of surgeons the necessity of absolute cleanliness. He has also shown in a manner more thorough and intelligent than had previously been done, the reason for and need of systematic drainage of discharges. He has also given additional force to the old advocacy of rest for wounds, as for all other injuries. These three objects are the aims of the Listerian system, *absolute cleanliness*, *adequate drainage* and *complete rest*. Whether Prof. Lister's methods are the best to obtain these ends has not been as yet definitely determined, and therefore other experiments should be welcomed and patiently studied. One of the first to employ cotton-wool to be left on for weeks was M. Alphonse Guerin of Paris. M. Guerin's plan consisted in wrapping a large quantity of ordinary cotton-wool around a wound, tightly bandaging the part and so forming an elastic, even pressing, and somewhat absorbing covering, which he left undisturbed for weeks or until the part was healed or nearly so. Mr. Erichsen, who had tried this plan in private practice and formed a favorable opinion of it, suggested to Mr. Barker that he try it in his hospital practice. Mr. Barker did so in three amputations of the thigh and one of the breast with such satisfactory results that he feels bound to recommend it to the profession. He first baked the cotton-wool at a temperature of 300° or 400° Fahr., and thus destroyed all germs in it. The wool so cleansed was laid out on towel to the depth of six inches ready to slip under the stump as soon as the operation is over. The hands of the surgeon, the instruments, and the limb to be removed are all washed in a five per cent. solution of carbolic acid. When the operation was completed the vessels were secured with carbolized catgut, the wound sponged with the carbolic lotion, stitched with antiseptic silk and an ordinary drain tube inserted. A strip of lint as broad as the limb was dipped in carbolic oil and laid along the wound, and over this the cotton-wool was quickly folded. This dressing was left on for periods of time varying from

six to ten days and was then only removed to take out the stitches and the drainage tubes. All of the cases progressed most satisfactorily, and the patients had an uninterrupted, rapid and good recovery. The pus was present on the dressing in only a small quantity and although it had a pungent smell, like high game, there was no indication from the appearance of the patient or of the wound that it was doing any harm. As regards the securing of mental rest for the patient and physiological rest for the wounded part, this mode of dressing is admirable and the results would seem to show that in our struggle for cleanliness we may needlessly go too far towards the production of unrest by the ordinary antiseptic dressings.—*The British Med. Jour.*

The Deleterious Effects of the Prolonged use of Chloral.

The Committee of the Clinical Society of London appointed to investigate the deleterious effects resulting from the prolonged and continued use of chloral, state that they had received seventy special replies and three printed pages in reply to nearly 1000 circulars. Twenty-nine answers state that no ill effects are produced. Ten of these replies were given by men eminent in the profession and who enjoyed special opportunities for observation in asylum and hospital practice. Some of them mention cases where chloral had been regularly and beneficially used for from two to ten years. Others however, had observed inconvenient effects which the Committee summarize as follows—*A. Nervous System.* Fourteen answer that there were cases in which nervous debility, mental enfeeblement, and convulsive seizures appeared to follow the use of chloral. *B. Circulatory System.* Five answers note some cardiac enfeeblement. *C. Digestive System.* Six replies mention digestive disturbance as occasionally following the use of chloral. *D. Cutaneous.* Nine detail cases in which they observed itching of the skin, lichenous eruptions, with deep flushing of the head and face. *E.* Two replies indicate the possibility of urinary irritation being produced by chloral. Inquiry amongst the leading druggists does not show that the public abuse their facilities for procuring this drug. The Com-

mittee regret that in spite of their repeated appeals to the profession they were unable to obtain any more definite information than that contained above, and although the opinions of the gentlemen who have answered is entitled to respect, more facts are wanted before definite conclusions can be drawn. Dr. Hewan knew of a case where an erythematous eruption followed the administration of chloral, and Dr. Francis Taylor related an instance known to him of an old gentleman, aged eighty-four, the subject of an enlarged frontal and chronic cystitis, who had taken nightly doses of 25 to 50 grains of chloral with benefit over a long time without any bad symptoms or interference with digestion.—*The Lancet*.

CLINICAL RECORDS.

“Ex principiis, nascitur probabilitas: ex factis, vero veritas.”

A Clinical Lecture. By T. GAILLARD THOMAS, M.D., Professor of Gynæcology in the College of Physicians and Surgeons, New York.

Phonographically reported for Gaillard's Medical Journal.

GENTLEMEN:—The first patient to-day is Mrs. Theresa W., 38 years of age, a native of Germany, has been married ten years, has had three children, and has never had any miscarriages.

Q. “How long have you been sick Madam?”

A. “About eight years.”

Q. “Were you perfectly well up to eight years ago?”

A. “Yes Sir.”

She speaks English very badly, and if some gentleman in the audience who speaks German well, will act as interpreter, we will try and draw out her symptoms from her own statement for a reason which I will tell you afterwards.

Q. “What do you complain of, do you have any pain?”

A. “I am weak I cannot work as well as I could formerly and I feel badly in the lower part of my stomach when I am tired.”

Q. “Are you regular in your monthly sickness?”

A. "Yes sir."

Q. "You are in pretty good health, are you not?"

A. "Yes sir."

This is the history of the patient, gentlemen, she says that up to eight years ago she was perfectly well, but since that time she has not been well. We ask her what is the matter, she says she is weak and that she cannot do her work as well as she formerly did. When she gets fatigued she feels uncomfortable around this part of her body, (indicating the lower part of the abdomen) and no other symptoms can be drawn out by questions. When asked if there is anything else the matter with her she replies by saying, that she is weak. She says she is in fair health, and she looks like a woman in perfect health. Now what is the matter with this patient? I will tell you what an examination revealed. The whole of this woman's uterus is outside of her body, and it is just this point which I wish to emphasize to-day, namely, that prolapsus uteri in the third degree may exist without giving rise to many symptoms, or causing the patient a great deal of discomfort.

A patient may look well and be in fair health, and yet the organ be almost entirely outside of the body. Not only is her uterus outside of her body, but a great part of her bladder is pulled completely out under the symphysis pubis, and the anterior wall of the rectum with the posterior wall of the vagina are dragged down so that the contents of the rectum are in part outside of the body. And yet listen to the history of our patient. Instead of lying upon her back in bed and doing nothing, this patient is performing the duties which a woman in her position of life is called upon to perform, and these duties are, as you know, very onerous indeed, and when you come to question her closely as regards her symptoms, what are they? "I am weak, unable to work as well as formerly, and when fatigued I feel uncomfortable in the lower part of my abdomen." The questioner who was kind enough to ask her, "Are you regular in your periods?" received for an answer, "Yes sir," and when he asked her, "Have you any pain?" she replied, "No, I am only weak in this part of my body," (pointing to the lower

part of the abdomen). You will find this thing over and over again ; that is to say, we may have the existence of complete prolapsus with almost no symptom whatever. When this woman is examined the uterus is found to be exactly in the position which I show you upon the manikin. The fundus uteri is just within the vulva, the bladder is dragged down in front of the uterus, and the anterior wall of the rectum is drawn down so that the most marked rectal prolapsus exists. This is the condition of things. When you put one finger on each side and press the parts about the uterus, you find you can absolutely slide the fingers above the fundus uteri.

I want to contrast this case with one that appeared at our clinic about three weeks ago. The woman walked into the room with a great deal of difficulty, and gave this history. She said she was almost unable to walk, (she was a strong, laboring woman,) that she had violent and constant backache and had a great deal of vesical trouble. She had pain over both iliac regions and doubled herself over when she walked. Upon examining that woman I found her uterus in the first degree of prolapsus, so slight a degree, that I can easily imagine that one not familiar with these cases might readily be led to suppose there was no displacement, and that the patient was malingering. In her case the uterus instead of being down and outside of the body as in this one, was simply a little lower in the pelvis than normal ; the direction of its axis was not altered. This woman was a working woman and belonged to the same class of society as the one before you, nor was she any more inclined to exaggerate her symptoms than the patient whose case we have under consideration to-day. The point I want to make in recalling the history of this case is that, very often indeed in the first and second degree of prolapsus uteri you have an amount of bad feeling on the part of the patient which disappears in the third stage, or when complete prolapsus occurs. The parts in the first and second degree of prolapsus become over distended, which gives rise to a great deal of discomfort, but they at last surrender when the uterus gets outside of the woman's body, constituting the

condition of things you see here ; complete prolapsus with very few symptoms indeed.

I will not detain you long upon the treatment. This patient's age is thirty-eight years, she is a young woman then; now comes the question, what can we do for her? It is a little hard to say what is the best plan of treatment, for these cases are exceeding difficult to cure. There are surgical procedures which afford cure to many of them, but these surgical operations are difficult to perform and decidedly unreliable. The surgeon who takes such a case as the one before us and promises a complete cure, belongs to one of two classes, he is either a consummately skillful surgeon, or he is one of the other kind. The surgical procedures which are necessary in such a case as this are three in number; narrowing the posterior wall of the vagina, posterior-colporrhy; narrowing the anterior wall, anterior-colporrhy; and the operation of perineoraphy, and after all three of these operations have been successfully performed the patient might still not be cured of prolapsus uteri. So much for prognosis; I told you it was exceedingly doubtful, and when the term doubtful is applied to prognosis, it is very much like the term bad, it differs only in this; a doubtful prognosis admits the probability of a cure, a bad prognosis denies probability of cure. So in speaking of this case I use the term doubtful and not bad. There are two plans of treatment which may be followed. I wish to give you an outline of them in a few words because I want to show you another case of prolapsus, though it is not as bad as this. In the first place I think this patient would be greatly relieved by the treatment I am going to speak to you of; in fact I do not think, I know she could be greatly relieved by it. The uterus being measured carefully with a sound while outside of the body, is found to measure exactly six inches and a half, that is from the os externum uteri to the fundus, the sound registers six inches and a half; but this same uterus being pushed up inside of the woman's body, measures only four inches, and the reason is this. When the uterus is out of the body the neck is pulled out like a telescope, and some one I believe in describing this condition,

has used this term. When it is pushed up, there is no longer a stretching of the neck, the organ contracts by virtue of its own contractile power, and it measures only three and three-quarter inches. The course of treatment which I said I was sure would give her a great deal of relief is this. The uterus is pushed up into the body, which is generally easily done, in fact this woman can push it up herself. She has merely to take the cervix in three fingers and push up, and the organ goes to its place ; or she puts herself in the knee-chest position, that is putting her chest down upon the floor or lounge, she elevates the pelvis by putting her knees in such a position that the thighs are perfectly perpendicular forming a right angle with the lounge or floor, and at once the uterus retreats into position. Now this being done the pessary, which I here show you may be employed in the manner which I am going to illustrate upon the black-board. The uterus which has been pushed up, you remember, measures instead of six inches and a half, only four inches. The cup of the instrument as you see when placed in position, holds the neck of the uterus. From the posterior part, an india-rubber strap passes up and from the anterior part passes another, both of which unite upon a belt which goes around the patient's waist. That keeps up the woman's uterus perfectly, and it will not injure itself by resting in this cup. Gradually that uterus which is now very much engorged with blood will become disorged, and this disorgement will result in very great diminution in the size. But now to follow up the treatment. As the patient walks about during the day the uterus is kept up in this way, how can it get down? Only in one way ; by breaking the rubber straps which pass up anteriorly and posteriorly ; it cannot get down otherwise. If the cup of the instrument be not large enough to contain the neck of the uterus, it should be made large enough, so that the cervix will not project over on one side. The woman can push the instrument up against the neck of the uterus and secure it in place and when the organ is thus retained in position, she will be enabled to go about all day with freedom and comfort, hardly more comfortable than she is now, for she

is not very uncomfortable, but would be in a more natural condition.

Every night she is directed to unbuckle this belt from her waist and place a bed-pan under her hips. Placing between the thighs a basin of water saturated with some astringent substance this is injected into the vagina. One of the best astringents that I know of is to take a drachm of tannic acid and pour upon it a quart of boiling water; when it is cool enough, inject into the vagina, allowing it to pour out into the bed-pan. The pessary having been removed lies upon the table within her reach, and in the morning the vagina instead of pulling the uterus down stays up, owing to the shrivelling of the parts through the action of the astringent injection. Another very excellent astringent injection, and one which is easily made and almost always at hand, is to take two ounces of the ordinary sumac berry, being equal to about one head of sumac, and pour upon this a quart of boiling water. The sumac grows luxuriantly in this country all along the roadsides. This should be strained and when it is cool enough the patient injects it into the vagina while lying upon her back in bed. She lies in bed until the next morning when she places the pessary in position and keeps it there all day. The next night she again injects the astringent, and again on the following morning re-inserts the instrument and so on. When you see your patient six months later, and perhaps propose an operation for radical cure, she is utterly averse to it. She tells you she is so perfectly relieved by this treatment, that she desires nothing more, and if you with a certain amount of enthusiasm, which amounts almost to eagerness to get up an operation, tell her of the great advantages which surgery offers under the circumstances, she says, "what is the use of it if I am comfortable and am much better than I was," and when you make an examination you begin to question in your own mind the propriety of operating. The vulva is wide open, it is true, and you recognize the fact, that if you stop this treatment the prolapsus will return, but you need not stop the treatment during life, you can carry it on to its termination. I am sure that I have a score

of patients or more in different parts of this country, who have for fifteen or twenty years been going on with this treatment and who are perfectly satisfied with it, but with the condition of things as I have told you, with the vulva wide open, the ostium vaginæ distended, but by no means as much as we have here in this case, where almost the whole uterus is outside of the body and the perineal body destroyed. Now this is one plan of treating prolapsus uteri. I would advise that when a case comes to you, you should adopt the experience which somebody else offers you. You know how proverbially difficult it is to use another man's experience. Many go through life beginning at the very foot of the ladder and learn by long experience the best way of procedure, but do not do this in regard to the treating of these displacements. Take the experience of somebody else, and instead of going through a struggle for years with pessaries of various kinds, try this one which I have shown you, and which is attached to a belt around the outside of the body. The amount of power required to keep up this uterus is entirely too great for a lever like that, (holding up a Hodge pessary), entirely too great for any lever or pessary which rests upon the woman's parts. You must get some pessary which rests upon an external support, and of the very great variety which I have tried I know of none which accomplishes so good results as this one. The patient does not have to go to a physician to take it out and put it in, she can manage it herself. It is not kept in so long as to excoriate the parts. The woman takes it out at the end of sixteen hours and leaves it out eight hours, and then re-inserts it. Any patient of ordinary ingenuity can remove and return the pessary, though sometimes in the morning, owing to the shrivelled condition of the parts, she may experience some little difficulty in replacing it.

I remember some years ago while talking upon this subject with some young men who assisted me in one of the hospitals in this city, that some of them said they thought it would be impossible to support certain prolapsed uteri by this means, which they had seen in the hospital. I challenged them to get any cases of prolapsus uteri from the

indoor and outdoor service of the hospital, or from any other hospital or dispensary in the city, and see whether I could support the uterus or not. They brought me some awful cases. Where they got them I never could imagine. This case is mild compared with some of them. In some of the cases they brought to me, everything seemed inclined to leave the abdominal cavity. But I am very sure at the end of our trial that the means, which we used for the support of the uterus, was acknowledged by all to be a very valuable one for good, and although it did not work anything like a miracle, imperfect like all other mechanical means for supporting the uterus, it did not effect a complete cure, but it did accomplish more than anything which these gentlemen had tried. It is not the pessary alone which does the good, it is the combination of these means which I have mentioned; First : Some powerful astringent which prevents prolapsus vaginae at night, and Second : Some artificial support which keeps the uterus in position and prevents its prolapsus during the day.

Now, gentlemen, if you have a case of hernia which tends to return whenever the truss is removed, your object should be to keep up the hernia and not let it come down, and the longer you keep it up the less likely it will be to come down when the truss is removed. Just so with the uterus, if you keep this uterus up in position by the means I have given you for three months, the vagina will be contracted to such an extent that the instrument may be removed and the woman can go about two or three days without any return of the prolapsus, and without suffering any inconvenience. But you go on with the treatment and if the patient is not absolutely cured she is relieved to such an extent that she does not want to resort to an operation. But let us suppose that she insists upon an operation, or that you do ; you determine to try operative surgery, and what is it that you can do ? Let me show you. (Blackboard illustration.) Here is the posterior wall of the vagina, and there is the uterus just outside of the woman's body. Now push it up and put it here. The neck is large, hypertrophied. This is one surgical operation you can perform. Laying the patient upon her back

you can take the surplus mucous membrane away there, and then pass a needle through here and pull it out there. This is one of the most reliable, probably the most reliable of all these operations, whose name is legion. Then you bring the wires over and fold the edges of this raw surface over. Suppose my hands represent these surfaces, your sutures go out there and there, and they simply do that. (Indicating the movement with the hand.) You hold them there a fortnight or ten days, then you take out the sutures, after which you place the patient upon her side and introduce Sims' speculum, and do the same thing to the anterior wall, and you diminish the canal still more. But are you supporting the uterus by this? Not at all, you are merely giving the vagina more contractile power, so that the uterus will be willing to stay in place when it is not dragged down by the cause which formerly brought it out of its place. You now perform a third operation, perineoraphy: You make raw the surfaces which have been separated and then pass sutures in that way, (illustrating on the blackboard), and when you twist these sutures you observe you do this, you bring the two surfaces together and you now still further shut up this vagina which you have already contracted by two operations inside, and thus you take away the dragging down of the uterus. If you remove all pressure of clothing from above, if you have the patient use astringent vaginal injections, so as to still further diminish the capacity of the vagina, you will find these three operations will very soon accomplish so much good that the uterus will diminish in size and the patient be cured. But remember, gentlemen, you perform three distinct operations, and you will very commonly find patients in hospital practice who will submit to this sort of thing, but when you get into private practice you do not find them quite so willing, and it is very often necessary for other reasons than these, to do something else than operate. For instance, a lady came into my office to-day from a distance to be operated upon for prolapsus uteri, having heard that I cured such cases by operating. When I asked her how old she was, she said she was sixty-eight years of age. Now why should I think of operating

upon a lady sixty-eight years of age for prolapsus uteri? Her term of life is not very long, and she is enfeebled by age. I had to do something else instead of operating, for she is at that period of life when she could not stand three such operations as would be required, and I have adopted with her the very measure to which I first called your attention. Although there is something very seductive about surgical procedures, yet you will find in many of these cases you can do more for the patient by adopting the means which I have already suggested, than by any surgical operation, or by the combination of three operations.

I would be very willing to say to this woman, that I could cure her by a combination of surgical and other means, for she is a young woman and would bear treatment well. She is a woman of strong fibre and I see no reason why she should not be entirely relieved.

I want now to give you an ocular demonstration of a case of procidentia of the uterus. Dr. Hunter has kindly placed the patient whom I wish to show you upon the table, and under cover, to be rolled into the amphitheatre. This uterus is procident only to one-half the extent of the one we have just been talking about. We have just the end of the cervix projecting. Here is the anterior wall of the rectum, and there is the bladder. Only the cervix of this uterus is displayed, that is the cervix only is outside the body, but in the case of our first patient the uterus was almost entirely outside. There was what is called complete prolapsus of the uterus, or what is called by some authors procidentia uteri, or what I call the third degree of prolapsus; the first degree being merely a slight descent of the uterus without any change in its axis; the second is where the body of the organ is moved towards the sacrum, and the cervix has come down to the ostium vaginæ; the third degree being the escape of the organ as you see it here.

The next patient whom I will show you is Mrs. Maria S., thirty-four years of age, a native of Ireland, has been married fourteen years, and she has had two children and three miscarriages. She was last pregnant seven years ago.

Q. "Did you have a miscarriage then or a child?"

A. "A miscarriage."

Q. "How long have you been sick?"

A. "Since Christmas."

Q. "Were you perfectly well up to Christmas?"

A. "Yes sir, with the exception of now and then a little cold."

Now, gentlemen, contrast this face with the face of our first patient, and you will see that this is a sick woman, and the other was not. See how pale her face is; she has a very marked tendency to herpes labialis. You see under her eyes dark circles, she looks sick, she looks as if something was wrong with her. When you feel her pulse you find it very rapid, about a hundred, and when you place your hand upon her skin you find it warm.

Q. "You have been sick since Christmas?"

A. "Not very sick, I have been up all the time."

Q. "Now tell me if you please, how you have suffered since Christmas?"

A. "I have severe pains across the small of my back and and between my shoulders, and pain in my breast, and soreness across the lower part of my stomach."

See how much more she complains than our first patient.

Q. "Well, it seem to me you have been pretty sick?"

A. "I have not been sick enough to go to bed, but I have been complaining all the time."

I have no doubt the poor woman would like to have stayed in bed if her duties would have allowed her to do so.

A. "Yes sir, I should."

Q. "Now, what else have you complained of, Madame, anything?"

You see I want her to give the history without my suggesting anything.

A. "I have the gravel very badly."

Q. "What do you mean by gravel, a severe pain in passing your water and frequent desire to do so?"

A. "Yes sir."

Q. "Do you have to get up at night to pass it?"

A. "Yes sir."

Q. "What else do you complain of?"

A. "I have pain in my head, I am subject to neuralgia of the head, and am very constipated."

Q. "Do you take medicine to move your bowels?"

A. "No sir."

Q. "How long do you go without a movement of the bowels?"

A. "From two to four days." (Aside). You remember, gentlemen, what I told you about habitual constipation in women.

Q. "Has this come on since December?"

A. "No sir; I have been so more or less all my life, but it has been worse since Christmas."

Q. "Describe, if you will, how this attack came on in December?"

A. "Well, I got a cold and was taken suddenly sick in the night, I woke up in the middle of the night with a sharp pain in my left side which ran through me like a knife."

Q. "Were you very ill that night and could you get up on the following morning?"

A. "Yes sir, I was very sick all night and was unable to get up in the morning. My husband made a bed for me on the lounge where I lay until morning."

Q. "Were you able to pass your water that night?"

A. "Yes sir, in small quantities, about a teaspoonful at a time."

Q. "Did this severe pain which shot like a knife through you last all night?"

A. "Yes sir."

Q. "Could you walk the next day?"

A. "No sir, the pain caught me in my left side and I could not stand up straight."

You observe I am trying my best to get at the symptoms by her own statement, because the case is a very interesting one.

Q. "Do you think of anything else; how long were you confined to the lounge or bed at that time?"

A. "About eight or ten days."

Q. "Have you ever been well since?"

A. "No sir."

Now I want to ask her some leading questions for a reason which you may not understand at first, but you will in a little while.

Q. "Did you at any time during these eight days have any swelling of the bowels?"

A. "Yes sir, there was some swelling, and I was troubled a good deal with the gravel."

Q. "Did you at that time have any flow of blood from the womb?"

A. "No sir, not when I was first taken sick, but some days afterwards my monthly period came on."

Q. "Were you a pretty well woman before all this?"

A. "I have never been delicate, at the same time I have not been strong."

Now you have heard her history, gentlemen. The patient was perfectly well up to last December, when one night about one o'clock she woke up with a pain in her left side, which she describes as passing through her like a knife. She is a strong woman to a certain degree, that is to say, as she says, she has never been delicate, but we cannot draw out from her the fact that she was in perfect health, although it seems that she was in pretty good health previous to this time. She laid on the lounge all night and the next day her husband made a sort of bed for her upon the rocking-chair, and she says it was eight days before she was able to walk about. From that time she has never been a well woman; and among other things she has suffered from what she calls gravel. Gravel is one of those terms which means nothing because it means so much. It generally means some vesical irritation, and in her case it means vesical tenesmus. That night she was trying to pass urine all the time, but she could do so only in very small amounts; at times she could not pass any at all. She has suffered from constipation which has been very marked since December, but more or less all her life, so do not lay great stress upon that. The woman has had considerable pain and has suffered from heat (?) in her system and comes to us to-day with a rapid pulse, evidently altogether quite out of order. She suffers now, she says, from backache and pain about the pelvis, and general discomfort.

Q. "How is it when you walk up and down stairs and when you work, do you have any palpitation of the heart?"

A. "Yes sir, a great deal."

That unquestionably comes from her blood state, you observe she is very bloodless. She has now pain over her left iliac region.

Q. "Do you suffer much from your monthly sickness?"

A. "Just as I am taken sick I have severe pain low down upon my left side."

Of course we made an examination of the uterus and let me show you what we found. The uterus is not in its normal position, but is pushed up high and forwards towards the symphysis pubis so as to press directly against the bladder. Before we got any farther we began to think perhaps this was sufficient explanation of the symptom which this woman describes under the name of gravel, vesical irritation. Then the finger being carried back of the uterus a condition of things very much like that shown upon our manikin (there being in position upon the model a large pelvic hæmatocele), was found but not as bad. There was a large mass pressing upon the rectum and shutting up the rectum to a very great degree. We now began to think that this condition accounted for the marked constipation which in this woman's case sometimes lasts for four days, but I say we lay no great stress upon that because she has always been constipated. Thus far I had in my mind a picture which was a very perfect one indeed of the condition, and it was this: I said to myself this woman's uterus became markedly retroflexed (posterior flexion) in the month of December, perhaps from labor performed during the day. She did not suffer much during the day but at night congestion took place in consequence of the displacement, and pain came on and she suffered as she has told us. But now to verify that idea I put my hand upon the abdomen above the symphysis and found the body of the uterus distinctly appreciable. So then I discarded this picture and said to myself that picture is not a correct one, the uterus is not back there at all, but there is something else posteriorly. I put my hand down here and pressed backward and found a

mass behind the uterus, disconnected with it and perfectly fixed. Mark you, the uterus of the woman is high up and pushed against the symphysis pubis. Now, we ask ourselves have we arrived at a diagnosis? We have got the delinquent, but we have not got his name as yet. Certainly that mass behind the uterus was what gave her the trouble last December and brings her to us now.

The crowding of the uterus forward created vesical tenesmus and gave rise to the passage all night of small amounts of urine accompanied with a great deal of dysuria or difficult urination. The partial shutting up of the rectum created obstinate constipation, and the pressure upon the nerves created a backache and pain over the pelvis, this pain being very much increased at the menstrual period. But we have not arrived at a diagnosis. We have not given any name to this mass. Now let me tell you what it may be. It is possible that mass may be the one shown you there upon the manikin, a fibrous tumor of the uterus. It is very likely she might have taken cold as she says in the month of December, and by overwork got up a certain amount of inflammation in this fibrous tumor, or a certain amount of engorgement at least which made it tender and caused the pain which existed that night. But it is not a fibrous tumor for this reason; the uterus can be moved up and down in front of it and the tumor itself is fixed. If it were a fibrous tumor I could move the uterus and the tumor together, but I can now slide the uterus up and the mass is free from it, so it is not a fibrous tumor. Now is it an ovarian tumor? Certainly not. Ovarian tumors are generally filled with fluid; this is perfectly solid: There is no question about that, and ovarian tumors are never fixed, I say never, I mean as a rule. Then again I can map out the ovaries to a certain extent and I feel satisfied that this cannot be an ovarian tumor. Now comes another question. Is it pelvic cellulitis? It is not in the place of pelvic cellulitis at all. Pelvic cellulitis occurs in the areolar tissue of the broad ligaments. This is entirely behind the uterus. But I think I hear some man here who has recently been dissecting these parts, and I hope there are many such in

this room, say there is cellular tissue behind the uterus. That is so, a small amount, but not nearly enough to account for the existence of a large mass like this. There are two other things which this mass may be. One is pelvic peritonitis with a large deposit of lymph, but this mass is too distinct and round to be a mass of lymph from pelvic peritonitis. Then by exclusion we arrive at this fact, that this is a case of pelvic hæmatocele, and I am going to give you positive reasons for thinking so. On the night that this woman was taken suddenly ill, she had a rupture of one of the utero-ovarian blood-vessels which gave rise to intense pain, like a knife shooting through to the back. She was confined to her room for eight days. During this time there was swelling of the abdomen accompanied with a great deal of hardness which has continued up to the present time. You see how she presses against her abdomen to show you that it feels hard to her. These things make me believe that she had something more than the slight attack of pelvic cellulitis which occurs post-uterine, or behind the uterus. I think there was at this time a large clot of blood, as large as a man's head, perhaps, discharged behind the uterus and this created chronic pelvic peritonitis which has brought the patient into her present condition. She is pale from loss of blood, and this perhaps accounts for the palpitation which she has when going up stairs. I am going to give you another reason. In ninety-nine cases out of every hundred of pelvic hæmatocele of any size, you will find the uterus high up and pressed against the symphysis pubis. There are certain symptoms connected with diseased conditions called pathognomonic. You know there are certain physical signs connected with pneumonia, which are pathognomonic. You might call the rust colored sputa of pneumonia pathognomonic, but still it is not, although very nearly so. The physical sign which is pathognomonic of pelvic hæmatocele is, now mark you I do not mean to say invariably, but nearly always, the uterus is high up and pushed forward against the symphysis pubis. And this is the condition of things which exists to-day. Mark you I say this is the condition of things which exist to-day; an autopsy or a

surgical operation might show that all this was a mistake. Every man who makes an honest diagnosis, and what I mean by an honest diagnosis, is when he draws his deduction from premises that are given to him, to the best of his ability, and does not try to fence his reputation around by refusing to draw a deduction when the patient's interest demands something should be arrived at ; I say every man who is doing this is constantly making mistakes when he deals with the pelvic organs of a woman.

I want to tell you of a case which came into my service in one of the wards of the hospital day before yesterday and which was settled beyond peradventure by physical exploration. The case presents very many of the features of this one, although entirely unlike it in point of diagnosis. A physician brought a lady to my office a week ago to-day who had this history. She was a very healthy and fine looking woman, living about fifteen miles from New York. Two years ago this physician was sent for to attend her in confinement. As soon as labor was begun she was taken with one of the most dreadful uterine hemorrhages the doctor had ever seen, and upon making an examination he found the placenta attached over the cervix uteri plugging up the way of the child almost entirely. It was a case of placenta prævia. The doctor immediately stripped the placenta away and delivered the child alive, thus saving the woman's life by his prompt action. But the woman was taken afterwards with cellulitis and there was probably a lymphangitis set up in the lymph vessels of the part and a large abscess formed in part behind the uterus, from which a pint of pus was discharged. All this occurred about two years ago. Now all this history was perfectly clear ; a case of placenta prævia, operation for the delivery of the child, after delivery a cellulitis was set up, an abscess formed and discharged a pint of pus, and on Friday last when she came to my office I found this condition of things except that the tumor was not as large, and of course I arrived at the diagnosis of the doctor. I examined the patient by the rectum and found that mass behind the uterus. This fact considered in connection with the history, which was

the history of puerperal cellulitis with an abscess discharging a pint of pus led me to believe that it was a case of post-uterine abscess. The doctor further told me this curious history. That this patient, only twenty-eight years of age, was every now and then taken with a furious hæmorrhage and discharge of pus from this mass. I said that I had never heard of such a thing in my whole experience ; an abscess bleeding periodically like this, with a free opening and pus discharging all the time. Meantime I was examining the patient and as I drew my finger away I heard a kind of hissing sound, and upon looking down I saw blood pouring out as if the radial artery had been cut. She bled so profusely for half an hour in my office that I had to tampon the vagina with iron cotton. The doctor was obliged to accompany her in a carriage to her house as he was afraid of a recurrence of the hæmorrhage. At my instigation the patient came into my service at the hospital day before yesterday. There was an opening in this abscess through which I could pass my finger. To my surprise a large mass of material like the comb of a cock was felt all over the inside of this mass. Taking out a portion of it and examining it under the microscope it was found that the patient was suffering from malignant disease. The wall of the abscess is covered with a mass of epithelioma and the woman's doom is sealed. Now think, in the face of the evidence which was before me, was I not right in agreeing with the doctor that this was a case of post-uterine abscess? The only suspicious circumstance was this, the abscess was a bleeding abscess, and bleeding abscesses are uncommonly rare. What made that woman bleed so freely from an abscess discharging only a little pus every day? It was this, malignant disease affecting the wall of the abscess. This mass which I took to be lymph in connection with an old abscess discharging a certain amount of pus, was in fact an epithelioma of all the tissues behind the uterus, and the diagnosis was entirely different from what we had supposed.

I remember telling you of a case at one of my didactic lectures which illustrates the difficulty of diagnosis and shows how a man, proceeding as he believes in the face of

the most perfect light that can be thrown upon the diagnosis, goes blindfolded into error. A few years ago a patient was sent to me by a physician with a letter. His note ran thus: "My patient has been suffering from an abscess in the inguinal region, which I have evacuated, two or three ounces of pus coming away. Phlegmonous inflammation has returned, pus has reaccumulated; please evacuate the abscess for the patient as I am going to leave the city." I examined the woman while she was standing in front of me as I was sitting in a chair. The doctor had painted the phlegmonous mass with tincture of iodine. I found the abscess ready to be opened. I took my lancet in my hand and standing in front of the patient told her I would open it and let the pus out as the doctor had previously done, and directed her to lie down upon a lounge which was near. I took my lancet in my hand and was going to open the abscess, when lo! it had disappeared entirely. I put my finger upon the abscess and when she stood erect again it made its appearance. I found by percussion that it was filled with air and nothing else. Further examination showed that the woman had a hernia. She had had an abscess and the doctor had opened it and the abscess had discharged itself. The accumulation of pus had caused an opening in the inguinal ring, and into the sac of the abscess, as there came cancer in the other case, there came into this one, intestine. I came very near putting my lancet into the intestine, and I hardly think I would have been much to blame, the story was such a clear one. Every thing followed so naturally, exactly as in the other case, that I hardly think I would have been to blame if I had punctured the intestine. I put a truss on instead of using the lancet and the patient went home. Now this shows the difficulty of making a diagnosis.

I believe, however, we are right in this case. I think this is a case of pelvic hæmatocele. I gave my reasons for my belief and I think they are all valid ones, and I do not think there is one other diagnosis which I have suggested nearly so likely as the one I suggest now.

In regard to treatment. The first point in the treatment

of this case is to let this pelvic mass alone. Do not examine it any more. In the practice of gynæcology as in the practice of any other specialty remember you are to be specialists, but not localists. Remember that they are different things, and because you are gynæcologists, do not be eternally bothering with the uterus. Let it alone whenever you can. This is one of the cases where you can accomplish nothing by painting this mass through the vagina with the tincture of iodine. Nothing can be gained by putting the uterus in any different position. But what can we do for this woman? Why, she only wants one thing done. Her system has been grievously damaged by the accident which occurred in December. Repair the damage. There is one word which will apply to the treatment, and that word is, nutrition—food—give her what will repair the damage done to the system. Give her not only food which she eats at the table, but give her medicinal tonics which restore the blood to a proper condition and let her alone otherwise, and time will accomplish a great deal more than local treatment. (Exit patient.) See how she walks, the woman is weakened from the trouble which has so long existed. You notice that herpes labialis upon her lip. That is really a significant thing. Herpes labialis exists under three conditions. First, of all, it is called a cold sore which arises from a catarrhal fever; second, it marks septicæmia, and third, it marks malaria. In this case I think it marks septicæmia.

PROCEEDINGS OF SOCIETIES.

“Etsi non prosunt singula, juncta juvant.”

NEW YORK ACADEMY OF MEDICINE.

At a meeting of the Academy of Medicine of New York City, February 15, 1880, after the usual routine business, Dr. Isaac E. Taylor read a paper on 1st flagellation of the child's back before its delivery as a means of preventing uterine hæmorrhage, and on 2d flagellation of the abdomen of the parturient women after the delivery of the placenta as a substitute for introduction of the hand in the cavity of the uterus.

The paper was referred to the Academy from the section on obstetrics. It alluded at first to the physiological function of the uterus, and the direct communication between the vena cava and its oblique sinuses. Often no warning was given of the occurrence of post partum hæmorrhage, either before or after the delivery of the child or placenta. But suddenly from great loss of blood, the mother passed into an alarming syncope. The only safety then lay in instantaneous uterine contraction, and the obstetrician should be ready to use all means for the safety of the patient. Dr. Wilson, of Baltimore, had recommended the use of the hand as a curette to scrape the surface from which the placenta had been detached. Dr. Penrose, of Philadelphia, had advised the introduction of vinegar into the cavity of the uterus on piece of soft sponge or rag. Both recommendations were given with reference to the post delivery treatment of the placenta. The method advised by the paper, simple, efficient, always at command, and always available in the control of hæmorrhage, both after the delivery of the child and before and after the delivery of the placenta. The plan was first to spank the child's back moderately, rapidly and repeatedly after the delivery of the shoulders, allowing the breach and extremities to remain, the vagina and the feet in opposition with, or in the cervix uteri, and permit them to remain fifteen minutes or more. Pressure over the uterus should be avoided as it might deliver the child before firm contraction of the uterus was obtained. The spanking should consist of quick not harsh blows, repeated until the child was delivered. So soon as the uterus contracted firmly and delivery was determined on, the uterus should be seized with the hand and held for some time, the delivery of the placenta. After this occurred if there was hæmorrhage the abdomen should be exposed and spanked (with a doubled towel, the ends held in the hand and the doubled end wet with cold water—ice cold if possible) in rapid powerful strokes. In case relaxation succeeded contraction this should be repeated. The operation should be used only in hæmorrhage independent of anæmia, malaria, kidney or cardiac complication. It was indicated in three classes of

cases. 1st, Those in which the uterus was scarcely to be detected by the touch, being large, soft and flabby. 2d, Those in which the uterus was distended with blood as large as at full term of pregnancy. 3d, The smaller number of cases in which hæmorrhage occurred in connection with the alternate contraction and relaxation of the uterus. Relaxation of the uterus might exist without hæmorrhage, and profuse hæmorrhage might occur with firm contraction co-existing. Should a portion of the retained placenta cause a hæmorrhage, which might continue after its extraction, then Dr. Wilson's suggestion of using the hand as a curette might be adopted. Great care, however, was necessary as much damage might be done. He had introduced his hand but three times in large obstetric practice of thirty-five years, and those were cases of complete adhesion of the placenta. Ingleby had claimed that to retard the descent of the child in ordinary obstetric practice was objectionable as it substituted "a process of art for a process of nature," yet reported the following case: A Mrs. S. had three precipitate labors, each of which had been followed by post partum hæmorrhage. In the fourth labor there was malposition and a tedious labor, but no hæmorrhage. Dewees says he did not find it necessary in thirty-five years to introduce the hand into the uterus; he only carried it as far as the cervix. Cazeaux placed the hand on the abdomen and inserted two fingers into the vagina and titillated the os and cervix. R. Lee says he has frequently passed the hand into the uterus to stop hæmorrhage, but the blood had passed down his arm till it had been withdrawn. If the os was contracting, the hand might do good, but where there was complete inertia it was of no use. We must not forget that the uterus was a vital organ and could therefore be closed, only on physiological principles. That there is a relation between it and the muscular power, and a failure in one will inevitably cause a failure in the other. The nerves supplying the cervix are spinal nerves, and when the head presses on it and the vagina it causes reflex action and respiratory force. After delivery of the child's head the titillation of the feet and dilatation of the vagina set up reflex contraction of the

body of the uterus through the medulla oblongata. Direct excitation of the vagus cord, or uterus itself, caused no contraction of that organ, reflex action was therefore required. Cold water let fall from a height on the abdomen of the woman had been recommended, but its effects were transient and soon vanished. Hot water at a temperature of 110° to 118° had been used with good effect, but was only applicable where the placenta had been expelled and was not always at hand.

Electricity was suggested by Bradford of Manchester, but was open to the same objection. Compression of the aorta had been tried but it was difficult to settle whether there had been compression or not. It might be useful after the hæmorrhage had ceased in sustaining the vitality of the brain. In conclusion he would say he thought the use of anæsthetics tended to cause paresis of the womb and increase the danger of hæmorrhage. But on the other hand when inertia seemed to be coming on they might be useful in allowing the forces of the woman to recuperate. Dr. Barker said that Dr. Taylor's paper had impressed him as one bearing an original title, and he had been interested to see what the author would do with it. Flagellation as a therapeutic measure the author could not claim as original. In the East it was used to stimulate those run down by early excess. But in the paper flagellation was spoken of in its application to the child before it was born entirely. But even to this Dr. Taylor could not lay claim to as original as it had been distinctly enunciated by Solomon. Solomon had been cited as saying "spare the rod, spoil the child," but he had said: "He that spareth his rod hateth his son, but he that loveth him chasteneth him betimes." Certainly it could not be denied that according to Dr. Taylor's method the son was chastened betimes. Solomon had also said: "Chasten thy son while there is hope and let not thy soul spare for his crying." This was exactly what Dr. Taylor proposed to do, nor would much attention be paid to crying. Dr. Barker had thought well to recall these facts to the attention of the members and remind them of Solomon as an obstetrician in which capacity he was not generally rec-

ognized, although commonly reported as having contributed largely to obstetric practice.

Dr. W. R. Gillette said that the paper of Dr. Taylor was certainly a contribution to obstetric science. He had been a witness of its application in Bellevue Hospital some years ago, and had tried it since in two cases without as good results as Dr. Barker. Still there are cases where nothing is of avail. Flagellation of the child could have but a limited application as it required an interval between the delivery of the head and the rest of the body, whereas the same force usually expelled both. We had no right to look for post partum hæmorrhage before we saw it, and it did not follow because a woman had once or twice hæmorrhage that she would have it again ; or would have had but for our interference. He had been called to cases where the patients had the reputation of being regular "bleeders," yet there had been no hæmorrhage, and we often didn't see it when most expected. He wished to call attention to one means often successful, where other means failed, and this was the application of the child to the breast. Dr. Montrose A. Pallen said he had been curious to see how Dr. Taylor would treat his subject, as he was one whose opinion was entitled to respect. Dr. Taylor had spoken of his process as an adjuvant in the treatment of partum and post partum hæmorrhage, and thus opened up the whole subject and certainly there was none fraught with more interest. When going to attend a case in addition to the usual instruments embraced in the obstetrician's armamentarium, he took with him a preparation of iron, transfusion apparatus, battery, and nitrite of amyl. Dr. Taylor had mentioned the papers of Dr. Wilson and Penrose ; the use of the hand was as old as Hippocrates and the use of vinegar had been suggested as early as 1853, and if it were a question of styptics there were many more powerful than vinegar. He would divide post partum hæmorrhage into that arising, from faulty implantation of the placenta, from partial detachment of the placenta, from laceration of the external parts, from retained placenta, from inertia of the uterus, and from systemic causes, it was therefore necessary in treatment to look to

the cause. He had unfortunately seen a good deal of hæmorrhage ; his father practiced in a small town, and he had seen him use flagellation, cold water, the écraseur, iron iodine, hot water ; there was therefore nothing new in these procedures. There were many forms of hæmorrhage which were not properly considered. In a normal pelvis the majority of tedious labors depended on faulty implantation of the placenta. If the uterus was normal and the implantation of the placenta correct the direction of forces was towards the internal os ; but if the placenta was on one side, the other had an increase of force, so that the fœtus was thrown to the opposite side till after some hours perhaps it engaged. In proportion to the length of the *labor* was the woman prone to *hæmorrhage*. Hæmorrhage usually arose from failure of the uterus to contract, thus being dependent on muscular or nervous exhaustion, or exhaustion from previous hæmorrhage. Hence arose the necessity of looking for the cause. Direct stimulation of electricity would be useless where the uterus was inert from loss of blood. So would flagellation and the use of the hand ; but if we could stimulate the cerebro spinal centres then we would get contraction, and for this purpose he knew of nothing equal to the nitrite of amyl. When the cause was faulty implantation of the placenta, there was no residual force. Hence the uterus would not contract to flagellation, but we must cause hyperæmia of the cerebro spinal centres. If there was a retained placenta at any point, there was a deficiency of muscular structure from the spongy condition of the uterus at that point ; here the use of hæmostatics was of service, the rest would contract, but here we must get direct styp-tic thrombosis. There were other forms of hæmorrhage to which he had called attention two years ago. He had seen many cases in which there was the "globe of reassurance" of the French, and yet there had been a profuse flow of blood from the vagina here. Tamponing was *absolutely necessary*, and he had not hesitated where there was danger of death or septicæmia to stitch the rent with silver wire. He remembered a case in which a woman weighing ninety-five pounds had borne a child weighing fifteen

pounds ; all the external parts, the cervix, the perineum and vestibule were lacerated and he stitched up at once. Another form of hæmorrhage he attributed to œdema of the uterus from albuminuria ; in cases of nephritis nothing would cause contraction, and he had seen two cases which died in spite of every thing, and the post mortem showed œdema. As to the recurrence of the hæmorrhage it might be caused by the recurrence of the laceration, causing sub-involution, and a sub-involuted uterus was liable to sub-involution again.

The Academy then adjourned.

At a meeting of the New York Academy of Medicine held February 19, 1880, after the usual routine business, Dr. Nachtel of Paris, read a paper on " Night Medical Service."

It is a well-known fact that many persons who have not a family physician lose much precious time before obtaining medical aid, and although the police can send for an ambulance, they cannot call for a physician. A plan for obviating the dangers arising from this practice is what I have the honor of laying before the Academy. It has already been adopted in Paris, and before giving an account of its workings there I shall proceed to consider night in a physiological point of view. The changes from day to night produce physiological modifications in the organism of human beings. Bärensprung, Frœlich, Lichtenfels, Ladame, Montegazza, William Ogle, and others have found that there is a nocturnal diminution of temperature due to internal phenomena of nutrition. If the temperature falls respiration diminishes, the respiratory movements being less energetic and less frequently repeated produce a diminution of the organic force owing to the diminution in carbonic acid production, and the absence of light. Pettenkoffer and Vogt found that an individual absorbed more oxygen and exhaled less carbonic acid during the night in a pathological point of view. It is very easy to understand that we are more exposed to injurious influences during the night, since the power of reaction is less than during the day. In marshy countries nothing is more dangerous than the evening fogs and dews, and the epidemics of cholera have generally be-

gun in the night. The cooling of the evening increases the dangers of night. Asthma and gout generally appear during the night, and membranous croup generally shows itself at first in the night time. I pass now to my subject proper. On different occasions in Paris, public attention was called to grave accidents and numerous cases of disease appearing during the night ; some followed by death because the aid of a physician could not be procured. When in 1869 a petition was presented to the Senate, a member was appointed to study the question, but meanwhile Dr. Passant, Secretary of the Medical Society of the Department of Charities, had submitted a plan involving the *utilization* of the Police Stations. This project was temporarily abandoned owing to the disorder of the war of 1870, but was accepted by the Germans at Berlin in 1872, and by the Russians at St. Petersburg in 1874. In 1875, Dr. Passant's application to M. Leon Renault, (Prefect of Police), resulted in favorable report to the Municipality of Paris, which claimed that the plan would bring about the following results ; 1st The person who needs a physician will know where to find one and much precious time be saved. 2nd The physician will be able to respond promptly to the call of the patient. The matter is carried on in the following way. Each physician in the Police district will be invited to declare if they will be ready to answer calls during the night, payment being guaranteed by the Municipality. The names and addresses of those so doing will be inscribed on a board placed in the Police Station of the precinct. The person calling for a physician, will select from the board the name of a physician preferred. A Police officer will accompany the physician to and from the patient's house, and will give the physician a check for *ten* francs, to be paid by the Prefecture of Police. The patient's means will be subjected to the strictest scrutiny, if able to pay, payment will be enforced, if not the expense will be assumed by the city. The service starts at 10 p.m., and closes at 7 a.m., from October to March, and at 11 p.m., to 6 a.m., from March to October. A similar service has been established in Moscow, Odessa, Rome, Milan, and Turin, and in Algiers. The service has resulted in the secur-

ing of night medical statistics and to this end the following blank has been prepared.

* Precinct.

PREFECTURE DE POLICE.

Ward.

PARIS NIGHT MEDICAL SERVICE.

BULLETIN OF STATISTICS.

Indicate the sex of the person
to whom the services have
been given.....

Age.....YearsMonths.....

Business.....

Nature of the disease.....

PARIS.....18....

(The Doctor's Signature.)

There are five classes of disease for which night service has been called ; suffocation, abdominal symptoms, nervous diseases, congestions and apoplexies, abortions and labor cases, traumatic accidents, poisoning, accidental deaths, and suicides. Men have called for aid in the proportion of 34 to 100, women 32 to 100, and children 14 to 100.

Dr. Barker said: The profession, has been always the first to inaugurate a movement for the public health, and it is a matter of interest that every paper of this kind should receive a good discussion which I call on Dr. Gouley to open.

Dr. J. W. S. Gouley : The paper in its principles is good, there is nothing in it tending specially to the aggrandizement of the individual. It has worked well in Paris, and I therefore offer the following resolutions :

Resolved, That the thanks of the Academy be tendered to Dr. Nachtel for calling our attention to this subject.

Resolved, That Dr. Nachtel's paper be referred to a special committee of three, who are to investigate the system and report as to its applicability to New York.

Drs. J. W. S. Gouley, E. G. Janeway, and E. M. Bronson, and on special motion the President, were appointed members of the committee. The Academy then adjourned.

ORIGINAL CORRESPONDENCE.

“Sit mihi Fas scribere audita.”

FORT MADISON, IOWA, *Jan.* 28, 1880.

Dr. E. S. Gaillard :—On the 19th inst., I was called on to “see a sick woman,” but being unable to go, my father, Dr. A. C. Roberts, went with the messenger. He found the patient to be the wife of Mr. Herman Schulte of this city. She complained of pain through the back and sides and general uneasiness, and also of intense pain on an attempt to swallow. She stated that while at supper on the 16th inst., she had swallowed a fish bone which she said had lodged near the stomach. On attempting to swallow a little bread it was found to descend nearly to the cardiac orifice of the stomach but no further, and shortly afterward it was thrown up. Water and other liquids could be swallowed in small quantities.

On the next day she grew decidedly worse, her pulse indicating inflammation, and she was unable to take anything into her stomach, even the smallest quantities of liquid refusing to pass the obstruction which was evidently caused by the swelling consequent upon the inflammation caused by the presence of the fish bone. Surgical interference of any kind was strongly protested against by the patient and family. The next day the patient ejected from the œsophagus about a half pint of blood and the pulse indicated internal hæmorrhage. During the whole perion of her trouble food and medicines were injected per anum, and it was hoped that nature might relieve the obstruction, but on the 23rd inst., she died, having sunk rapidly after the hæmorrhage. A post-mortem was as strongly protested against as any interference surgically.

I simply report the case as a strange one.

F. C. ROBERTS, M.D.

FORT MADISON, IOWA, *Feb.* 12, 1880.

EDITOR JOURNAL :

Dear Sir :—I write for information and not with a view

to starting controversy. I will be under obligations to any physician who will furnish notes of any case pro or con. The question is this: "Was there ever a case of delirium tremens, so-called, and used in the ordinary acceptation of the term, produced by the excessive use of *beer alone*?" I was asked the question while testifying as a medical expert in a case where the husband of the plaintiff had died from the above disease. I was obliged to answer that I did not know of such a case on record. My father, A. C. Roberts, a physician of thirty years experience, including four years of army service as regimental, brigade and division surgeon, also testified to the same thing. Our community is made up, more than one-half, of Germans, whose almost only drink is beer, and we have yet to see the first case of "Del. Trem." among those who drink nothing but beer. I have searched carefully among all the authorities in my reach and although many of them in their definitions of the disease include wine and beer among the producing causes, yet none speak plainly on the subject. As the question was a new one to both of us, and we answered it as we did, we feel some curiosity to learn the *experience* of other physicians on the subject.

Respectfully,

F. C. ROBERTS, M.D.

HUDSON, OHIO, *Feb.* 23, 1880.

DR. E. S. GAILLARD :

Dear Sir :—I have an interesting case to report to you, an account of which I received of an old practitioner of this place, and will give it as related by him.

Several years since Dr. D. was called to attend Mrs. N. in confinement, whom he found in labor with her second or third child. He delivered her of a healthy male child which had no signs of deformity except enlargement of the abdomen. The child prospered well, though its abdomen daily increased in size, and at the age of five weeks, he was sent for to perform an operation on the child which he declined doing. About twenty weeks after its birth the Dr. was called again in haste, the infant having fallen against a stove

whilst amusing itself with play-things, and cut its head considerably. On arrival he found the child dead. Post-mortem revealed a fœtus in the abdominal cavity, which weighed about five or six pounds. Umbilical cord attached to the great omentum, and the head of the fœtus attached to the lower portion of the child's stomach; top of the head extending several inches into the stomach; hair on head of fœtus three or four inches long.

I am not informed as to whether a similar case is on record, and as such I now furnish it to you.

Respectfully,

W. H. TATE.

ST. JOSEPH, MO., *Jan.* 30, 1880.

Dear Sir :—I will willingly comply with your request in so far as to contribute my mite to your JOURNAL, yet of course must continue to contribute to others that have favored me in the past with space. I as a young man appreciate the favor shown me, and will try to repay the kindness. My articles will be few and far between, mostly from practice, that is, reports of cases, etc. I herewith send a short report of some anomalies in nature occurring in the arterial system.

Unusual Origin of the Subclavian Artery.—During the application of a ligature to this artery in the first portion of its course, a few days ago in the College Dissecting Room, it was found that the vessel was an inch and one-half above the clavicle as it passed behind the scalenus anticus. Upon careful dissection the following condition was found: The right common carotid arising direct from the arch, the arteria innominata being absent; also that the right subclavian was not in view until the left carotid and subclavian were cut through and the arch of the aorta lifted; then a considerable dilatation was seen at the junction of the descending portion of the arch with the thoracic aorta, which proved to be the origin of the right subclavian artery.

From this origin the vessel passed over the body of the third dorsal vertebra beneath the œsophagus and trachea, ascending high in the neck behind the carotid and jugular of the right side and giving off its usual branches.

Gray refers to this as an occasional and rare mode of origin of this artery, saying that "It usually passes between the trachea and œsophagus, rarely behind both.

Abnormal Division of both Femoral Arteries.—My attention was called by the class (lately) working the subject to the following which may interest some in a surgical point at least, as regards wounds, etc., necessitating the application of a ligature to the femoral artery.

On the right side the artery divided an inch or two below Poupart's ligament into two prominent trunks, the inner one taking the usual course of the femoral artery and passing through Hunter's canal terminated in the popliteal. The outer gave off the profunda branch in its usual position then spent itself in the extensive muscles of the thigh.

Upon the left side the external iliac terminated beneath Poupart's ligament in three principal trunks. The outer being the Profunda, the inner the Femoral proper, the middle breaking up into muscular branches to flexors and adductors.

Gray mentions this bifurcation, but says "The trunks usually unite to form a single artery before passing through the foramen in the adductor magnus.

W. B. CRAIG, M.D..

Prof. Anatomy, St. Joseph Hospital Medical College.

ARLINGTON, TEXAS, *Feb.* 12, 1880.

DR. E. S. GAILLARD :

Dear Doctor :—Allow me through the columns of your valuable JOURNAL to call the attention of the medical profession to what seems to my mind a very interesting case of Entero Colitis, or as I term this case, (Traumatic Entero Colitis). On May the 27th, 1879, I was called to see Laura Eddin, a babe of nine months old, with the following symptoms: Pulse 160 beats to the minute; skin dry and very hot; tongue coated with a thick yellowish coat, the edges of which were very red; bowels very much distended and sore on pressure; by percussion there could be detected considerable tympanitis; there was an evacuation of blood

and mucus from the bowels every half hour or hour, attended with great pain ; the pupils of the eyes were considerably dilated and there were strong symptoms of convulsions. I prescribed as follows :

℞ Subnitrate of Bismuth, grs. xxxii
 Tannic Acid, grs. ii
 Dover's Powder, grs. iv

Mix into four powders, one to be given every two hours.

To control the circulation I gave :

℞ Tincture Digitalis, gtt. 40
 Spirits Nitre, ℥ i

M. sig., One teaspoonful in two teaspoonsful of water every hour until the circulation was controlled. I also ordered astringent poultices to the bowels.

May 28th. Symptoms about as yesterday, except the skin is a little moist, and the circulation is only 140 beats to the minute. The bowels very much swollen and sore on pressure ; still passing off large quantities of blood and mucus. The discharges very frequent but not so large as on yesterday. Pupils dilated, head very hot and occasionally the child has a convulsion. I gave the following prescription:

℞ Subnitrate Bismuth, ℥ i
 Tincture Opium, gtt. xx
 Lime Water, ℥ i

M. sig., Shake the bottle, and give one teaspoonful every two hours, to control the bowels. To control the convulsions I gave :

℞ Hydrate Chloral, grs. xxv.
 Bromide Potash, grs. 40.
 Water, ℥ i.

M. sig., One teaspoonful every hour until quiet. I also ordered a good dose of quinine, combined with Dover's powder, to be given every four hours.

As there was an epidemic of this trouble in our neighborhood I attributed the cause of this trouble to malarial poison, and treated it as a true case of entero colitis, with effusion of the brain. And every practitioner knows the mortality of such cases in children, and can heartily sympathize with his brother practitioner in all such cases.

I will not attempt to give the symptoms of this as they occurred from day to day, as it would occupy too much space in your journal. But suffice it to say I fought the symptoms of this case as they occurred for sixteen days to the best of my ability and with all the aid that I could get from our best text books, with but little relief to my patient.

On the twenty-first day after the parents noticed the child's illness, she expelled from the bowels a piece of plate, rather triangular in shape, about three-quarters of an inch across the largest direction, and about one-half an inch across the shortest direction, the edges of which were very sharp. This piece of plate was the whole cause of the trouble.

Thus taking it twenty-one or twenty-two days to make its exit through the alimentary canal. Of course this piece of plate ruptured the mucous membrane of the alimentary canal as it passed through. Thus causing an irritation and inflammation of those parts as it passed through. And the effusion of the brain was sympathetic from the inflamed condition of the stomach and bowels. As soon as this piece of plate passed through the child began to improve, and by good treatment and close attention she made a safe recovery. This case is interesting to my mind in two different points of view. 1st, How a piece of plate or any other piece of hard substance of that size with sharp edges could pass down the œsophagus into the stomach, through the large and small intestines, without rupturing those organs, fatally, as their lining membranes are of a very delicate structure, a round substance with a smooth surface could pass through this canal much easier than a substance like this with short edges, and not so apt to rupture the membranes of the alimentary canal, as a sharp edged substance would. 2d, It is interesting to me and also beneficial in causing me to make careful inquiry as to whether the child has swallowed any thing that would cause an inflammation of the alimentary canal during its exit through. I now pay close attention to this in making my diagnosis in such cases ; whether there is an epidemic of this trouble in the neighborhood or not, I am satisfied that a great many cases of entero colitis in children is caused from some hard sub-

stance they have swallowed, and they having died before the substance could make its exit through the bowels. And thus the cause was attributed to something else.

Hence how careful ought we to be in tracing out the true cause of such troubles. Hoping this may interest the readers of your valuable journal,

I am yours very respectfully,

OLIVER MORSE, M.D.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

“Judex damnatur cum nocens absolvitur.”

Reynold's System of Medicine, in three volumes, edited by HENRY HARTSHORNE, A.M., M.D. Vol. II. “Diseases of the Respiratory and Circulatory Systems.” Philadelphia. Henry C. Lea, 1880.

In a recent number of this JOURNAL, there was published a review of the first volume of this celebrated System of Medicine. The publisher has done good service to the American public by compressing into three volumes, this voluminous repository of medical science. The second volume is superior to the first, not only in the number of contributors, in their distinguished position, but in the fact that many of them are specialists, and of eminent reputation.

The contents of this volume are as follows: Diseases of the Larynx, by Morrell Mackenzie; Croup, by William Squire; Diseases of the Thoracic Organs, by Sir William Jenner; Asthma, by Hyde Salter; Phthisis Pulmonalis, by J. Hughes Bennett; Cancer of the Lungs, by Herman Beigel; Pneumonia, by Wilson Fox; Syphilitic Affections of the Lung, by Wilson Fox; Cirrhosis of the Lung, by Charlton Bastian; Apneumotosis, by Graily Hewitt; Bronchitis, by Frederick T. Roberts; Pleurodynia, Pleurisy, Hydro-thorax and Pneumo-thorax, by Francis E. Anstie; Weight and Size of the Heart, by Thomas B. Peacock; Position and Form of the Heart and Great Vessels, by Francis Sibson; Lateral or Partial Aneurison of the Heart,

and Adventitious Products of the Heart, by Thomas B. Peacock ; Pneumo-Pericardium and Hydro-Pericardium, by J. Warburton Begbie ; Pericarditis, Adherent Pericardium, and Endocarditis, by Francis Sibson ; Carditis, by W. R. Gowers ; Angina Pectoris, and Allied States, by Professor Gairdner ; Diseases of the Valves of the Heart, by C. Hilton Fagge ; Atrophy of the Heart, Hypertrophy of the Heart, Dilatation of the Heart, Fatty Diseases of the Heart and Fibroid Diseases of the Heart, by W. R. Gowers ; Mediastinal Tumors, and Aneurism of the Thoracic Aorta, Diseases of the Pulmonary Artery, and of the Coronary Arteries, by R. Douglas Powell ; Aneurism of the Abdominal Aorta, by William Murray ; Diseases of Arteries, of Veins, of Cardiac Concretions, and Thombosis and Embolia, by John Syer Bristowe ; Hæmophilia, by Henry Hartshorne ; Inflammation of the Lymphatic Vessels, by J. R. Reynolds.

This synopsis has been furnished because it thus enables the reader to form a better conception of the scope of the work, than could possibly have been obtained by any description given. The volume is issued in the very best style of the publisher. Those who have not subscribed for this work would consult their best interests by doing so without delay.

A Manual of Auscultation and Percussion, embracing the Physical Diagnosis of Diseases of the Lungs and Heart, and of Thoracic Aneurism, by AUSTIN FLINT, M.D., Professor of the Principles and Practice of Medicine, and of Clinical Medicine in the Bellevue Hospital Medical College, etc., etc. Second edition, revised. H. C. Lea, 1880.

It is scarcely necessary to do more than call attention to the second edition of this work, for the reputation of its author is thoroughly established, not only in this country but in Europe, and there are few physicians who do not possess the *first* edition of this volume. As the author, in his preface, gives a very modest statement of the scope of this work, and furnishes besides very valuable information as to the significance of physical signs it will be best for the

reader, that there should be given the following brief extract, from his preface : " In his courses of practical instruction the author's plan has been 1st, to simplify the subject as much as possible, avoiding all needless refinements ; 2d, to consider the distinctive characters of the different physical signs as determined, not by analogies, nor by deductions from physics, but by analysis, and as based especially on variations in the intensity, pitch, and quality of sounds ; 3d, to impress the fact that the significance of physical signs relates to certain physical conditions, and the importance of a familiar acquaintance with these conditions, as well as with the distinctive characters of the signs, by which they are represented ; 4th, to enforce the necessity of sufficient study of the physical conditions and the signs of health, as a sine qua non for success in the study of the physical diagnosis of diseases, and 5th, to waive discussion of the mechanism of signs, whenever this is open for discussion, taking the ground that our knowledge of the significance of signs rests solely on the constancy of their connection with the physical conditions which they represent."

It is only just to the author to add that his work will be of inestimable value, not only to medical students, but to practitioners. In 236 small octavo pages, he has embodied all information of value in regard to the great science of physical diagnosis. This is a triumph of which any teacher may justly be proud.

Outlines of the Practice of Medicine with special reference to the Prognosis and Treatment of Disease, with Illustrations. By SAMUEL FENWICK, M.D., Lecturer on the Principles and Practice of Medicine at the London Hospital. Lindsay & Blakiston, Pa.

The author does not intend this as a complete Treatise on the Practice of Medicine, but rather as a synopsis from which may be gained the chief points of interest in connection with each disease. When he occupied the Chair of the Practice of Medicine in the London Hospital Medical College, it was his custom at the conclusion of each course to give a summary of each lecture. These summaries have

been used as a basis for this volume ; and while it is not voluminous, it necessarily includes the principal points of interest in his entire course of lectures. Students who have been accustomed to listen to such summaries will appreciate the fact, that this work offers exactly the material they most value. The work is rendered still more acceptable on account of the Appendix which contains a large number of valuable formulæ, and it can therefore be heartily recommended to the Medical profession.

Manual of Surgery. By W. FAIRLIE CLARK, F.R.C.S.
Wood's Library of Standard Medical Authors, pp. 309.
W. Wood & Co., New York.

At first sight we were much pleased with this number of Wood's Library ; it was apparently a plain practical manual of surgery calculated to supply " a want long felt." On further examination, we found that many controverted points were given forth as settled, for instance Dr. Otis' researches on stricture and his conclusions which have been strongly (and we might say vituperatively, were we to adopt the medical cant about those who utter their convictions in language that does not smack of rose water), denounced by Dr. Sands for their fallacious character, and are, we think, out of place, for that reason, in an elementary manual like this one. The sections on minor surgery, on fractures are in plain but forcible language. The statement of hip-joint disease being " truly scrofulous" is in conflict with the prevalent drift of opinion on the subject, but the general treatment of the subject is good. The author's style smacks at times of the out-patient room, sores being used in place of ulcers, bluestone instead of Cupri Sulphat, and he is at times gracious enough to inform his readers that when he says *circulation*, he means *pulse* ; he is like Dick Swiveller, " a literary gentleman of prodigious talent in quotation," Shakspeare, Wordsworth, Horace, and Juvenal, all being laid under contribution ; all of which is out of place and takes up too much space in a condensed work like this. Some of the illustrations could be adored without violating the second commandment, as they resemble nothing

in heaven above, earth beneath, or any where else. Most of the cuts, and the printing are good, for the price. The opportunity of advertising numerous surgical instrument makers and inventors has not been neglected. The American editor is very wisely anonymous as many faults, already alluded to, are evidently his work.

The book, is, as a rule, a good one for the average busy general practitioner and is to be recommended as in many points concise. The binding like the binding of the rest of the Library is very good. K.

American Health Primers X. Presley Blakiston, Publisher, Philadelphia, Penn. *Brain Work and Overwork.* H. C. Wood, M.D. Clinical Professor of Nervous Diseases in the University of Pennsylvania.

This is a well written popular brochure, free from technicalities, and eminently adapted for the average reader. The writer we are happy to see does not pander to the total abstinence fanaticism too prevalent in popular medical works, but even here we think the prevalence of disease due to alcohol and tobacco is over estimated. His insane asylum statistics on this subject remind us of the old remark, "Figures don't lie but the mortals who make them often do." The book is well printed, in good type, on clear paper, and well bound for the price. The whole series is one that we can recommend to be selected to offset the influence of the numerous book publishing quacks. K.

The following pamphlets have been received and will be noticed in due time :

The Country Practitioner.—The Medical Journal Advertising Bureau and Gazetteer.—An Examination of the usual Signs of Dislocation of the Hip.—A Case of Complete Inversion of the Uterus.—Proceedings of the Texas State Medical Association.—The Medico-Literary Journal.—Twelfth Annual Report of the New York Orthopædic Dispensary and Hospital.—The Answer of the New York Neurological Society.—Annals of the Anatomical and Surgical Society, Brooklyn.—The Structure and other Characteristics

of Colored Blood-Corpuscles.—Paquelin's Thermo-Cautery with Wilson's Antithermic Shield, in Epithelioma of the Cervix Uteri.—A Clinical Surgical Lecture.—On the Internal use of Water for the Sick and on Thirst.—Transactions of the Tenth Annual Session of the Medical Society of Virginia.—The Proceedings of the Medical Society of the County of Kings.—A successful case of Laparo-Elytrotomy.—Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States.—A Protest against Meddlesome Midwifery.—Malignant Degeneration of a Fibroid Tumor of the Uterus.—Laudable Ambition.—On Port-Wine-Mark and its Obliteration without Scar.—The Diseases of the Blood-Vessels of the Ovary.—Report of Eleven Cases of Ovarian Disease.—Faith and Works.—Prevention of Disease.—Fifteenth Inaugural Address of Thomas A Doyle, Mayor of Providence.—Valedictory Address to the Graduating Class of the University of California.—Annual Address before the American Academy of Medicine.

TRANSLATIONS.

“ Ubi mel ibi apes.”

(NEW AND REGULAR DEPARTMENT OF THIS JOURNAL. CONTRIBUTED BY
J. G. KIERNAN, M.D., NEW YORK.)

I.—*The Use of Benzoate of Soda and its Action in Diphtheria*, by DR. L. LETZERICH, from the *Berliner Klinischer Wochenschrift*, No. 47, 1879.

I have been led by the researches of Dr. Graham in the laboratory of Klebs at Prague to use benzoate of soda in diphtheria. This remedy was used during an epidemic, during which twenty-seven persons were attacked with this disease. Of these three were adults and twenty-four were children. Eight of the patients presented grave local complications and serious general symptoms. The benzoate of soda was the only remedy used either internally or externally. One child only, succumbed, who was two years old

and had just recovered from an attack of membranous croup; she still had the cough of that disease and spat up large masses of membrane which it was evident still remained in the trachea and larynx, and it was very easily to be seen that diphtheria attacking a patient already ill with membranous croup would make rapid progress. Three males and five females, aged from five years to eight and a half years, were seized with grave symptoms. They all had a high fever, delirium, retention of urine, and constipation. The blood contained bacteria and vibratile masses of protoplasm; numerous colonies of micrococci developed in the blood, manipulated after the method described by me in the ninth volume of the Archives fur Experiment Pathologie and Pharmacologie. The development of these organisms preceded at times the formation of the patches on the tonsils and pharynx, which shows that in infectious diseases the general infection precedes by a long time the localization of morbid processes. What is the action of benzoate of soda in diphtheria? The experiments of Graham already alluded to, prove that this substance introduced into the system, in a given time, and in certain proportions, stops the development of the diphtheritic poison. The dose of the medicine is in proportion to the weight of the body, and I have taken those given by Graham as the basis for my experiments in the administration of diphtheria in the child and in the adult. No other remedy acts as well against diphtheria. For an infant less than a year old the following prescription is used:

℞ Natr. Benzoat, ʒi ʒss gr vii.
 Aqua Destill.
 Aqua Menth Pip, aa ʒi ʒii.
 Spir. Aurant Cort, ʒiiss.
 Ms. ʒss omne hora.

To children from one to three years the remedy can be carried up to the dose of from a hundred and five to a hundred and twenty grains *per diem*; from three to seven years in doses of from a hundred and twenty to a hundred and fifty grains in twenty-four hours; seven and upwards in doses of from a hundred and fifty to two hundred and twenty-five

grains during the same period. To the adult two hundred and twenty-five to an ounce can be given, dissolved in eight times its weight of water, during the twenty-four hours. The use of this remedy I have not observed to be accompanied with any bad results. The diphtheritic patches are treated directly by powdered benzoate of soda, either blown upon them through a glass tube or deposited directly on the patch with a pincette. Local applications of this remedy should be used every three hours; the adult should beside gargle his throat with water containing ten per cent. of the benzoate of soda. The first effect of the remedy noticed, is a fall of the fever which generally happens at the end of thirty-six hours after the administration of the remedy. I may say in conclusion that I have found this remedy useful in intestinal catarrh of young children, and that Klebs, the first physician to recommend its use in diphtheria, advises its employment in all infectious diseases.

II.—*Scarlatina in Children, from La Gazette Des Hopitaux, (Jan., 18, 1880,) by DR. ARCHAMBAULT.*

We have just met with among the children in our service, five cases of scarlatina, which all present something abnormal. In No. 8, St. Louis Ward, is a child which entered the hospital for a bronchitis; one evening it was suddenly seized by an intense fever with a temperature of $113^{\circ}.9$, and a red eruption covering the entire body, but no sore throat, or vomiting. The next day there was neither fever nor eruption. It was a case of anomalous aborted scarlet fever, that has led to the opinion that there is a scarlatina without the eruption. A slight desquamation was afterward observed. Ten days after, the neighbor of the patient lying in bed No. 7 was seized by a fever with a temperature of $103^{\circ}.1$, with an eruption over the entire body, but without any throat complication or vomiting. The eruption lasted two days. Eight days after the child sleeping in No. 9, was seized with scarlatina, this time with premonitory symptoms, fever and sore throat, but no nausea or vomiting. The temperature rose to 104° , and the following morning the scarlatina went through its regular stages. Some days af-

ter scarlatina appeared in a child lying in bed 14 in the same hall, who had been admitted for parenchymatous nephritis, with intense anasarca and albuminuria. On admission we knew not whether to attribute these latter symptoms to a previous scarlatina or to cold ; but scarlatina having supervened, cold must have been the cause. The first day, this child had a temperature of 104,° sore throat, intense cephalalgia, nausea and vomiting. For the next two days the patient remained in the same condition ; no eruption appeared. The sore throat was very extreme, the tonsils very much swollen, with engorgement of the glands ; and all threatened a suppurative tonsilitis. The eruption appeared at length on the third day. The albuminuria which had disappeared for some time, re-appeared in considerable quantity, as if the nephritis had been re-awakened by the scarlatina. The fifth case came from outside, had a sudden fever, with vomiting. It had no sore throat, but in examining the mouth the eruption was found on the pillars of the pharynx. There are cases which do not complain of sore throat, yet if that be examined, which should always be done, the eruption will be found there. You see by these examples that scarlatina can present considerable anomalies ; however, you should not forget the type on which I wish to say a few words.

Scarlatina is remarkable for the suddenness of its invasion, more sudden in my opinion than a phlegmasia or a pneumonia. It begins by a very intense fever ; on the following day appear the vomiting and angina. A child goes to bed well, it is uneasy during the night and vomits, and the eruption is noticed on the following morning. Or perhaps the child rises, eats, goes to school, suddenly feels ill, vomits and complains of sore throat, and in the evening the eruption appears. These are what you will see usher in scarlatina ; during an epidemic the symptoms appear all at once. I once saw an epidemic of this kind in children preparing for their first communion : twenty out of thirty children were attacked with scarlatina. They were surprised by it during the ceremony, felt bad, at length had to be carried away. The fever is intense, always in other erup-

tive diseases the fever is remittent and the eruption appears towards the fourth, sixth or eighth day ; simple ephemeral fever rarely reaches 104.° As to vomiting, it is frequently absent and the sore throat is marked by pain, and the eruption. One patient will tell you his throat is all right—but look and you will find redness of the palate and fauces. The eruption appears from twenty-four to thirty-six hours after the fever. If it come on later, the disease is an aborted scarlatina. The eruption of measles and small-pox appears first on the face, scarlatina (often) first on the neck, chest, shoulders, thighs ; it must not be sought for therefore only on the face. There is found very frequently at the same time, a miliary eruption with some vesicles in the inguinal region. The fever is continuous in measles and small-pox, it falls after the eruption. The eruption lasts from two to five days ; toward the fourth to the sixth day the fever progressively falls. The cases already mentioned are therefore anomalous. The pulse is in accordance with the temperature, 140 to 160 pulsations to the minute. It has been said the pulse is strong and full ; I have found it small and feeble at the outset. I have diagnosticated scarlatina by the feel of the pulse alone, in a Russian lady who was taken with fever, sore throat, and vomiting, in a railroad car, and was thought to have diphtheria. Having taken the patient's pulse, in a dimly lighted room, I thought of scarlatina and ordered the window shades thrown open, when an intense scarlatinal eruption was found. The eruption can not be well seen by the light of a lamp. Desquamation occurs in children and adults toward the sixth or seventh day, and is most intense in those having the most intense eruption. It may last from two days to a month. On the side of the throat and tongue an exudation may be observed which resembles, when on the tonsils, a false membrane ; I believe that many cases of diphtheria are really scarlatina. I now come to the question of treatment.

Put the patient in a well aired room but don't open the windows ; the English have had very disastrous results from this practice. Keep the room at an even temperature of from 63° to 65° ; don't cover the patient any more than in

health. It has been said that the patients should get up as soon as the fever abates, but in my opinion the patient should be at least three weeks in bed. The statistics of an English physician covering about six hundred cases show that nephritis has appeared oftenest at the fourteenth, eighteenth or twenty-second day. If this nephritis be caused, as I believe it to be, by cold, it would be well to make the patients keep their bed. They can be allowed to sit up in bed but should wear a cravat around the neck to avoid a secondary angina. There are many similar means of avoiding muscular rheumatism by protecting the little patient against cold. The patient should not be allowed to go out before the thirty-fifth or forty-fifth days. Barthez claims that he has not found anasarca since he compelled his patients to keep their beds for five or six weeks. As to medical treatment I won't say much, as hygiene is all important, but it won't do to proscribe all therapeutics. The patient should not drink warm beverages, teas, etc., to bring out the eruption, but should use cold drinks of a refreshing character. To bring out the eruption I sometimes prescribe acetate of ammonia in a syrupy liquid. If the patient be constipated give rhubarb or castor oil. If the patient be delirious give fifteen to twenty grains of kali bromide, or cherry laurel water, or codeine or laudanum. The mouth of the patient must be often washed out with water, but to combat the angina there is no need of caustics as in diphtheria. Kali Chloras or alum can be used as gargles, if the patient is at an age to gargle. If too young, give from fifteen to thirty grains of chlorate of potash mixed with five times its weight of sugar. All will cause the rapid disappearance of the angina. If cold baths be used, care should be taken to avoid cold. The Germans are in the habit of rubbing the skin with lard; a mixture, used in England, of glycerine and cold cream is preferable. In case these are used the clothing should be often changed. As to food it is evident during the fever that a relative diet of beef tea and milk should be used. Then when the fever falls towards the sixth or seventh day, soups, chicken, fish, etc., can be successively given. Such is all the treatment

necessary in scarlet fever, but do not neglect the slightest hygienic precaution, for I will say in conclusion there is much in the sequelæ of scarlatina that is due to negligence.

CHEMISTRY AND PHARMACY.

“Diruit ædificat, mutat.”—HOR.

Priority in the Anæsthetic use of the Bromide of Ethyl. By R. J. LEVIS, M.D., Surgeon to the Pennsylvania Hospital and to the Jefferson College Hospital.

In a recent article, in the issue of this journal of January 17, I mentioned the claim of Dr. Turnbull to priority in the production of anæsthesia in the human subject with the bromide of ethyl. In his brochure on anæsthetics he distinctly makes this claim in these words: “*I was the first to experiment with this ether on man.*” Whilst feeling no doubt that Dr. Turnbull was unconscious that he had long been preceded in such administration, there are clear and decided records of the fact.

Mr. Nunneley, of Leeds, England, demonstrated the anæsthetic properties of the bromide of ethyl on some of the lower animals in the year 1849, and in 1865 he used it frequently on patients undergoing surgical operations. The records of these facts occur in the “Transactions of the Provincial Medical and Surgical Association” for 1849, vol. xvi, page 206, and as a part of the “Proceedings of the British Medical Association,” *British Medical Journal*, August 19, 1865, page 192. It seems also probable that a chemical substance with which chemists have been familiar since its discovery in the year 1827, and the anæsthetic properties of which have been so long known, has received the practical attention of others of the many investigators in the domain of anæsthesia.

In the volume first referred to is an article on “Anæsthesia and Anæsthetic Substances generally,” by Thomas Nunneley, Esq., F.R.S., etc., Senior Surgeon to the Leeds General Eye and Ear Infirmary, etc., in which are recorded

a series of experiments with the anæsthetic effects of the bromide of ethyl on the lower animals. These experiments, the results of which have been confirmed by some more recently made, agree in demonstrating the rapidity of the action of this agent and the speedy recovery from its impression.

After recording his observations with a number of anæsthetic substances, he says: "The bromide of ethyl is a pleasant, rather fragrant ether, not of a very penetrating smell, is sweetish to the taste, at first rather insipid than not, but afterwards it is more pungent. It possesses very considerable anæsthetic power. Its inhalation does not appear to be unpleasant. When not used in large quantities, the animals soon recovered from a condition of complete insensibility, without any disagreeable symptom; and when given, as in No. 98, in a full dose, the creature sank down, without moving a muscle, merely from its weight, into a state of the most profound anæsthesia, within one minute after being put into the jar. The fact of respiration continuing at all during fourteen minutes in such a condition, shows that this fluid is more manageable than some others."

In reference to the choice of anæsthetics, Mr. Nunneley, in the same place, remarks, "The bromide of ethyl is a safe, pleasant, and effectual anæsthetic; but, inasmuch as it does not possess any such qualities as to render its employment more advantageous than some other substances, the very great cost of it will, unless this can be materially reduced, entirely prevent its use. One manufacturer would not prepare it for me under one guinea an ounce."

Happily, the impediment of high cost referred to does not now exist, and with an increased production, stimulated by the demand which is, I believe, destined soon to occur, the price of the article will be much lower. An analysis of the results of Mr. Nunneley's experiments on the lower animals with a great variety of anæsthetics would seem to indicate that the bromide of ethyl has qualities which are not equalled by any other substance; and such an inference may well be drawn from his own guarded statements.

In regard to the record of Mr. Nunneley's application of the anæsthetic powers of this substance to the human subject, the following paragraph from the journal referred to will be sufficient: "Mr. Nunneley showed to the members two substances, the bromide of ethyl and the chloride of olefiant gas, which for some time past he had used as anæsthetics. He stated that he had not lately performed any serious operation, either in private practice or at the Leeds General Infirmary, without the patient being rendered insensible by one or the other of these agents, each of which he believed to possess important advantages over chloroform. They were among the many analogous bodies experimented upon by him, and were favorably mentioned in his essay on Anæsthesia, which was published in the Transactions of the Association for 1849. At that time the difficulty and cost of their manufacture were too great to allow of their being commonly used. This difficulty had, however, been overcome, and, should their use become general, they can be made at a cost not exceeding that of chloroform, if not at less. They both act speedily, pleasantly, and well. The patient might be kept insensible for any length of time while the most painful and prolonged operations were being performed. No disagreeable symptoms had, in any case, resulted from their use. They were prepared for Mr. Nunneley by Mr. Squire, of Oxford street, London, from whom they might be obtained."

In the claim to priority in the demonstration of anæsthetic properties of the bromide of ethyl and its application to the prevention of human suffering, I deem it of importance to make the correct award, as my continued experience with it, in the surgery of a large general hospital and in private surgical practice, impresses me with the conviction that it is the best anæsthetic known to the profession.

SCLEROTIC ACID.—This acid is probably the active principle of ergot, having a feeble acid affinity, uniting with sodium to form a stable sclerotate. The acid and its sodium salt have the therapeutic effects of ergot, but the salt in a less marked degree. Both chiefly act on the central nervous

system. In mammals the heart is not influenced by even relatively large doses. At death the respiration ceases before the heart. In mammals the acid accelerates intestinal peristalsis; and it excites contraction both of the pregnant and non-pregnant uterus, preëxisting contractions being intensified so that the organ assumes a paler tint. Nikitin, who has been recently studying its effects says that he calculates that a man weighing about 110 pounds would be killed by about 150 grains of sclerotinic acid. The ordinary hypodermic dose is 0.02 to 0.03 gramme (one-third to one-half grain) three times a day. Sclerotic acid seems likely before long to partially replace ergot as a drug. It has the advantage of remaining indefinitely without loss of strength, if only kept in a dry place and undissolved. Its sodium salt is considered the best form for internal use in the human subject. Hypodermic injection causes a temporary sharp pain. Von Ziemssen claims for sclerotic acid over ergot in that the former causes no inflammation at the seat of puncture.—*N. C. Med. Jour.*

LOCALIZATION OF STRYCHNIA.—MM. Lajoux and Grandval have presented to the Pharmaceutical Society of Paris an interesting communication concerning this question. According to some authors (Husemann, Dragendorff), the chemist in cases of poisoning by strychnia should direct his investigations chiefly to the liver. Dragendorff states that he has never succeeded in isolating the alkaloid from the brain, even when the whole organ was operated on. He states that Gay has been able to isolate it from some special parts of the nervous system, as the medulla oblongata and pons varolii, and that he himself has been able to discover it in the medulla oblongata. Lajoux and Grandval present the results of their analysis of the brain of a person who died from the effects of 2.35 grams *tr nux vomica*, equivalent to only 0.0035 grams of strychnia. Of this amount about three-quarters was administered hypodermically, the remainder by the mouth. Although the quantity was very small, they succeeded in isolating the strychnia from only a fraction of the brain and obtaining its characteristic tests.

If these observations prove correct, the chemist should never neglect, in cases of poisoning by strychnia, to examine the brain.—*Bos. Med. and Surg. Four.*

ADMINISTRATION OF GUAIAACUM.—Much attention has lately been paid to the best mode of administering guaiacum. I find that if the alcoholic tincture of the United States Pharmacopœia be combined with an equal quantity of liquor potassæ, a perfectly clear solution is obtained, miscible with water in all proportions. The presence of liquor potassæ in the mixture will be advantageous rather than otherwise in most cases in which it is desirable to administer guaiacum. The following formula may prove useful: ℞ Tinct. guaiaci (Ph.U.S.A.), liquoris potassæ, aa ℥xv.; glycerini vel syrupi ℥j; aquam cinnamomi ad ℥j. Of course, the dose may be varied at pleasure, but care must be taken to disguise the burning flavor which renders guaiacum somewhat difficult to manage.

A. H. F. CAMERON, L.R.C.P.Edin., Liverpool.

THE ELECTRIC LIGHT AT THE BRITISH MUSEUM.—The reading-room of the British Museum is now lighted by electric lamps, and London Journals give enthusiastic accounts of the new method. The following is from *Iron*, just received: "The practical utility of electric lighting was fairly tested on Saturday morning during the heavy fog which shrouded the metropolis. For more than a century readers at the British Museum have been compelled to suspend work on the occasion of a fog, and to leave the reading-room; but on Saturday morning shortly after ten o'clock, when many readers, unmindful of the improvements of the age, were about to quit with their papers, the electric light was turned on, and without any apparent preparations the spacious room was suddenly illumined as by a magic ray of sunshine, to the great satisfaction of all present. There was a murmur of applause. For with the new carbon which Messrs. Siemens have manufactured at their Berlin works, and with the gilt reflectors suggested by Mr. Bond, the principal librarian, the light is about as good a substitute for

sunlight as can yet be desired. Since the latter part of October the electric light has been continuously used in the reading-room of an evening until seven o'clock, and an average of more than two hundred students and literary men have been nightly able to proceed with their researches to that hour, instead of leaving off, as formerly, when the shades of evening fell. It is reported that one of the staff—Mr. Nichols—has worked closely two hours daily, for a fortnight, by the light with a view to try the effect on the sight, and finds that there is not only no inconvenience, but that the optic nerve is strengthened and that glasses are quite unnecessary as a protection."

WATERPROOFING BOOTS.—A good composition, according to *The Country Gentleman*, for rendering boots proof against snow and wet can be made of one part mutton tallow and two parts beeswax, melted together. Of course it will be more difficult to make boots thus treated take a good polish, but after a few times they will be as susceptible of a brilliant polish as ever. Half an ounce of Burgundy pitch dissolved in half a pint of drying oil and mixed with half an ounce of turpentine will not only make leather resist wet and damp, but will also render it more durable, pliable, and softer. Warm the boots a little over the stove, and then apply the mixture with a soft brush or swab. Let them dry thoroughly; then paint them over again. Put them in a warm, dry place for twenty-four hours, and you will have a pair of perfectly waterproof boots. Still another waterproof composition can be made by dissolving an ounce of powdered resin in a quarter of a pint of linseed oil, over the stove; put it in a tin basin, and place that in a pan of boiling water. When it is boiling hot, slice into it two ounces of mutton tallow, and apply while hot to the boots, letting it dry in thoroughly. The following receipt for making leather waterproof is from authoritative source: boiled oil one pint, beeswax and yellow resin each two ounces; melt together. Apply warm before the fire.

NEW PAINT.—The danger of inhaling the vapor of turpentine has long been known, and its pernicious influence

on the health is beyond all doubt, as has been verified in several cases occurring in persons sleeping in newly painted rooms, some of which have even proved fatal. Several theories, more or less plausible, have been propounded to explain the prejudicial effects of the inhalation of these vapors ; but, whatever be the correct explanation, there is no doubt of the danger of occupying a room recently painted, in which turpentine has been employed, before complete dessication has taken place. It was pointed out by the Council of Hygiene that a sudden death which recently took place in Paris was attributable to this cause, it being shown that it could not be ascribed to the lead which entered into the combination of the paint of the room in which the deceased slept ; the lead, being fixed and non-volatile, cannot in these cases be accused of being the offending element.

FOR HEMORRHOIDS.—℞ Atropiæ, gr. ij ; Liq. ferri chlor, ʒ ss ; Cerat. simp., ʒ ss. M. Ft. Ungt. Apply two or three times a day.—*Med. Brief.*

MISCELLANEOUS.

“ Non omnes eadem mirantur ament que.”

DR. CLEMENCEAU, the eminent French physician and member of the Legislature, is remarkable for his quickness in the despatch of business. Two men entered his consulting room simultaneously the other day. The first, in reply to, “ What is the matter ? ” said he had trouble in the chest, and was ordered to take off his shirt. While prescribing the Doctor ordered the other visitor in and said, “ Just take your shirt off, too ; it will save time.” He immediately did so, and by the time the Doctor had written the prescription for the first man and received his fee, was stripped to the waist. “ You are suffering from pain in the chest, too, are you not ? ” “ Well, no,” said patient No. 2. “ I come to beg you would recommend me for a place in the Post Office.”

MONSTROSITY.—Dr. Fitz showed a monstrosity which had been sent him by Dr. I. F. Galloupe, of Lynn. It presented a combination of cyclopia and anterior hydrencephalocoele.

The fœtus corresponded in size with one of about seven months, and with the exception of the head and face was well formed. From the anterior portion of the cranium there projected a rounded, fluctuating tumor nearly two-thirds the volume of the head of the fœtus. Pressure upon the tumor caused a bulging of the anterior fontanelle, and a wave of fluctuation was transmitted to the same point. On the lower surface of the tumor at its junction with the head was a slightly depressed, smooth, glistening, and injected surface, at one portion of which was an opaque fibrous plate. The depressed surface was bounded by an elevated margin of an oval outline, in which were vertical yellow lines representing the meibomian follicles, and projecting from which were occasional delicate hairs, representing eye-lashes. A subsequent dissection of the sack, made by Dr. Whitney, showed that the fibrous plate above mentioned was a flattened, hollow sack with pigmented contents. Where the interior of the large cyst communicated with the interior of the cranium, the bones of the latter were somewhat everted. The face of the fœtus was flattened and smooth from the attachment of the tumor down to the mouth. The lower part of the face was normally formed. There was no appendage present corresponding with the proboscis so frequently attached to cyclopians.

Casts and crania from the museum of the Harvard Medical School were also shown for the purpose of illustrating the absence of the proboscis in the cyclopians, and the variations in the seat and shape of the orbital cavity, with the corresponding changes in the nasal cavity which might occur in anterior hydrancephalocele.

In a letter written by Dr. Galloupe, it was stated that the mother considered herself to have been pregnant about seven and one-half months. She was thirty years old, and had been delivered of a well-formed child at full term, and had also been delivered at seven months of well-formed twins. The delivery of the monstrosity was accomplished without difficulty, and an unusually large quantity of liquor amnii was present.—*Proceedings of the Boston Society for Medical Improvement.*

AN OUTSIDE DESCRIPTION OF HAY ASTHMA.—New York *World* tells it on this wise :

Maudie Muller on an August day
 Took the Fever called the Hay.
 Sneezing she went, and her shrill Ah-chee !
 The mock-bird echoed from the tree.
 The Jedge rode slowly down the lane,
 Smoothing his chestnut horses's mane,
 And drew his bridle in the shade
 With a sternutation to greet the maid.
 He spoke of the grass, and flowers and trees,
 The pollen from which makes sufferers sneeze,
 And Maudie forgot her swollen nose
 And even her graceful bare, brown toes,
 And listened, while a pleased surprise
 Looked from her watering hazel eyes.
 At last, with a wild Ah-chee ! Ah-chay !
 Ah-choo ! Achaw ! he rode away.
 Maudie Muller looked and sneezed, " Ah-chee !
 That I the Jedge's bride might be !
 He would dress me with silks and diamond rings,
 And take me up to the White Mountings.
 And I'd use the finest cambric *mouchoir*,
 And never have the Hay Fever more."
 The Jedge looked back as he climbed the hill,
 And heard her sternutations shrill.
 " Would she were mine, and I to-day
 Were rid of this dab Fever of the Hay !"
 But closing his heart, the Jedge rode on,
 And Maudie was left in the field alone.
 Then she took up her burden of life anew,
 Sighing only, " Ah-chee ! Ah-choo !"
 Of all sad words of tongue or pen,
 The saddest are " Hay-fever time again !"
 Ah ! well for us that a region lies
 Where the infusoria never rise ;
 And in the hereafter angels may
 Find a cure for the Fever called the Hay !

A NOVEL AID TO DIAGNOSIS.—SIR : Permit me in a few words, to draw attention to the additional facilities afforded in aid of diagnosis in certain cases by an inspection of the key-hole face of the watch. The winding up of this useful article is usually performed the last thing at night, and a certain amount of calm adaptive power is required for the proper performance of that function, without scarring and marking of the key-hole face. It is evident, therefore, that we may here observe indications as to the original steadiness or otherwise of the hand at this crucial period, as, also, that the abnormal markings and scarrings will be in proportion to the existence and continuance of habits of alcoholic intemperance, which may give rise to such unsteadiness. Few they are, let us hope, who indulge in alcoholic excess to such an extent as to neglect altogether this important function, and to retire to bed oblivious or careless with regard to it ; but it is to be feared that not a few, though scorning the idea of not being able to wind up their watches, nevertheless persist in doing so under difficulties due to over-indulgence in alcoholic drinks, which are very apt to leave distinct traces not easily effaced. Of course, such scarrings and markings may be due to other causes : but these, as a rule, will be self-evident, whilst other sources thereof may not be admitted, or may, indeed, be denied. I am therefore of opinion that, considering the difficulties we sometimes have in getting at the truth in such matters, it is desirable that no additional available source of information should be neglected, and I consider that valuable corroborative evidence at least is to be obtained from such a source. In the circumstances, I beg leave, therefore, to suggest the regular resort to such an aid to diagnosis where it may be considered necessary or advisable, leaving it to individual discretion to obtain the information thereby afforded in such a manner as not to rouse the suspicion of a patient unwilling to admit alcoholic excess.—I am, sir, your obedient servant,

J. WILKIE BURMAN, M.D.

Maid of Honour Row, Richmond, S.W., Dec. 22, 1879.

P.S.—I may add that I have verified, to a certain extent, the results that I should expect, by such means of diagno-

sis, by the examination of a number of watches of teetotalers and notably temperate men, the key-hole faces of whose watches I found to be smooth and unscarred, whilst among a number of watches examined belonging to those of suspected or notorious habits with regard to alcohol in excess, I found more or less scarring and scratching of the key-hole face.—J. W. B.—*British Med. Journal*.

THE following report of a post mortem examination is quoted by the *British Medical Journal* from the *Indian Daily News*. It is from a report of a hospital assistant surgeon: "At or about 9 a.m., of the 21st of October, 1877, I held a post mortem examination on the carcass of Musanuet Looknea, a female aged about thirty years, and found her body damnably swollen and entirely decomposed."—*Detroit Lancet*.

A REMARKABLE CASE OF SCARLET FEVER.—At a meeting of the Cincinnati Academy of Medicine, Dr. Cleveland reported the recovery of a mother who was delivered on the day of burial of a child who died of malignant scarlet fever. The mother was attacked twenty-four hours after confinement. No septicæmia followed. She made a good recovery. No mention is made of the fate of the infant. At the same meeting Dr. T. A. Reamy stated that in a clinical experience of many years he had never seen a recovery from this disease, when during the first week, the temperature continued for three days as high as 103° Fahrenheit. He stated, also, that he had never seen a case recover in which a temperature of 105° was maintained for twenty-four consecutive hours.—*Medical Herald*.

PHYTOLACCA DECANDRA AS A REMEDIAL AGENT IN MASTITIS.—On visiting Mrs. A. B., the third day after labor my attention was directed to the hard and painful breast; she informed me that in both her previous confinements they had caused her intense suffering and had to be lanced several times, and convalescence was slow and tedious. Upon examination I found both glands filled with several hard nodules and very painful. She stated that previously she had used various plasters that had been recommended, and

that belladonna, both in the form of ointment and the fluid extract, had been used. I at once ordered her to take five drops of the fluid extract of *phytolacca decandra* every three hours until its constitutional effect was produced, and then suspend its use or lengthen the intervals. She faithfully carried out my directions, and in a few days all traces of the inflammation had disappeared. The same lady was confined again in 1878; the same symptoms presented themselves, and were again promptly relieved by the *phytolacca decandra* administered as before. I could produce several more cases from my note book, showing the good effect of the remedy, but as all were attended with similar results, deem it unnecessary.

My friend, Dr. Charles H. Hall, of this city, who regards the *phytolacca* as the only remedy in mastitis, informs me that he uses the fluid extract as a local application to the gland in addition to giving it internally, and that it rarely disappoints him in arresting the inflammation.—*Southern Medical Record*, p. 408, 1879.

NOTE ON AN ACOUSTIC SIGN HEARD AFTER THE DEATH OF THE FŒTUS.—Stoltz has described, as a diagnostic sign of the death of the fœtus, a rustling sound heard over the whole uterine tumour, and by him ascribed to gaseous decomposition of the liquor amnii. The patient was a girl aged eighteen, seduced. The author found the membranes ruptured, the os admitting the tip of the finger. The head presented in the first position. The patient said she had felt the fœtus a few hours before. There was no puffiness of the scalp. In auscultation, no fœtal heart sounds could be heard, but everywhere over the upper part of the uterine tumour a distinct rustling sound, something between large and small crepitation. There was no offensive discharge. The author inferred that the child was probably dead. Labour set in a day later, and the child was born after about twenty-four hours more. It was described by the nurse as having been "quite rotten and stinking."

Dr. J. Brunton thought the sound due to contraction of the muscular walls under the stethoscope.

Dr. J. Williams could not understand how the bubbling of air could be heard after the escape of the liquor amnii.—*Obstetrical Society of London.*

ON THE USE OF JABORANDI AND PILOCARPIN IN ECLAMP-SIA.—The physiological action of jaborandi and pilocarpin according to the researches and experiments of the best observers, such as Cutschmann of Berlin, Mueller of Berne, Saenger of Leipsic, Schauta of Vienna, Ringer, Gubler, Bartholow, and others may be stated to be ; in from five to ten minutes after the medicine is swallowed it produces a diffused glow over the whole body, commencing with the face, ears and neck, this is immediately followed by a profuse perspiration and by a copious salivation, the temperature falls from 1° to 2° F., some drowsiness is apt to occur, which seems to be owing to exhaustion rather than to any narcotic property of the drug. Vomiting frequently occurs, but is due in part to the irritation of the medicine when given by the stomach ; but in part also to the large amount of the saliva swallowed. The usual promoters of diaphoresis are quite unnecessary when this medicine has been given. By Stillé and Maish it is stated “to be the only direct and essential diaphoretic of the materia medica.” During the sweating and salivation the quantity of urine excreted is diminished, and nearly all observers agree that it contains less than the normal proportion of urea.

Sphygmographic observations denote a dilatation and diminished tension of the whole vascular system during the action of jaborandi. Instead of diminishing the secretion of milk as might be expected from its causing such profuse discharges elsewhere, it appears to be a true galactagogue.

The effects of jaborandi on children are much less, for corresponding doses, than on adults, in this respect it resembles atropia ; but it is antagonistic to atropia in its action upon the salivary, suboral, and mammary secretions.

Pilocarpin, when administered hypodermically in doses of $\frac{1}{5}$ of a grain, gives rise to effects almost identical with jaborandi taken internally, but it acts more promptly and more certainly, and vomiting is less likely to occur.

In regard to the influence of pilocarpin on uterine fibre, it has a qualified oxytocic action, that is, if a tendency to expulsion be already present, then the pilocarpin is an ecbohic, (Saenger,) during labor it produces rhythmical contractions of the uterus.

In the latter stages of eclampsia, when coma has suppressed the action of the reflex centres, there is sometimes danger of suffocation from the patient being unable to expectorate the enormous quantity of mucus and saliva that is secreted from the action of the drug.

Winkle states that the condition of the brain, as revealed at the autopsies of those dying of puerperal eclampsia, is that of extreme anæmia, with more or less marked œdema, and obliteration of the convolutions, and he agrees with Traube and Munk that this is caused by an increase in the quantity of serum in the blood and by tension of the arterial system, and if this be so, we have in pilocarpin the most effectual remedy.—*Maryland Medical Journal*, Dec. 1879. p. 73.

THE SALISBURY CURE OF CONSUMPTION.—A good deal of attention has been attracted recently to a publication by a certain Dr. Salisbury, of Cleveland, Ohio, claiming that he can cure consumption in any stage. His plan has nothing about it either physiological or rational, but is a sort of rough-and-tumble incursion into the kitchen and drug shop. He has a list of permissible and prohibited articles of food, the distinction between the two being arbitrary and irrational. The only physiological idea that we can perceive relates to the urine, which appears to be his sole test of the fitness of any aliment. For instance, "After the system gets in good running order, which is indicated by the urine flowing at the rate of three pints in twenty-four hours, and standing constantly at 1.020 density," etc. A soft boiled egg may be taken if it does not heighten the color of the urine. His tonic mixtures have nine or ten different ingredients, on the shot-gun principle. The "running of the machine" so that it will manufacture good urine and in proper amount, is his favorite idea. We have no right to

presume that he is a charlatan, though he writes in the style of one. Take the following for illustration: "I have been treating this disease successfully for the past twenty years, and have had under my charge during that time over one thousand cases. I have only to say that the disease is so thoroughly worked up in all its details that I am able to produce it at will and as surely cure it." And again: "If the directions here given are faithfully followed out and persisted in, consumption in all its stages becomes a curable disease." The quack advertisements in the newspapers can scarcely go ahead of that.—*Pacific Men. and Surg. Journal.*

MEDICAL NEWS

"Nulla dies sine linea."

DR. NEILL, of Neill and Smith's Compend of Medicine fame, is dead.

AT a Coroner's inquest in Ottawa, Canada, the jury censured the physician who ordered carbolic acid, which was taken by mistake, for not telling the patient it was poison.

DRS. AMBROSE L. RANNEY, Wm. Darling, and Geo. P. Putnam & Co., have attempted to restrain Dr. Leo Theodore Meyer from publishing a book on anatomy; he claims that he has already published a first edition, and by Dr. Darling's permission, which the latter admits and denies Dr. Ranney's right to associate him (Dr. Darling) in the suit for infringement of copyright. The whole judicial puzzle is now before one of the New York Courts.

A BILL has been introduced into the California Legislature prohibiting the payment of percentages on prescriptions to physicians by druggists.

A COLORED woman died in New York at the age of a hundred and fifteen years. She was manumitted in 1786, and left a child of eighty-three.

DR. HAHN, a New York practitioner, has been recently cremated in accordance with a request made during life. The ceremony was performed at Le Moyne's Crematory, Washington, Pennsylvania.

DR. J. LOCKHART CLARK, the anatomist, is dead.

DR. J. J. O'REILLY, said to be of Louisville, Ky., committed suicide by cutting his throat with a lancet at Galveston, Texas.

THE *Medical Herald* is alarmed for the safety of all the inhabitants of London, England, since the *American Practitioner* says "that the low temperature of the summer produced a low death rate, and the low winter temperature a high one so that all those who escaped the summer will drop this winter."

DR. JOSHUA P. OWEN, of Chester, Pa., died last week.

DR. CHAS. J. STILLE, of the University of Pennsylvania, has resigned his provostship.

STATE SENATOR W. W. ASTOR has introduced a very stringent poison regulation bill in the N. Y. Legislature.

DR. ZORN, the epidemiologist of St. Petersburg, Russia, is dead.

DR. WM. ERB, Professor Extraordinary of Neuropathology in the University of Heidelberg, Germany, has been appointed a professor of the same subject in the University of Leipzig.

DR. CHAS. R. CULLEN reports in the *Virginia Medical Monthly* a girl of four years weighing 150 pounds who died from over-accumulation of fat around the heart.

THE anti-vivisection bill has been unfavorably reported upon from the committee to which it was referred in the N. Y. Legislature.

DR. JNO. T. WILLIAMS, of the Hospital College of Medicine, reports in the *Medical Herald* the finding of an ossified uterus containing a *fœtus* in the body of a negress aged seventy years.

DR. T. GAILLARD THOMAS has removed the entire uterus, for a cystic tumor, successfully. This is the first case of the kind in New York.

DR. W. S. CHIPLEY, Medical Superintendent of the Cincinnati Sanatorium, is dead.

“DR.” E. B. FOOTE, of “Medical Common Sense” notoriety, accuses Dr. Geo. M. Beard of taking the ideas on “nervous diseases connected with male genital function” and the term anthropophobia from his “works.” The latter term he says was coined expressly for him.

SOME of the regular Utica physicians publish their names, addresses and specialities in the *Utica Morning Herald*.

BATTEY'S operation of normal ovariectomy was performed in a case of hystero-catalepsy at the New York City Lunatic Asylum recently; the patient died, but cleared up just before death, a not uncommon case with those insane dying, from any acute disease. The operation was performed to cure the catalepsy. The ovaries were found to be normal.

THERE were in a total of 4,343 deaths from phthisis in New York City last year; but 99 deaths among the negroes. While in Selma, Alabama, of a total of 162 the deaths from phthisis among the negroes amounted to 27. There were 1,861 deaths from phthisis among the native born and 1,368 among the Irish in New York City.

DR. F. D. CUNNINGHAM, Professor of Anatomy in the Medical College of Virginia, has resigned his position.

THE *Indiana Medical Reporter*, the first medical journal in Indiana, is a new comer and is apparently well conducted.

A MAN calling himself M. Picker, M.D. is travelling South pretending to be an agent for Codman & Shurtleff.

A MEMORIAL NOTICE of the late Dr. H. M. Bullitt will appear in this JOURNAL.

THE names, addresses, specialities and places of graduation, of a number of physicians of Grand Rapids, Mich., ap-

pear in the *Daily Leader* of that town, which paper endorses them as representing the reliable medical talent of that place.

DR. J. NEVINS HYDE has succeeded Professor Byford in the senior editorship of the *Chicago Medical Journal and Examiner*.

DR. J. ADAMS ALLEN, President of the Rush Medical College, has gone to Europe.

IT is said Professor Ellerslie Wallace, of Jefferson Medical College, will soon resign his chair and that he will be succeeded by Prof. Goodell of the University of Pennsylvania.

MR. BRUNO, a musician, was killed by the electric apparatus connected with the electric lights of an English theatre.

MR. JNO. S. BROWNE has been appointed Librarian of the N. Y. Academy of Medicine at a salary of \$1,000 per annum.

DR. J. WILKIE BURNHAM suggests the examination of a suspected drunkard's watch as a test of intemperance. If the key hole is much scratched the conclusion is obvious; but suppose the patient has not a watch?

THE *Allg. Hoppen Zeitung* says ol menth pip is a valuable agent in the treatment of burns and scalds.

MRS. ADAM MURRAY, of New Glasgow, Nova Scotia, gave birth to three boys and two girls at one time, all alive and doing well.

THE *Christian Herald* says the career of Benjamin Brandreth, the pill man, illustrates the fortune *judicious* business and enterprise can acquire, yet the clergy after such puffing of quacks expect gratuitous medical advice from the regular physicians.

A STRINGENT bill has been introduced into the New York Legislature to prevent adulteration or substitution of drugs by pharmacists.

THE St. Michael's Hospital, Jersey City, squabble has been arranged by a thorough reorganization.

DR. F. GRAINGER STEWART says that one grain of muriate of ammonia if given with five minims of Tr. Ferri Mur. will prevent headache and other disagreeable effects of that drug without lessening its medicinal action.

A LONDON physician injured by a railroad accident obtained \$80,000 damages.

A NEW YORK Medical Journal puts it thus :

“ A Medical College did so much for me
That now I'm the owner of a big M.D.”

DR. BOWDITCH, Secretary to the Massachusetts State Board of Health, Lunacy and Charities, has resigned that position.

DR. J. M. BARTON, formerly Prof. Gross' *chef de clinique* has been elected visiting Surgeon to the German Hospital Philadelphia, Penn.

A MASSACHUSETTS physician has just been released from prison, where he had been confined one year, for refusing to pay his poll-tax as a matter of principle.

DR. E. M. SNOW, the Superintendent of Health of Providence, R. I., has been appointed Supervisor of the Census for Rhode Island.

A MAN was recently arrested in New York as a drunkard the only cause for this diagnosis being a compound fracture of the femur. The police surgeon system needs some sort of re-arrangement.

DR. SUTTON of Pittsburg, Penn., has been appointed Lecturer on Gynæcology during the spring term of Rush Medical College, Chicago, Ill.

PROF. ROKITANSKY JR., of Vienna, Austria, claims remarkable results from Benzoate of Soda in Phthisis, thus causing an extensive demand for that drug in Vienna.

THE *Revista de Buenos Ayres*, reports a case of syphilis caused by the use of unclean dental instruments.

DIED.—Wednesday morning, February 25th, 1880, in Waldron, Shelby Co., Indiana, of paralysis of the heart, Dr. C. V. UpDeGraff, aged 38 years.

DR. WILLIAM WALTER STREW, the “abolished” Superintendent of the City Lunatic Asylum, New York is suing the New York *Herald* and *Telegram* for damages sustained by false publications in those papers causing the loss of his position. Amount claimed, \$50,000.

DR. THADDEUS M. LEAVETT, of Germantown, Penn., died February 24th, 1880.

DR. LEMAIRE, of Paris, the first introducer of carbolic acid, is dead.

DR. BENJAMIN H. CATLIN, of Meriden, Conn., died last week, aged seventy-eight years.

THERE are 3,346 regular physicians, 437 homœopaths, 456 eclectic, 37 physio-medical and 374 others in Illinois.

DR. AUERBACH has treated pruritus by rubbing in Balsam of Peru with great success.

PROF. HEBRA has been made Hofrath or Court Councillor at Berlin.

THERE has been a bill introduced into the New York Legislature prohibiting the sale of alcoholic drinks by druggists except upon the prescription of a physician.

RADWAY'S READY RELIEF is made of eight parts Lin. Saponis, one part Tr. Capsici, and one part Aquæ Ammonia.

DR. BROCA has just been elected a life member of the French Senate.

THE Academy of Medicine and Surgery in the Polytechnic Society of Kentucky has been reorganized.

PROF. JOSEPH M. MATTHEWS has resigned his clinical lectureship in the Hospital College of Medicine, Louisville, Ky., to accept the Chair of Surgical Pathology and Diseases of the Rectum in the Kentucky School of Medicine.

THERE is quite an excitement in Louisville Medical cir-

cles over the squabble between the Registrar of the Louisville Medical College and *Medical Herald*.—*Ex.*

DR. T. S. KIRKBRIDE of the Pennsylvania Insane Hospital is very ill, but better than he was a month ago.

THE *Galveston Medical Journal* says that 25,000 of the 60,000 physicians of the United States are to be found in Texas!!

TRICHINÆ have been found in fish by Dr. Klenchilin.

SIR DOMINIC JOHN CORRIGAN, a leading Irish physician, died February 1st.

THE San Francisco County Hospital (under homœopathic care), consumed seventeen hundred and fifty two-grain pills of quinine, beside any quantity of salicine, morphine, and other regular remedies, as shown by the supervisor's bills.

A WOMAN died in San Francisco from an overdose of camphor given by a homœopath.

SPENCER WELLS has performed forty consecutive ovariectomies without one death.

DR. JEAN CHAS CHEUN, an eminent physician and naturalist is dead.

DR. SMEDOWISCH recommends apomorphia in croup and acute laryngitis.

Guy's Hospital Gazette, which was suppressed by its editors on account of lay interference has re-appeared; the editors had their own way.

NEW YORK State has 10,597 insane.

DR. H. H. TOLAND, of San Francisco, died suddenly February 27th.

THE *Chicago Medical Journal* says "lying is wandering from the hackneyed limits of the actual."

THE *Ohio Medical Recorder* notifies every one who parts his name on the side, that they will be printed in that journal like those of other men.

THERE is a great row between the Cincinnati and Chicago Eclectics. The former accuses the other of having *Kyestein* in his urine, and the latter retaliates by saying that the Cincinnati man has a large stone in his bladder. Retort courteous with a vengeance.—*Ex.*

FILATON claims that an infusion of the sunflower is a good substitute for quinine.

PROF. J. H. HOLLISTER of Chicago. has been appointed to the medical board of the County Hospital of that city.

THE following is a good formula for administering a sedative and tonic :

Tr. Ferri Mur.,	. . . . .	℥ ss.
Sol. Bromid Soda,	. . . . .	(1-2) ℥ i.
Aqua qs ad,	. . . . .	℥ viii
Ms. ℥ ii—℥ ss., as desired.		

PROFESSOR ERASMUS WILSON seems well endowed with the ability and desire to donate munificently. He has offered the sum of one hundred thousand dollars, or as much as may be required, to the Court of Directors of the Margate Sea-Bathing Infirmary for Scrofula, for the erection of a new wing containing wards for nearly seventy patients, a tepid sea-water swimming-bath, and a chapel containing seats for three hundred people.

M. ROUGET, Professor of Physiology at the Faculty of Medicine at Montpellier, has been appointed Professor of General Physiology, at the Museum of Natural History, in place of M. Claude Bernard, deceased.

DR. DAVID D. RICHARDSON, who has been superintendent and physician in chief of the Insane Department of the Philadelphia Almshouse for fourteen years, has been elected superintendent of the new State Asylum at Warren, Pa. He will enter upon his duties on May 1st.

TWO English ladies have just received the degree of Doctor of Medicine at Paris. Their theses were highly praised.

EDITORIAL.

“Nullius addictus jurare in verba magistri.”—HOR.

MEDICAL SOCIETIES.—The time is now approaching when most of our State Medical Societies, as well as the American Medical Association, will be in session. It is to be hoped that the entire profession will unite in making these meetings as interesting as possible by their presence and their contributions. A badly attended medical society impresses the public with the belief that medical men are inattentive to the scientific requirements of their profession.

The advantages derived from social intercourse, the liberality which interchange of opinions tends to produce, as well as the duty which is incumbent on every physician, to show that he takes an interest in the general welfare of the profession are all so obvious that they are mentioned here only to indicate the necessity for all medical men uniting their efforts to render these meetings socially pleasant and scientifically valuable.

It must certainly be admitted that the profession has for many years lost caste with the people, and that there is a necessity for increasing the standing of the profession with the general public. Nothing so certainly ensures this result as a manifestation to this public that physicians work together in corporate bodies, not only for the advancement of science, but for the benefit of humanity. This subject is trite, it is true, but is none the less important.

THE SANITARY CONDITION OF THE PUBLIC SCHOOLS.—This is a question that has attracted much attention from many local medical societies, yet no persistent effort has been made to remedy the evils existing. Some idea of their extent may be formed from the fact that in one school in this city (East Forty-second street) at least five per cent. of the teachers are temporarily invalided ; many of them suffering from diseases of the eye, produced by too strong a light. The school has at its head a principal whose only idea of ventilation is to open the windows when it is too warm, and

to shut them when it is too cold. This school is chosen for the reason that it illustrates the defects of all. It has fourteen hundred children in apartments originally intended for eight hundred, and this overcrowding together with the common ideas on the subject of ventilation, are the fertile sources of many of the dangers threatening child-life in this country. There seems to be two methods of correcting these evils, viz. : first, to build more school-houses and thus decrease the number attending them ; second, to endeavor to instil into the minds of the chief school officials, some idea in regard to ventilation. By measures like these the mortality among children would be much decreased, and the ill-health prevalent among this class would be much diminished.

While these abuses exist manifestly in most of the public schools of this city, the subject is interesting to all readers who study the evils in the normal schools of this country. It is a subject worthy of the attention of every physician. No less interesting is the question of contagious diseases in the normal schools and the absolute necessity of every physician, in his private, as well as public walk, enlightening the minds of parents and the public.

THE TENTH ANNUAL SESSION OF THE VIRGINIA MEDICAL SOCIETY.—This session was held at Alexandria, October 21st, 22d and 23d, 1879. It was very fully attended, and the proceedings were full of interest. The president, Dr. L. S. Joynes, of Richmond, gave a very able and interesting address, detailing the contributions made by Virginia to medical science, among which he mentioned the contributions of Drs. John Tennent, Thos. J. Garden and William Baynham. The "Annual Address to the Public and Profession," by Dr. Oscar Wiley, of Salem, is pathetic and inspiring. The reports "On Chemistry," by Dr. Edward T. Robinson, Richmond, "On Hygiene and Public Health," by Dr. Samuel K. Jackson, of Norfolk, are excellent, and contain much valuable matter. The invited paper on "Paquelin's Thermo-cautery," by Dr. H. P. C. Wilson, of Baltimore, Md., gives very valuable information in regard

to the use of this therapeutic measure. Dr. Toner's paper on "Dr. James Craik, the friend and physician of Washington," contained many interesting historical facts. Dr. Sims' paper on "Abscess of the Liver" adds much that is confirmatory of the researches of Dr. Hammond on this subject, and is a timely and important contribution to literature. The "Volunteer" papers by Dr. Fauntleroy, of Staunton, and Dr. William Selden, of Norfolk, are of much interest and value. It is to be hoped that the succeeding meetings of the Society will be equally interesting and that as many contributions to medical science will be made.

NIGHT MEDICAL SERVICE.—The plan proposed by Dr. Nachtel, an account of which will be found in the "Proceedings of Societies" has been the subject of much discussion by physicians. The prevalent drift of opinion is, that it would scarcely carry out what it is intended to do since: First, very few prominent physicians from the appearance of the record, are inclined to allow their names to be placed in the station house as proposed; because of their dislike to be called at all sorts of unseasonable hours and with prospects of not unfrequently having to waste time as witnesses before coroners' inquests and other legal tribunals: Second, that the messenger in going to a station house would pass at least five physicians' offices: Third, the influence that the ignorant and corrupt police officials could exert in the selection of irregular physicians who would divide the fees with others. All of these reasons independently of the domiciliary inspection features of the plan, (the most objectionable thing imaginable to the Anglo-Saxon) would suffice to show that the system is not regarded as practicable in any large American city. That it would save many lives is doubtful, and that it would ensure proper aid is for the reasons given above more than doubtful; beside the prospect of a great increase of public expenditure for the benefit of the large class of paupers who obtain medical aid without proper payment for the same. It will therefore, most likely fall still-born, as the medical public is certainly not desirous of having the already too numerous abuses of medical charity increased.

PERCENTAGES ON PRESCRIPTIONS.—As will be seen by reference to the "News" columns, a bill has been introduced into the California Legislature prohibiting the payment of percentages by pharmacists to physicians. This bill strikes at an evil which is by far too prevalent in the lower walks of the profession in large cities. It is certainly derogatory to the dignity and honor of the profession that a practice of this kind should be so much as hinted at, or as being found in even the meanest specimen of the regular physician; yet there is no doubt that among a class of practitioners who do not belong to any medical society and never consult with any of their colleagues, this practice has but too commonly obtained; some of these derive from it sufficient to pay their office rent and personal expenses. The immorality and inhumanity of the practice need scarcely to be descanted upon here. It is unjust to the patient and derogatory to both the physician and pharmacist thus engaged. Legislative interference, however, is the last thing that should be evoked; medical popular opinion if sufficiently aroused would be enough to strongly condemn and decrease the practice, and any effort would be supported by the pharmaceutical profession, most of whom are as punctilious about the honor and reputation of their guild as could be desired. By uniting these two forces and enforcing the laws requiring physicians to be members of County Medical Societies, the entire destruction of this pernicious system could be carried out without legislative enactment.

CONTRIBUTIONS to any of the departments of this JOURNAL are respectfully asked from all parts of the country. Where any one is unwilling to write an elaborate article, the facts involved may easily be placed in the form of a letter.

RAPID WORK.—In consequence of the delay caused by removing this JOURNAL to New York, the November number was not mailed until the middle of December. Since then (or in three months,) four numbers have been issued. The April number is mailed in March.

GAILLARD'S MEDICAL JOURNAL.

(Formerly the Richmond and Louisville Medical Journal.)

VOL. XXIX.]

MAY, 1880.

[No. 5.

ORIGINAL COMMUNICATIONS.

“Qui Docet Discit.”

ART. I. *A Case of Tuberculosis of the Peritoneum, with the formation of a Sac simulating an Ovarian Cyst.* By SAMUEL C. BUSEY, M.D., Prof. of the Theory and Practice of Medicine, Med. Dept. University of Georgetown; One of the Physicians to the Children's Hospital, Washington, D. C.

The above title indicates the feature of special interest presented by the following case of tuberculosis of the peritoneum, which is considered of sufficient importance to be published.

Maggie C——, black, aged 12 years, admitted to the Children's Hospital, August 8, 1879.

The only history of her previous condition was the simple statement that in January previous she was “sick with a deep cold and swelling of the feet,” which swelling disappeared, but was followed by enlargement of her belly, which had continuously increased.

Condition on admission, August 8th. (Notes by Dr. S. S. Adams, house physician). Abdomen greatly enlarged, measuring in circumference at umbilicus 29 inches; from umbilicus to superior spinous process of left ilium $7\frac{7}{8}$ inches, to right $7\frac{1}{8}$ inches; from Xiphoid cartilage to pubis 13 inches, to umbilicus 7 inches.

When the patient was lying upon her back the abdomen

remained pointed, with highest elevation at umbilicus. The area of dulness was circumscribed by a line extending from a little below the superior spinous process of the left ilium in a curvilinear direction upwards, passing one inch above the navel to the right near the inner border of the right flexure of the colon and thence downwards, rather abruptly, to the superior spinous process of the right ilium. Around this area the abdomen was tympanitic, especially along the descending colon and over right lumbar region; less so over left lumbar region. In the left iliac fossa along the lower margin of the dull area there was a narrow border, not more than a finger's breadth, of greatly diminished dulness, but not resonance. The outlines of this dull region was uninfluenced by change of position, either in the sitting posture or when lying upon either side. Within the area of dullness fluctuation was very distinct in every direction, and could be detected, though much less distinctly, on either side where the percussion sound was tympanitic, as well when each palpitating finger was without, as when one was outside and the others within the limits of the area of flatness. Over the entire dull region there was soreness, and tenderness to moderate pressure. The patient complained of pain in this region, which at irregular periods had been acute. There was some puffiness about the eyes. Emaciation was marked; features pinched; appetite fair; bowels regular.

Respiration was frequent. Sounds normal except in right inter-scapular region, where there was diminished resonance and marked puerile respiration. Cough occasional and trifling. During the subsequent history of the case, without any noticeable augmentation of the cough, or appreciable alteration in the respiratory sounds, the respiration continued frequent, occasionally the number of respirations did not exceed twenty per minute, but usually ranged between twenty-five and thirty-five, and several times numbered forty.

The temperature chart, representing the course of the fever from the date of admission till the fatal termination, exhibits constant daily differences between the maxima and

the minima, varying from one to three degrees. Several times it was above 104°F . marking periods of inflammatory exacerbations, attended with acute abdominal pain and very great tenderness. On several occasions the minima were subnormal. During the week preceding death there occurred a gradual and regular defervescence, with daily lessening maxima and minima, the lowest maximum being 98° with a subnormal minimum as low as 94.5°F . During this period the pulse fluctuated considerably, without correspondence with the temperature excursions. The respiration also varied, and was less frequent than previously, but more uniform in its variations than the pulse.

The pulse was always frequent and small, and exhibited correspondence in frequency to the temperature changes, increasing with the rise, and slowing with the fall of the body heat.

The bowels were usually moved once daily, but during the week immediately preceding death there was a moderate diarrhœa, the stools consisting of a dark, tarry, and exceedingly offensive liquid.

The urine was scanty, frequently the daily quantity did not exceed eight ounces, and occasionally was much less.

Examination of urine by Dr. E. M. Schaeffer Sept. 13th :
"Color natural ; turbid and frothy. Reaction acid ; sp. grav. 1028 ; Phosphates with heat ; no albumen or sugar. Large number of granular casts, for the most part straight and narrow. No blood, pus or oil globules. An excess of renal epithelium. A few crystals of oxalate of lime."

From Sept. 23d to Oct. 5th, the average daily discharge of urine was much increased, amounting one day to forty-two ounces. After this the abdominal distention was greatly diminished, and though it subsequently increased, it did not again reach the extent as previously stated at the date of her admission.

After this period of considerable increase in the daily average amount of urine the entire abdominal region became tympanitic, the dull area, as previously described, markedly so. For a time no fluctuation could be recognized. Subsequently, however, the partial refilling of the sac with fluid

was apparent, as fluctuation could be detected by palpating from side to side at the outer lateral borders of the previously described area of flatness, whilst over the surface of this region tympanitic resonance was pronounced. At no time during the after-life of the patient was there any circumscribed area of flatness within the previously described limits, or anywhere in the abdominal region, except in the localities of the solid organs. This tympanitic resonance of the summit surface (patient lying upon her back) of the circumscribed dull region is explained, as shown by the dissection, by the escape of gas from the intestines into the sacculated space.

On August 28th the lips became œdematous, and, several days afterwards, the pudendal labia and nymphæ were enormously swelled. The œdema extended to the abdominal integument. These infiltrations subsided spontaneously.

During her residence in the hospital she suffered several severe exacerbations, characterized by rigors, abdominal pain and tenderness, and sudden high elevation of temperature.

From the date of admission the case was regarded as one of tubercular peritonitis and, consequently, hopeless. The treatment consisted in rest, a nutritious and easily digested diet, tonics, cod liver oil, and the syrup of the iodide of iron. The iodide of potassium was given for many days. It seemed at times to produce a very marked diuresis. To it was ascribed the great increase in the quantity of urine which relieved the distention from fluid accumulation in the abdominal cavity. She died on Nov. 5th.

Post-mortem six hours after death by Dr. Adams: Body emaciated; rigor mortis well marked. Circumference of body at umbilicus 22 inches. Heart pushed upwards, large and flabby. Right auricle contained a white clot as large as a pigeon's egg, extending into the right ventricle. Right ventricle normal.

Lungs pale anteriorly, congested posteriorly (hypostatic). Adherent to diaphragm on both sides. In the posterior, inner angle of the upper lobe of the right lung was a caseous mass larger than a walnut, which approached the sur-

face, and may, perhaps account for the altered physical signs recognized in the right inter-scapular region on August 8th.

Upon opening the abdominal cavity a quantity of very offensive gas escaped. The walls of the abdomen were closely adherent to a mass which occupied the entire cavity and could only be separated by a careful dissection. No portion of the intestines could be seen, only a small part of the stomach being in view. At the lower border of this mass was a pouch which was partly adherent to the abdominal walls above the pubis and dipped down between the uterus and bladder. It contained about a quart of most offensive, black, fæcal-looking, granular, semi-solid material. Pressure upon this pouch caused a discharge through the anus of fluid similar in character to that which filled it. A similar sac was located in the left inguinal region and another in the left hypochondrium, but were much smaller. The large tumor could not be separated from the abdominal viscera and it together with all the organs were removed *en masse* as shown in the accompanying figure. (Next page.)

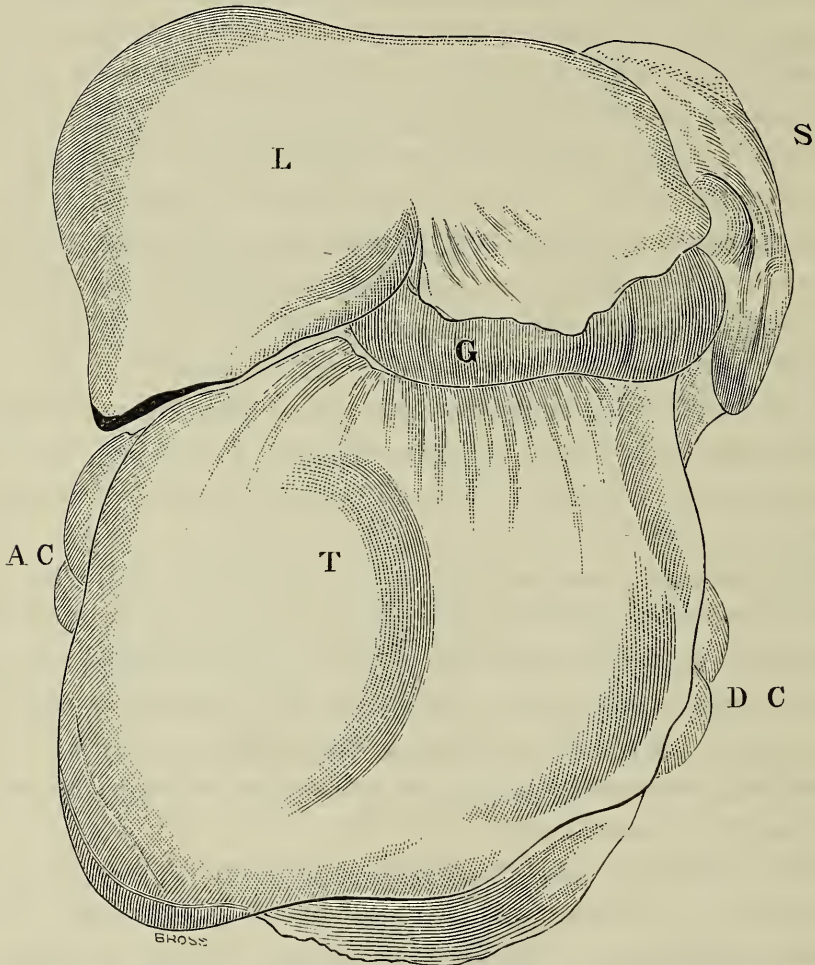
“ The anterior wall of the sac was comprised of the parietal peritoneum, which in some parts was nearly one inch in thickness, produced by successive layers of firmly organized fibrous exudation. Large yellow tubercles, size of peas, were scattered throughout the different layers. The omentum, mesentery and mesocolon were also thickened by fibrinous exudations.

“ The coils of the intestines were in some places separated by layers of exudation, and in other places glued and matted together so that they were fixed in one position.

“ The mesenteric glands were enlarged and in a state of caseous degeneration. Stomach was bound down on all sides by adhesions and was separated with great difficulty. It was free from tubercles.

“ The duodenum was involved in a mass of exudation. It, the jejunum, and the larger intestines were free from tubercles. The intestines were so bound together by the exudation above described, that it required careful dissection to free them. The solitary glands and Peyer's patches

were inflamed and enlarged in all parts of the intestinal tract. Tubercles were only found in the ileum. The tubercles as a rule were in the serous coat, but in many places they had extended to the muscular and mucous coats. In the ileum perforations were found—upper and middle parts—; near the cæcum there was a large one.



L. liver ; S. spleen ; G. stomach ; A.C. ascending color ; D.C. descending color ; T. Tumor. Dissection of this mass by Drs. Acker and S. S. Adams.

These perforations took place in the Peyer's patches. In many places in separating the exudation from the ileum, small perforations were occasioned by tubercles being torn from the intestine and adhering to the exudation.

“Liver firmly attached to the diaphragm by adhesive inflammation : on the under surface were a few large tubercles—size of peas. There were also some along the sides of

the gall-bladder binding it to the liver. Normal quantity of bile. The left lobe of the liver was small and thin and appeared to form a part of the diaphragm, so intimate was the connection between them. The liver substance was normal. No tubercles seen. The great liver vessels situated in a large tuberculous mass, consisting of tubercles, fibrinous exudation and mesenteric glands enlarged and undergoing caseous degeneration. The aorta, vena cava, lymph vessels, nerves, pyloric and cardiac ends of stomach and duodenum were also involved in this mass."

"Spleen was firmly adherent to the diaphragm. About $\frac{1}{3}$ of an inch between it and left lobe of the liver. Tissue normal ; no tubercles."

"*Kidney*—The left was surrounded and bound down by exudation ; capsule easily removed ; no tubercles. The right was adherent by the capsule to the right under surface of the liver ; capsule easily removed ; Substance normal ; no tubercles."

Dr. Acker adds that the "case was one primarily of general tubercular peritonitis which had occasioned successive fibrinous exudations. All parts covered by the peritoneum and its prolongations were enclosed by this exudation which in most places had become organized."

"Secondary eruption of tubercles had taken place in the ileum, liver, and pleura and along the diaphragmatic attachments of the lungs, but in each case the tubercles were few in number. In fact, the organs were remarkably free from them. He judged in all cases by the naked eye appearance. Perforations of the intestines occurred in the ileum—upper, middle and lower part. There were not any communications between the different coils of the intestines. The abscesses or sacs were encapsulated by the fibrinous exudation."

"The tubercles were the large yellow variety and were about the size of a pea. There were no small gray ones seen."

The points of special interest in this case relate to diagnosis. The brief and meagre history presented but the single fact—that the disease had commenced eight months previous with a "deep cold" with subsequent and progress-

ive enlargement of the abdomen. At the examination on the day of admission, there was no difficulty in marking out the immovable, dull and fluctuating area occupied by the large sac, and delineated as the tumor in the drawing; nor was there any doubt in regard to the adhesions of the entire circumference of this fluctuating area to the abdominal parietes. These observations, together with the history, fever, emaciation, slight cough and rapid progress of the disease directed attention to the tuberculous nature of the malady. It was believed then, as disclosed by the post-mortem, and dissection of the tumorous mass, that the walls of the sac or abscess were formed in front by the parietal peritoneum and posteriorly by the agglutinated intestines. If the drawing of the contents of the abdominal cavity be studied in connection with the record of the examination, it will be seen that the outlines of the fluctuating area were very definitely and accurately described. The tympanitic resonance on each side was easily understood, but why fluctuation was present outside of the margins of the dull area where the percussion sound was tympanitic, was not understood until explained by the dissection of the mass. The drawing shows that the ascending and descending colon were attached along the borders of the fluctuating and dull area, which furnished the tympanitic percussion note along the sides. Behind these portions of the intestine the large abscess dipped and other smaller ones were found. This fact explains satisfactorily, why, as recorded at the examination, fluctuation could be "detected, though much less distinctly, on either side where the percussion sound was tympanitic as well when each palpating finger was without, as when one was outside and the other within the limits of the area of flatness." In view of the frequency with which multiple sacs or abscesses are found in cases of tubercular peritonitis this explanation of the phenomena ought not to have escaped recognition at the time of the examination. It was, however, believed at that time that the fluid was of a serous character. But the one cyst was recognized during the lifetime of the patient and the outer borders of the area of dullness were thought to circumscribe its extent.

Nevertheless, the memoranda of the examination record the fact that resonance was less in the left than in the right lumbar region, due, as shown by the dissection, to the presence of one of the smaller abscesses. In the left inguinal region, below the lower margin of the large tumor or abscess, as shown in the drawing, and described in the notes of the examination, as a border of greatly diminished dulness, but not resonance, was located another abscess, which was not recognized during life. Nor does the post-mortem discover the explanation of a defined margin of flatness marking the left inguinal limit of the tumor, (see drawing) immediately below and contiguous to which was another abscess as large as a goose's egg, which gave on percussion a note of so much less dulness as to enable the examiner to detect the difference. It may be, that the "border, not more than a finger's breadth, of greatly diminished dulness, but not resonance," as described in the notes of the examination, was even below the second contiguous abscess; but the drawing (which was made by Professor Kleinschmidt without any knowledge of the history or diagnosis of the case) does not sustain this supposition. Its proximity to, and overlaying of, the sigmoid flexure may, probably, furnish a more rational explanation.

In the memoranda of the examination the region exhibited in the drawing as the tumor is described as a circumscribed, dull and fluctuating area. During the course of the disease, after the quantity of the urine had been greatly increased, ascribed at the time to the diuretic effect of the iodide of potassium, this circumscribed, dull and fluctuating area became tympanic. At the time the explanation seemed very plain. Under the influence of treatment the fluid accumulation, believed to be serous, had been absorbed and eliminated through the kidneys, followed by collapse of the cyst and consequent coaptation of the posterior wall, constituted of agglutinated intestines, with the anterior wall or parietal peritoneum. The tympanic resonance was due to the contact of the intestines distended with gas.

Subsequently this space partially refilled, but its summit surface remained resonant. The dissection disclosed the

existence of several perforations of the intestinal walls, which suggest the probability that gas escaped through some one of these perforations into the original cyst. After this, fluid was distinctly recognized in the cyst by palpating from side to side, that is, when the patient was lying upon the back, the summit was tympanitic, whilst at its lowest lateral margins fluctuation was distinctly recognized. It was believed, then, that air had escaped into the cyst from the intestines ; and this view seems to be corroborated by the dissection of the tumorous mass, yet if the original contents of this cyst was pus and had escaped through a perforation of the intestinal wall, there ought to have been some confirmatory proof of its discharge through the anus. The current history of the case recorded daily by Dr. Adams, the house physician, does not supply such evidence. It was from Sept. 23d to Oct. 5th that the quantity of urine greatly increased, and immediately after this the dullness of the umbilical region entirely disappeared, yet not until the week immediately preceding death (Nov 3d) was there any diarrhœa. At the time of the dissection, this cyst, or abscess as the case may be, was empty. These circumstances force me to the conclusion that at the time of the first examination it did not contain a serous fluid which was absorbed ; and that the connection between it and the intestinal tract was subsequent, and caused by perforating ulcers beginning in Peyer's patches. as described by Dr. Acker. The fact that the summit surface of the original circumscribed dull and fluctuating area remained, after the absorption of its fluid contents, tympanitic, whilst its posterior or base gave indubitable evidence of the presence of fluid, is conclusive that the cyst was at least partially filled with gas, which may have entered it through the perforated walls of the intestines,* but it does not prove that the original contents of the cyst escaped through a perforation of the intestinal wall. If the contents of the sac were, as believed at the time of admission, serous, which subse-

* It is not, however, impossible that the gas may have been generated in the sacculated space, as such cases are recorded.

quently, as previously suggested, was absorbed, the tympanic resonance of the region which followed was due to the contact of the intestines with the abdominal walls. Following these occurrences, the ulcerated Peyer's patches may have perforated the intestinal wall, gas escaped in the cyst, succeeding by the formation and accumulation of a purulent fluid.

The observation of Dr. Acker that the solitary glands and Peyer's patches were inflamed and enlarged in all parts of the intestinal tract, and that the perforations took place in the agminated glands of Peyer is very interesting, inasmuch as it, presumptively, locates the beginning of the tuberculous process in the intestinal follicles, and points to the secondary formation of the encapsulated abscesses in immediate connection with the disease of Peyer's patches. This suggestion is corroborated by the fact that tubercles were only observed in that portion of the intestinal tract (ileum) where Peyer's patches are largest and most numerous.

During the examination at the time of admission the possibility of the presence of an ovarian cyst was considered, but was excluded by the facts elicited at that time. A few days observation, and examination of the pulse-rate and temperature chart confirmed the diagnosis of tubercular peritonitis. The probability of the formation of a cyst in cases of tubercular peritonitis simulating ovarian dropsy is very remote. I have not examined the literature of the subject, and can refer only to the one case observed by Kaulich, in which "the partial sacculation † of fluid by means of firm membranes produced phenomena which gave rise to a similarity to an ovarian cyst." At page 296 another case is recorded in which there was found a large, thin, purulent "effusion in the parietal cavity, together with numerous adhesions between the abdominal viscera producing tumors and encysted masses ;" and also an ovarian cyst as large as a child's head.

The case exhibited another phenomenon worthy of notice.

† Ziemsen's Cyclopaedia, Vol. VIII, p. 336.

During the progress of the disease it frequently occurred that the temperature fell below the normal. This circumstance I have observed very often in phthisical diseases, and have learned to regard it as a symptom of unmistakable significance even in cases before I could locate the morbid process. The clinical records of the Children's Hospital will furnish numerous illustrations of subnormal temperatures occurring during the progress of phthisical diseases, and some instances of prospective diagnoses of tuberculous developments were based upon the repeated occurrence of subnormal temperatures during convalescence from other diseases, in the absence of any other symptom worthy of note. I am not aware that this fact has been previously stated with so much emphasis, but it has been noticed by several writers. Bauer, at page 295, Vol. VIII, Ziemsen's Cyclopedia, supplies the temperature chart of a case in which a purulent fluid was found in the peritoneal cavity, together with numerous adhesions and encysted masses. During the progress of this case the temperature frequently fell below 98.4° . Ruehle (Vol. V., p. 568, Ziemsen's Cyclopedia) in discussing the febrile phenomena of pulmonary consumptives, says in chronic cases "the minima are generally normal, or a little below the normal." Again, "there may be high and low minima, subnormal temperatures, and all these for a few days only or for weeks together." And again at page 599 he adds, "equally ominous are high evening temperatures, or high maxima at any other time, even when the minima are normal, and especially if they are subnormal."

ART. II. *Acute Fibrinous Bronchitis*. By JAS. G. KIER-
NAN, M.D.

This affection, known also as Psuedo-Membranous, or Croupous Bronchitis, Bronchial Croup, or, Bronchitis with expectoration of fibrinous casts, is exceedingly rare; for this reason, the two following cases are thought worthy the attention of the readers of the JOURNAL. One of them came under the observation of the reporter while a student

in the Medical Department of New York City University, and the other was observed when an interne in the N. Y. City Insane Asylum, Ward's Island. The first case is worthy of special attention, because at that period, is the disease (according to Rugel) * especially infrequent. The case is as follows :

CASE I. T. L., a girl 4 years old, was suddenly seized by a fever with a temperature of 102° F. accompanied by considerable dry cough, great feeling of distress, much loss of appetite, and great thirst. These symptoms continued four days, the physical examination giving the usual signs of acute catarrhal bronchitis. The patient was given two grain doses of quinine every two hours. On the morning of the fifth day the child complained of great dyspnoea, and a *dread* of dying by choking as she expressed it ; in the afternoon she commenced spitting up what her mother called "little red worms," but which turned out to be bronchial casts of a pale reddish tinge, resembling the branching twigs of a tree in shape. The longest piece was about an inch long, the main stem being about a third of an inch. Sections of these showed them to be hollow and filled with air and mucus. They were not perfectly smooth, as little excrescences occurred at intervals, resembling in appearance the folds, made by pressing in its long diameter, a piece of rubber tubing. The appearance of these casts led to a more extended examination into the history of the case. The attack had been ushered in by a severe chill followed by epistaxis.

On physical examination, percussion was unusually clear all over the chest, but the respiratory murmur was absent at both apices, and just before coughing a shrill sound resembling the twittering of sparrows was heard. The family history was very unfavorable ; the maternal great-grandmother and grandmother and an aunt, had died of phthisis ; the mother herself being phthisical at the time of the patient's birth. The father was an inebriate and had had syphilis, and one brother had died of "water on the brain," as

* Ziemssen, Vol. IV. p. 443, Amer. Edition.

the mother called it. Just previous to the first expectoration of casts the fever had abated, and after the paroxysm of coughing which preceded the expulsion of the casts, there was a profuse perspiration. When first seen after the casts had been expectorated, the child still complained of great dyspnœa, and was rather cyanotic about the extremities. The following was then ordered.

℞ Kali Iodid., ʒ iss.
 Hydrarg Bichlor., gr. ss.
 Ammon. Carb., ʒ ss.
 Ex. Fl. Sarsap.,
 Ex. Fl. Glycyrr., aa ʒ i.
 Syr. Tolu, ʒ ss.
 Syr. Senega, ʒ i.
 Syr. Simplices, q. s. ad., ʒ iv.
 M. S. ʒ ii omne tertia hora.

The quinine being continued and dry cups applied over both apices anteriorly and posteriorly. These measures seemed to relieve the child, but she still complained of great distress in breathing, just previous to the paroxysms of coughing, which continued to recur every morning and evening. In about two days after the commencement of this treatment there was an abundance of mucous rales to be heard over the apices, and the respiratory murmur was heard in places and the expectoration gradually assumed the character of that of croupous pneumonia, the distinct character of the casts not being marked. On the tenth day of illness there were left only large mucous rales all over both apices, but a dulness on percussion was observed at posterior aspect of the left apex, which was now noticeable for the first time, rendering it probable that atelectasis had occurred. The patient was able to go about and could be considered well with the exception of the atelectasis which still existed two years later, at which time she was seen for the last time.

CASE II. In October, 1874, a workhouse man, aged thirty, came in great haste to the drug store of the N. Y. City Insane Asylum, stating that "he was spitting up worms and they were choking him to death," which

“worms” proved to be bronchial casts. He had been under treatment for two days previous for a “bad cold” with great distress in breathing, a dry cough but no expectoration, and had received a muriate of ammonia expectorant mixture. He had had a temperature of 100° F. but had continued to do his work with no more than the usual workhouse inertia, till the time that the “worms” and the choking sensation made their appearance. Examination revealed a rather increased percussion sound over base of left lung, but an absence of the respiratory murmur there. His father, aunt, and grandfather had died of phthisis, one brother had died spitting “the same kind of worms,” (which added to the patient’s alarm) and another died of “water on the brain.” He was an inebriate, and had had syphilis. He complained of great dyspnoea and paroxysms of coughing at times, but was able to keep at his usual work which pleased him, as he was afraid if he went into an hospital, he would be kept beyond the expiration of his term of imprisonment. The casts in this case were larger than in Case I., and the central twigs were solid. He was ordered the same treatment except the quinine, and was required to come every morning and evening to the drug store to be dry cupped. The respiratory murmur appeared suddenly in patches where it had previously been absent; a shrill sound heard at times over the affected portion of the lung disappeared, and twelve days after the inception of the disease, the man was entirely well.

Such is the history of two cases of this rare disease. That they throw much light on its etiology cannot be said, but they furnish something toward that end. The similar ancestral history, and the fact that a brother of the last patient died from what was evidently the same disease, are very striking. From the paucity of my observations, I refrain from drawing any conclusions, and lay these cases before the readers of the JOURNAL on account of their intrinsic interest, and in the hope that others may thus become induced to add their quota to the history of this rare disease.

144 2d Ave., New York.

ECLECTIC DEPARTMENT.

“Carpere et colligere.”

ART. I. *Double Monsters. Description of the Specimens in the Museum of the Brooklyn Anatomical and Surgical Society, with Remarks.* By LEWIS S. PILCHER, M.D., Demonstrator of Anatomy to the Society; Adjunct Professor of Anatomy in the Long Island Hospital Medical College.

The classification adopted in the present paper is that of Fisher, see Articles on Diploteratology, Transactions of the New York State Medical Society, 1865-66-67 and 68.

This classification is itself based upon the one elaborated by Förster (*Die Missbildungen des Menschen*), whose divisions have been improved and made to follow a more natural order by Fisher.

Double monsters include only beings in which traces of duplicity in the cerebro-spinal axis exist. The method of their developement is thus stated by Fisher: “They are invariably the product of a single ovum, with a single vitellus and vitelline membrane, upon which a double cicatrícula or two primitive traces are developed. The several forms of double malformation, the degree of duplicity, the character and extent of the fusion, all result from the proximity and relative positions of the neural axes of two more or less complete primitive traces developed on the vitelline membrane of a single ovum.”

The clue is thus given to a method of natural classification; the two primitive traces may fuse at their caudal extremity and diverge in varying degrees as they ascend; the result is a double being separated above and joined below, the cleft of the cerebro-spinal axes being from above downward; hence Order I. *Terata katadidyma*, monsters with downward cleavage.

If the fusion is at the cephalic extremity with divergence of the caudal extremities, a double being is produced single above and double below; Order II. *Terata anadidyma*, monsters with upward cleavage.

If the two primitive traces approach at points in their continuity only, while the two extremities diverge, a double being results, double both above and below, with union between ; Order III. *Terata anakatadidyma*, monsters with both upward and downward cleavage.

The differing degrees of duplicity found under each of these orders constitute minor divisions—genera and species for the nomenclature of which concisely descriptive terms are adopted ; the result of this is that in this classification the name by which any specimen is characterized embodies a fair description of them. I think it merits adoption in preference to any other heretofore suggested.

SPECIMEN I. *Order*, *Terata katadidyma* ; *Genus*, *dicephalus* ; *Species*, *dibrachius dipus* ; *Variety*, *diauchenos*.

History : Mother multiparous ; utero-gestation was unattended with anything noteworthy ; earlier stages of labor were prolonged ; a head was finally delivered by forceps, after which no progress was made for some hours. Dr. Andrew Otterson, having then been called, attempted to introduce his hand into the uterus for exploration ; partial version of the retained parts resulted from this attempt, so that the breech engaged ; efficient contractions followed, producing expulsion of the breech and body, followed lastly by the second head. The child was dead when delivered. The mother recovered without drawback. Specimen presented by Dr. Andrew Otterson.

Description.—*External Configuration*. A fully-developed male child. It has two distinct and perfect heads and necks ; one trunk ; two upper and two lower extremities.

Its extreme length is 48 centimetres (19 inches).

The girth of the chest, over nipples, is 39 centimetres ($15\frac{1}{2}$ inches).

The two heads differ slightly in their size ; the circumference of the left head is 36 centimetres ($14\frac{1}{4}$ inches), that of the right head is 33 centimetres ($13\frac{1}{8}$ inches).

There is no anal orifice.

The genitals are male, single and perfect.

Skeleton. The vertebral columns are distinct and perfect throughout ; they approach each other gradually from

above downward as far as to the lumbar region, whence they run parallel to each other, being separated by a small interval ; the sacra, each distinct and perfect, articulate with



FIG. 1.—DICEPHALUS DIBRACHIUS. DR. A. OTTERSEN'S CASE.

each other by means of an interarticular fibro-cartilage which unites the contiguous auricular surfaces of the two bones.

From each sacrum springs the innominate bone which forms the wall of the pelvis upon that side ; at the symphysis pubis the two unite as usual.

The corresponding dorsal vertebræ of the two columns are united by a series of bony arches formed by coalesced ribs ; each arch or compound rib has two normal heads, one

at either extremity, by which it articulates with its proper vertebræ. The length of these arches decreases from above downwards, the longest being 38 millimetres ($1\frac{1}{2}$ inches) long.

The ribs, which spring from the free sides of the two vertebral columns, are connected to a common single sternum in front by unusually long costal cartilages, and thus complete the thorax.

The clavicle and scapula of either side are normally related to the sternum and ribs.

Resting upon the posterior face of the upper compound ribs, in the middle of the back between the two series of dorsal spines, is a compound scapula formed by the fusion of two bones along their anterior edges; an acromion process, club-shaped, projects forward from the middle of the upper edge of this compound scapula; articulating with this process, and passing directly forward to articulate with the sternum at its upper border, the episternal notch affording an articulating surface, is a slender compound clavicle.

Respiratory System. Two sets of respiratory organs are present, each independent and perfect. There are four pleural sacs. By the blending of the pleural layers which lie in contact in the middle line, a fibro-serous septum is formed which divides the thorax into two cavities posteriorly; these middle pleural sacs and their contents are hidden from view anteriorly by a large pericardial sac, with the posterior wall of which the anterior margin of the septum described becomes blended.

Circulatory System. The pericardium lies in the middle line, directly behind the sternum, and extends to some distance on each side of it. The sac is single and incloses a compound heart

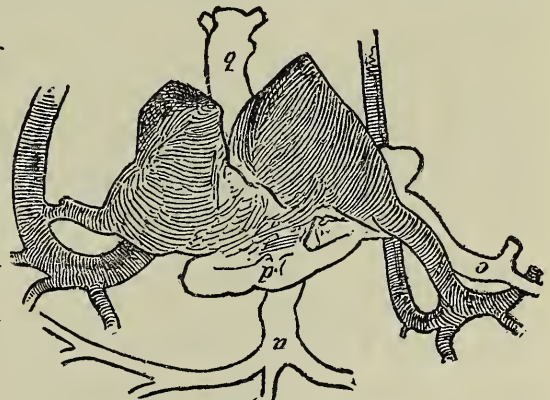


FIG. 2.—COMPOUND HEART.

a. Descending Vena Cava; b. Ascending Vena Cava
c. Right Innominate Vein; d. Compound Auricle.

(Fig. 2), the ventricular portions of which remain separate,

while the auricles are blended together. Constituting the left mass of this heart are two ventricles and one auricle, the left, which are of normal size, shape, and relative position. The origins and relations of the aorta and pulmonary artery upon this side are normal. Into the auricle enter four pulmonary veins. The elements of the right mass are more changed: there is but one ventricle, which however is larger than either of the ventricles of the other mass; from the right side of its base springs a second aorta; there is no pulmonary artery on this side. There is no apparent attempt at differentiation of the auricles; there is simply a single capacious auricle (d), which is blended with the right auricle from the left mass, forming a huge venous reservoir. At the right posterior side of this reservoir enter two small pulmonary veins from the right pair of lungs.

A single ascending vena cava (b) gathers the blood from the lower portion of the body; above, the left innominate vein of the left child crosses transversely its neck to the point of junction of the two necks, receiving the right internal jugular in its course; here it is joined by the left internal jugular of the right neck, and by a large anomalous vein from behind; the large descending vena cava (a) thus formed descends in a straight course to the middle of the compound auricle. The right innominate vein (c), formed by the right internal jugular and right subclavian veins of the right neck, empties into the compound auricle at its right side.

The two aortas descend each upon the left side of their proper vertebral columns; they do not unite below, nor bifurcate, but each diverging continues as a common iliac, and after giving off the umbilical artery, passes on to be distributed to a lower limb.

Digestive System. There are two stomachs. The left is of normal shape and size, and occupies its usual place in the abdomen. To its cardiac end is attached a normal spleen, the only one present. The right stomach is smaller, pyriform in shape, hidden behind the liver, lies very obliquely, with its pylorus pointing toward the pylorus of the other. Its duodenum, joins at once the left duodenum, and the

two bowels appear fused together for about one-sixth of

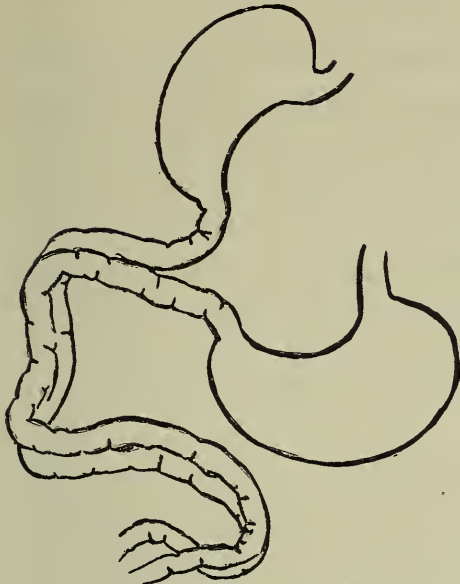


FIG. 3.—STOMACHS AND COMPOUND DUODENUM.

their entire length ; a well-marked longitudinal groove so marks the fused bowel that the appearance of a double-barreled gun is produced ; transverse section shows that they are divided by a membranous septum into two distinct canals, which communicate freely with each other by frequent openings in the septum ; the bowel then divides into two distinct tubes, each with its own mesentery ; this persists through a length

equal to one-third of the whole ; then they again fuse, and the double-barreled arrangement persists through a length somewhat greater than at the beginning ; the small intestine finally becomes single, and continues thus to its junction with the large intestine, which likewise remains single to its termination ; at the point of beginning of the single tube a small nipple-like diverticulum exists.

The rectum descends to the bottom of the pelvis, where it ends in a cul-de-sac.

The entire length of the small intestine is 1.84 metres ($72\frac{1}{2}$ inches) ; that of the large intestine 66 metres (26 inches).

The liver, upon its surface, appears to be a simple organ, but from its posterior inferior border project supernumerary lobes, the evident remains of a second liver. There is but one gall-bladder.

Genito-urinary System. There are three kidneys—a large compound kidney lying in the mid-lumbar sulcus, and one in either lateral lumbar region.

The left kidney is greatly atrophied ; the bladder is single ; the genital organs single and well developed.

Nervous System. Each head and neck, and each lateral half of the body is supplied by its own cerebro-spinal axis ;

along the line of fusion only is there any communication between the branches of the two axes.

Remarks. The genus dicephalus, to which this specimen belongs, is characterized by the existence of two distinct and separate heads, either equal or unequal, with various degrees of duplicity in the vertebral column. The component bodies are laterally conjoined ; both of the faces look anteriorly, and usually in the same direction. Fisher states that of five hundred cases of human double monsters which are recorded, almost one-third belong to this genus ; in these the female sex preponderates in the proportion of about two to one.

Viability. Apart from the accidents of birth, was this monster viable ? The answer to this is found in an examination of the structure of the heart and great vessels. Of the compound heart, the left mass displays all the parts of a complete heart, and the arrangement of the great vessels is normal, so that the aeration of the blood and its supply to the left child is fully provided for ; the right mass is composed of but one auricle and one ventricle ; the venous blood passing from one to the other would have been at once driven on into the right aorta ; no pulmonary artery exists to receive even a portion of it for transmission to the right pair of lungs, which, for purposes of aeration, would accordingly have been useless. No inosculation between any large arteries of the two systems exists to have permitted any admixture of arterial blood with the venous current of the right system. This condition would have entailed immediate asphyxia upon the right child, had the monster been delivered alive ; the speedy death of the left child would have followed ; this specimen was not viable.

Closely related to this specimen, but illustrating a degree of fusion less extensive is the living female double monster known as the St. Benoit twins. In this being the division extends through the thorax as far as to the abdomen ; so that the thoracic organs and the upper extremities, as well as the necks and heads, are separate and distinct. During the months of December 1878, and January and February, 1879, this being was exhibited by its parents in this city.

Upon the 28th of February it completed its first year. During this time I visited it repeatedly, but met with much difficulty in any attempt at thorough examination of it from the unreasonable fears and prejudices of the parents. I was finally successful however in obtaining an inspection of its whole body, and in enabling Mr. Dickinson to make the sketch which accompanies this report, and which represents well its external configuration.

The names *Marie* and *Rose* have been given to the right

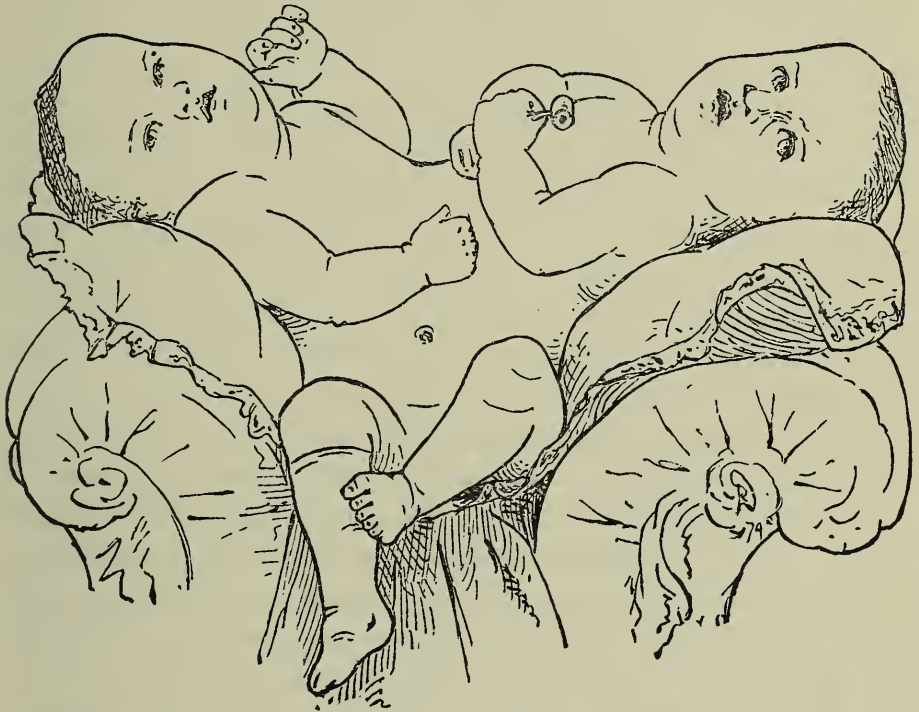


FIG. 4.—ROSE-MARIE DROUIN, "THE SAINT BENOIT TWINS."

and left child respectively. Their patronymich is *Drouin*. In the *Canada Medical and Surgical Journal* of October, 1878, I have since found a description of these beings by Prof. D. C. MacCallum, of Montreal, which, as it corresponds with my own later observation, I repeat :

Marie is more strongly developed and healthier looking than her sister *Rose*, who is smaller, darker and more delicate looking. They are both bright, lively and intelligent looking children. The two bodies, from the heads as far as the abdomen, are well formed, perfectly developed, and in a state of good nutrition. The union between them commences at the lower part of the thorax of each, and from that part downwards they present the appearance of one

female child ; that is, there is but one abdomen with one navel, a genital fissure with the external organs of generation of the female, and two inferior extremities. The floating ribs are distinct in each, as is also the ensiform cartilage. The lateral halves of the abdomen and the inferior extremities correspond in size and development respectively to the body of the same side ; and the same remark applies to the labia majora. The spinal columns are distinct and appear to meet at a pelvis common to both, although the fusion of the children commences at some distance above their junction. From near the extremity of each spine a fissure extends downwards and inwards, meeting its fellow of the opposite side at the cleft between the buttocks near the anus, including a somewhat elevated soft fleshy mass, thicker below than above. At a central point between these fissures, at the distance of *two and a half inches* [64 mm.] from the point where the vertebral columns meet, and *three and a half inches* [89mm.] from the anus, there projects a rudimentary limb with a very movable attachment. This limb, which measures *five inches* [127 mm.] in length, and is provided with a joint, tapers to a fine point, which is furnished with a distinct nail. It is very sensitive, and contracts strongly when slightly irritated.

The spinal, respiratory, circulatory and digestive systems of these children are quite distinct. They have each a separate diaphragm, and the abdominal muscles on each side of the mesial line, and the limbs of that side are supplied with blood by the vessels, and are under control of the nervous system of the corresponding child. They have each a distinct stomach and an alimentary canal, which probably opens at a point close to the common anus. It would follow also that the accessory organs of the digestive system are distinct for each child.

The two fissures behind are evidently the original clefts between the buttocks of each child, one buttock remaining in its integrity, whilst the other in a rudimentary condition is fused with that of the opposite child, forming the soft fleshy mass from the upper part of which the rudimentary limb projects.

These children are the products of a second gestation. They were born at St. Benoit, county of Two Mountains, on the 28th February, 1878. The mother is a fine, healthy-looking woman, aged 26 years. Her labor lasted seven hours, commencing at 1 A.M., and terminating at 8 A.M. One head and body were first born ; this was shortly followed by the lower extremities, and immediately after the second body and head were expelled.

This being belongs to the genus *dicephalus*; species *tetrabrachius tripus*.

The St. Benoit twins have now survived their birth a longer period than in any other recorded instance among the three-footed, four-armed dicephalic monsters. The case recorded by MacLaurin, in the *Philosophical Transactions*, London, 1723, Vol. XXXII. p. 346, which lived for two months, is the next longest lived recorded.

When last examined by myself, this being had attained thirteen months of age; its vital functions were all being performed regularly and properly, and the mental development of the two parts was equal to that usual to children of its age. It apparently had as good an expectation of living to maturity as any other infant.

This being, though strictly included in the species to which I have assigned it, still, in consequence of the very rudimentary character of the third pelvic limb, approaches very closely to the species *dicephalus tetrabrachius dipus*, which it resembles in all its high degree of viability. This rudimentary limb had not grown correspondingly with the rest of the body, and when seen by myself was but little longer than it is described to have been by Dr. MacCallum, ten months before. To this latter species belongs the widely-known case, *Ritta-Christiana*, that died at Paris, November 23d, 1829, having lived eight months and eleven days.

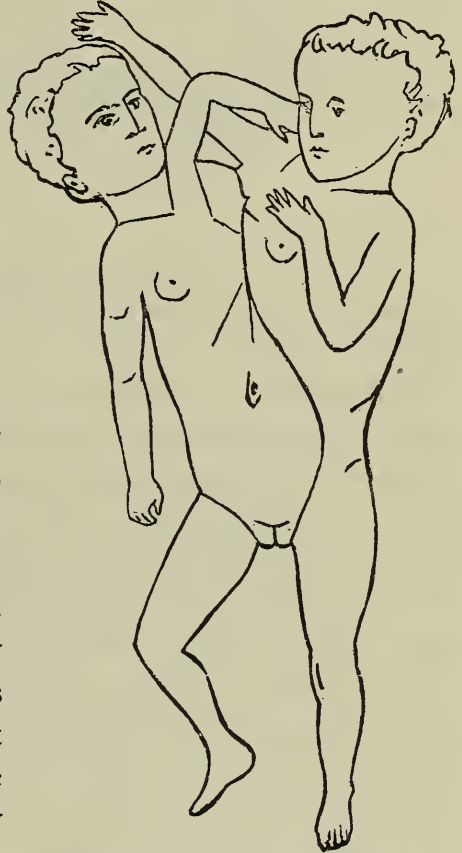


FIG. 5.—RITTA-CHRISTIANA.

SPECIMEN. II. *Order*, *Terata Katadidyma*; *Genus*, *dicephalus*; *Species*, *dibrachius*; *Variety*, *monauchenos*.

History: This specimen of two-headed, single-necked monster, with one body and two anterior extremities, is a

lamb which was born in the spring of 1874 near Plainfield, N. J. Having been at once discarded by its mother, it was



FIG. 6.—TWO-HEADED LAMB.

being spoon-fed for a time ; it received nourishment by one mouth only, some imperfection seeming to exist in the other. It lived between two and three weeks. It was then prepared by a taxidermist, and no record made of its internal structure. It was afterwards secured by Dr. A. R. Matheson, by whom it has been presented to the museum of the society.

Description. The heads are equal and perfect, as far as external examination shows ; they form an obtuse angle with each other as they spring from the single neck ; the neck externally shows no evidence of duplicity, although undoubtedly there did exist some duplicity in the upper cervical vertebræ. It is to be regretted that the arrangements of the tracheæ and œsophagi cannot be ascertained.

According to Fisher, this is an extremely rare variety of duplex formation, so much so that only two or three examples of it have ever been recorded.

SPECIMEN III. *Order*, Terata Katadidyma ; *Genus*, diprosopus ; *Variety*, triophthalmus.

This specimen of double-faced, three-eyed monster, is a small chick, the history of which is unknown. It was presented to the museum by Mr. James E. Pilcher. The accompanying figures admirably exhibit the degree of duplicity present. The angle made

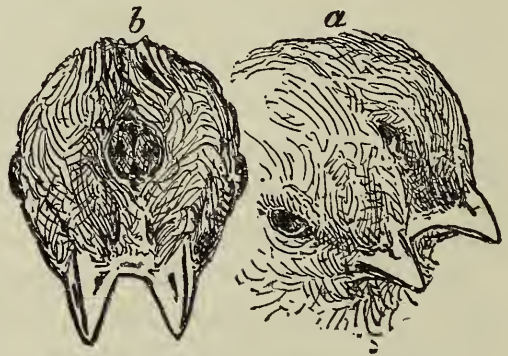


FIG. 7.—DOUBLE-FACED CHICK.
a. Side View. b. Front of the same.

was then prepared by a taxidermist, and no record made of its internal structure. It was afterwards secured by Dr. A. R.

by the converging facial planes is very acute, so that the two bills are nearly parallel, and but little separated from each other. The median eye, its palpebræ being single, presents two globes within its orbit, which are fused together.

These three museum specimens, together with the Saint Benoit twins, illustrate well a gradually descending scale of duplicity resulting from a less and less degree of divergence of the cephalic extremities of two primitive traces. They are all well-marked examples of monsters duplex with downward cleavage. The order of monsters duplex with upward cleavage is equally well represented in the two remaining specimens in which the vertebral axes, independent and divergent at their caudal ends, gradually approach until finally they become fused at their cephalic ends.

SPECIMENS IV. and V. *Order*, Terata Anadidyma ; *Genus*, syncephalus ; *Species*, monoprosopus.



FIG. 8.—SKELETON OF SYNCEPHALIC DOG.

These two specimens of double-bodied, single-headed, single-faced monsters are identical with each other in their general characters. Specimen IV. (Fig. 8) consists of a duplex puppy which did not survive its birth. It was presented by Dr. J. H. Raymond, and prepared by the writer. The sex was female. There was a common umbilical chord, containing a single umbilical vein ; the liver was compound ; the stomach and upper two-thirds of the small intestine were single, the intestinal canal then bifurcated and was double to its end ; the genito-urinary systems, were independent and complete for each body ; the thorax contained two perfect sets of lungs ; the hearts were fused.

Specimen V. (Fig. 9) is a duplex chick which was presented by Dr. George W. Baker. Its viscera have not

been examined. In these specimens, the head presents no external trace of duplicity; the spinal axes of the compound body, closely juxtaposed at their cephalic extremities, rapidly diverge, and from each of them is developed a complete bony skeleton; these blend so as to form a compound thorax as follows: each lateral half of the sternum with its proper ribs is reflected outward to the right and to the left, and becomes conjoined to the corresponding half sternum of the opposite skeleton. The thoracic cavity thus resulting has a sternum anteriorly and posteriorly, a vertebral column at either side, and walls composed of forty-eight ribs. Four complete anterior extremities spring from this thorax. Each pelvis is separate and distinct, and has its perfectly developed limbs. In the case of the pup the fusion extended as far as to the umbilicus. In the case of the chick the fused abdomens form a demi-ovoid body suspended between the four feet of the animal. It did not survive its birth. According to Is. G. St. Hilaire (1832) this class of monstrosities is comparatively common among animals, but very rare in man, to but two cases of which he is able to refer. Fisher's treatise is still incomplete; the published part of it does not include the syncephali, but in his manuscript, which I have been permitted to examine, I find mention of eight recorded instances of human syncephali.



FIG. 9.—SYNCEPHALIC CHICK.

—*Annals of the Anatomical and Surgical Society, Brooklyn.*

ART. II. *Ethylization: The Anæsthetic Use of the Bromide of Ethyl.* By R. J. LEVIS, M.D., Surgeon to the Pennsylvania Hospital and to the Jefferson College Hospital, Philadelphia.

My observations of the anæsthetic action of the bromide of ethyl, which commenced nearly one year ago, have been

directed to its physiological action in the human subject, to its practical application in the relief of human suffering, and to its value as compared with other anæsthetics. Every administration has been carefully watched and studied, and records of its phenomena have been made as they were observed. From such basis of experience, I present some facts which may at least help toward a proper estimate and appreciation of its therapeutic value.

Since the publication of my recent articles on the subject in the *Philadelphia Medical Times*, my continued observations have been generally confirmatory of the statements then made. I now summarize the deductions from my entire experience in the anæsthetic use of the bromide of ethyl, and present my convictions in regard to its comparative value.

The terms bromide of ethyl and hydrobromic ether are arbitrarily applied by chemists, in accordance with differing clinical nomenclature ; but for distinctiveness, and without reference to chemical accuracy, I prefer the former expression. I prefer to give to the substance the generic name of ethyl, and speak of ethylizing and ethylization on the same grounds, as, by common consent, the words ether and etherization are applied to sulphuric ether.

The decided characteristics of the administration are its rapidity of action and the quickness of recovery from its impression. I have produced complete anæsthesia in cases of young children in less than one minute. The longest period required to produce the anæsthetic state in adults has not exceeded five minutes.

The ethylized patient recovers much more rapidly than is the case with chloroform or ether. Intellection and muscular co-ordination are regained very soon after the inhalation has ceased. In some instances these functions return as quickly as after the administration of the nitrous oxide gas, and frequently the patient, on awakening, is able to at once stand erect and to walk.

If the anæsthetic impression be slowly effected, a brief period of intellectual excitement, associated with muscular action or rigidity, may occasionally be manifested ; but

violent emotion and struggling, if they should occur, are more moderate, brief, and transient than in the early stage of the anæsthesia of ether or chloroform. The stage of excitement can generally be avoided by making a rapid impression of the anæsthetic. I have observed that persons accustomed to the habitual use of alcoholic stimulants are less readily impressible by anæsthetics generally, and with them a stage of excitement is apt to precede anæsthesia. In this class of subjects narcotics act as stimulants, and the same holds true with regard to anæsthetics.

As anæsthesia is developed the circulation generally shows evidences of moderate excitement, as indicated by some increase in the rapidity of action of the heart, and the pulse evinces greater general arterial tension. The face of the patient usually becomes brightly flushed, and, when anæsthesia is profound, the forehead and the general surface are apt to be moist with sweat. In these respects the anæsthesia differs from the ordinary pallor of countenance and the usual check of skin-transudation of chloroforming.

The physiological action of the bromide of ethyl does not incline to the dangers of cerebral anæmia and cardiac syncope, which sometimes occur in chloroforming, and, in my experience, no tendencies in such directions have seemed to threaten.

The respiration is slightly increased in frequency until anæsthesia becomes complete, when it assumes the characteristics of normal sleep. The decided indication of the attainment of very profound anæsthesia is the slowing of the patient's breathing, as in ordinary sleep, which becomes easy, long, and free. The irritation of the respiratory passages, which often inconveniences the inhalation of ether, does not occur in any degree with the bromide of ethyl. If brought into contact with the skin of the face, it is less irritating than chloroform.

I do not recognize any ordinary after-effects on awakening from the anæsthesia of bromide of ethyl, the patient speedily returning to his normal sensations and usual condition with but a drowsy sense continuing for a brief time. In my own person, the whole impression is more agreeable

than is that of ether or chloroform; and others who have thus tried comparatively the different anæsthetics, have expressed to me the same appreciation.

The liability to nausea and vomiting is less than after ether and chloroform, but is not entirely avoided. Occasionally vomiting will occur when food has been but recently taken, and I have in a few instances observed decided nausea and retching when no food was in the stomach, and merely some frothy mucus was ejected. The quick relief from the anæsthetic impression of the bromide of ethyl seems to render less likely the long continuance of the distressing nausea and vomiting which are liable to follow etherization and chloroforming. It should be borne in mind that the fully anæsthetized patient never vomits, and that the manifestation of nausea during the continuance of the inhalation is the indication for making the impression more profound. When vomiting occurs and persists after anæsthesia passes off, it can best be relieved by giving to the patient small pieces of ice to swallow, or a full draught of ice-water.

The quantity of the bromide of ethyl required to produce anæsthesia varies with individual susceptibility and with the manner of using it. Its rapid evaporation causes much loss by diffusion in the atmosphere, but this waste may, with a view to economy, be to some extent avoided. I am in the habit of administering it by pouring two or three fluid drachms on several folds of woven lint, or on a small, soft linen handkerchief, over which is pinned a napkin, folded large enough to cover the entire face of the patient. Anæsthesia is, in my experience, more quickly obtained without the intervention of excitement, if light is excluded, and the temptation to look about avoided, by covering the eyes with a napkin. This plan seems to me to be the simplest and the best, and I trust that the anæsthetic use of the bromide of ethyl may never become complicated or embarrassed by any forms of the absurd contrivances called inhalers. Such apparatus implies that all individuals are, under all circumstances to be dosed with anæsthetics in the same mechanical manner. Nothing can be gained by any

mechanical device for the purpose, excepting economy in the use of the anæsthetic, and some of the numerous devices would rather tend to wastefulness. A single napkin or piece of lint, or both together, which absorb and gradually exhale the vapor, are perfectly effective and controllable as the means of administration, and nothing more can be required. With an extremely economical object, the texture upon which the anæsthetic is poured may be covered with an impervious material, or by a napkin dampened with water.

In commencing the inhalation of the bromide of ethyl, I prefer always to make a rapid and decided impression, with the lint and napkin held closely over the nose and mouth of the patient. It is the object to attain anæsthesia without the intervention of mental and muscular excitement. In the administration of another anæsthetic—the nitrous oxide gas—we are familiar with the uncontrollable excitement liable to be produced by slowly inhaling small quantities; and we know as well what profound anæsthesia is produced by rapid and impressive doses of the gas. In the method which I prefer of administering the bromide of ethyl from a piece of folded lint and a napkin, it does not seem possible to exclude so much atmosphere as to cause danger of death from asphyxia. The air which, through the open texture of the material and from lateral directions, reaches the lungs, must really contain but a very small percentage of the vapor, and at every expiration it is forcibly blown away.

In my experience the entire quantity of ethyl consumed in effecting and continuing anæsthesia in any single case has varied from one fluid drachm, used in very brief period, to eleven drachms required in maintaining anæsthesia through an operative procedure of forty minutes' duration.

After having tranquilized the patient's mind by assurances of freedom from suffering and danger, I direct him to inspire and expire, for a time, as deeply as possible. The expirations should be so complete that the residuary air is expelled from the lungs. While continuing to thus breathe deeply, the inhalation is commenced.

This preliminary drill I regard as important, and it will

always facilitate the proper production of anæsthesia. Until complete anæsthesia is effected there should not be allowed a moment during which the patient does not inhale the vapor, and as the anæsthetic becomes exhausted it should be quickly replenished.

It is proper that the administrator should be able to recognize and be satisfied with the simple production of the anæsthetic state—insensibility to pain—without pushing the inhalation, as is often through ignorance or carelessness done, to a dangerously toxic condition. The best indication of complete anæsthesia is the change in the breathing of the patient to that of ordinary deep sleep. When anæsthesia becomes profound there may be a more or less snoring or puffing sound, due to relaxation of the palatine and buccal muscles. With such manifestations the administration should cease or be very moderately continued. It should be borne in mind that all anæsthetics become eventually, by continuance, depressing agents, and their administration should not be viewed as a matter of trifling responsibility, and entrusted to careless or inexperienced persons. The administrator should exclusively direct his attention to what he is entrusted with, regarding only the condition of the patient, and not observing the operative proceeding. I have witnessed an ignorant and heedless assistant resting his elbows on the chest of a patient, whose labored respiration and livid, turgid face showed threatening asphyxia, while the administrator gazed abstractedly at a surgical procedure taking place at the groin.

I cannot too much impress the greater importance of observation and reliance on the state of the respiration, rather than of the circulation, as an index of the condition of the ethylized patient.

The patient's position should, if possible, be that of dorsal recumbency, with the head slightly elevated and flexed. It is well to remember that in the sitting or erect positions there may be more danger to very feeble patients from syncope. During muscular excitement the neck should not be allowed to be forcibly curved backward, as is the tendency, producing tension on the ante-tracheal muscles and imped-

ing venous return. The chest and abdomen should be free from the mechanical restraint of tight clothing, so that full and deep inspiration may not be impeded. If it should be necessary to have the patient in the prone position, the administration requires watchfulness, lest respiration should, by pressure, become embarrassed.

When practicable, the taking of solid food should be avoided by a patient for four hours, and liquid food for three hours before the administration. If the patient's condition should be feeble, alcoholic stimulants or ammonia may in advance be given. When, in an emergency, anæsthesia must be induced very soon after a meal, the act of vomiting should be carefully watched, and the patient's trunk so held that ejected substances may not gravitate into the larynx. Should such an accident occur and threaten life, the complete inversion of the trunk should be energetically made, and forced expiration aided by successive and rapidly alternating compression of the chest.

No fatal case referable to the action of the bromide of ethyl has occurred, nor even in the now large number of administrations, as far as I am aware, have there been any dangerous or threatening symptoms; yet, just as in what ought to be the almost invariably safe administration of sulphuric ether, death may occur, but it will, most probably, be in cases in which, if proper care had been observed, the fatal result would have been avoided. Its action does not seem insidious or uncertain; but judging from the careless and bungling manner in which other anæsthetics are sometimes administered by incompetent persons, I think that so agreeable and unirritating an agent as the bromide of ethyl is liable to be ignorantly, heedlessly, and inordinately used, and its usual harmless and beneficent anæsthesia pushed to toxic conditions, and even death.

Should respiration become embarrassed, as evinced by pallor or lividity of the face, the free access of fresh air, aided by fanning, should be allowed, and the fauces cleared of mucus. The tongue should be forcibly drawn forward by seizing it with the fingers covered by a napkin, to prevent its slipping, or it may be necessary to lift it from the

fauces with a tenaculum or the artery forceps. Cold water should be dashed on the face and chest. If the pulse should show signs of failing, or symptoms of cerebral anæmia appear to threaten, the head of the patient should be rendered pendent below the general level of the body, and the vapor of ammonia should be inhaled.

In the minor operations of surgery, occupying but a very brief time, and all of but momentary pain, it is sufficient evidence of the production of anæsthesia when the patient does not respond to a sudden call of the voice. The more profound state of anæsthesia is evinced by insensibility of the surface of the conjunctiva to the touch of the finger, and by change in the breathing of the patient to that of normal, deep sleep. The occurrence, during full anæsthesia, of dilatation of the pupils and of general sweating, are frequent, but not invariable phenomena of ethylization.

The bromide of ethyl, as most recently produced by our chemists, differs materially in some of its sensible properties from that which has generally been described by chemical writers, and from that which I first had the opportunity of using.

Its odor is characteristic, but is less decided than that of ether or chloroform, and to most persons it is more agreeable. The article I now use leaves less evidence on the breath of the patient, and is soon dissipated from the apartment, and the odor does not remain, as does that of ether, on the clothing of the operator and his assistants.

The bromide of ethyl is said to be liable to chemical change by prolonged exposure to light, but I have kept daily, for about a month exposed to direct sunlight, a specimen made by Weyth & Bro., of this city, and can perceive no evidence of change in either its ordinary properties or its anæsthetic action.

The bromide of ethyl may always be used without danger, in the closest proximity to lights and to the actual cautery, as its vapor is not inflammable. If a few drops be poured into a tumbler, or other deep vessel, a lighted taper or match is at once extinguished if immersed in the vapor.

I have used the bromide of ethyl in the surgery of two

large general hospitals and in private surgical practice, under the most varied circumstances which could be required to test the merits of an anæsthetic. In my use of it in the most abnormal conditions of debility and shock of injury, in capital operations, through protracted periods of administration, in patients from early infancy to extreme old age, it has always been satisfactory and free from manifestations of danger. I express my conviction that it is practically the best anæsthetic known to the profession.

ABSTRACT DEPARTMENT.

“Qui e nuce nucleum esse vult, frangit nucem.”

On Bloodletting. By PROFESSOR T. WHARTON JONES.

At the present day medical practitioners seldom order abstraction of blood by venesection in cases of inflammation, and have even misgivings as to the propriety of applying leeches, the current doctrine being that it is not necessary for the cure, and that it involves a risk of impairing the strength needed to bear up against the disease. Formerly quite the contrary opinion prevailed, so that it would have been considered bad practice to abstain from the use of the lancet in any inflammatory complaint whatever. Bloodletting was, therefore, very commonly prescribed, but the extent to which it was sometimes pushed, especially by repetitions of the venesection, it must be admitted, was anything but reasonable, and, no doubt, reform was imperatively called for. Instead of simple reform of indiscriminate practice, however, complete reaction in the opposite direction has taken place, as is so common when extreme views on any subject come to be called in question. And now, as I before observed, doctors abstain from venesection, or even leeching, and that to the most moderate amount, in almost any case of inflammation, however severe.

Under these circumstances, in face of such a difference between past and present opinion, it may fairly be asked—and the question I consider one to which it is of the highest

importance to obtain an answer, founded on the dictates of science and experience,—under these circumstances, I say, it may fairly be asked whether by abstention from bloodletting altogether, as is the present fashion, inflammations of important organs are not often allowed to run a prolonged and disastrous course, which might be prevented by a timely abstraction of blood in such quantity that the loss of it could be in no wise injurious to the patient ?

This question I will venture to answer as regards an important inflammation of the eye—namely iritis. And first, I would observe that, in my experience, blood may be safely drawn, in any case in which we would think of letting blood at all, to the amount of ten to twenty ounces, while in many cases a repetition of the venesection to the same quantity need not be feared. You will have opportunities of observing in cases of iritis under my treatment here, that when bleeding has been had recourse to at the early stage of the disease, the pain around or over the orbit, or in the temple, ceases, or is soon greatly mitigated, the feeling of depression of the strength—for it is only a feeling, not real weakness—is relieved, the vascular congestion of the eye subsides, the pupil yields more completely to atropia, while mercury operating with more effect, less of it requires to be given. Convalescence is thus established within two or three weeks, sometimes even one week, with strength not only unimpaired but actually improved. *Apropos* of this, let me relate a case. My friend the late Mr. Graham, formerly Professor of Chemistry in this College, and latterly Master of the Mint, was seized with rheumatic iritis, for which I attended him in conjunction with the late Sir Robert Carswell, then also a professor in this College. Though Mr. Graham was not a strong man, I bled him, and, with the concurrence of Sir Robert Carswell, repeated the venesection two or three days after ; calomel with opium internally, and a belladonna application externally, were at the same time prescribed. Within a fortnight our patient was convalescent and back again to his lectures at the College, with strength not only unimpaired but actually improved. Though once before this he suffered from an iritis, for which

he was successfully treated by the late Dr. Mackenzie, of Glasgow, he never had another attack. But mark you this to show how much Mr. Graham appreciated the benefit he had derived from the bloodletting : some years afterwards, finding himself rather out of health generally, he called on me one day and asked my opinion as to whether a bloodletting on this occasion was as likely to do him as much good as before. I was happy, however, to assure him that there was not now any necessity for the abstraction of blood ; and to set his mind completely at rest I took him to the late Sir James Clark, who concurred in my opinion.

Without bloodletting, convalescence will not, in similar cases, take place in double the time, or even longer, and that only imperfectly ; for, as a result of such a prolongation of the inflammatory action, serious organic damage of the eye is liable to accrue in the shape of synechia posterior, and implication perhaps of the ciliary body, choroid, and retina ; whilst by the prolonged treatment the strength of the patient is pulled down, and a great tendency to relapse from slight cause remains.

In such a deranged condition of the eye, iridectomy often does good as a “ no better do,” but odd as it is that the surgeon who would not hesitate to put the patient under the influence of chloroform or ether, and forthwith perform this operation, would, perhaps, shrink from ordering the more simple one of venesection—nay, even from the application of a few leeches—at the beginning of the iritis, by the beneficial operation of which the damaged state of the eye, requiring iridectomy, might have been prevented.

I have thus instanced the advantage of bloodletting in iritis, because we can so well observe its effects from day to day, and because I can speak from experience on the subject, elucidated by scientific observation as to the pathology of the inflammatory process generally. The *process*, mark me ; for the state you have to contend with at the beginning of a pure, uncomplicated, acute inflammation, is very different from that which has supervened in the order of things at a later stage. First in the series of changes which take place in the inflammatory process, of which a

part of the body accessible to observation is the seat, there is the visible rubor or redness, and the invisible nervous and muscular action which led to the vascular congestion on which the redness depends ; while in the later stages there are the visible manifestations of the exudation of lymph, the tumor or swelling, &c., which have supervened on the congestion by the invisible work of liquid diffusion and cell-multiplication. Abstraction of blood in the beginning of an inflammation relieves the congestion, and thereby prevents or limits exudation. By abstraction of blood in the later stage, after exudation has taken place, congestion will even then be relieved, though less quickly, and in proportion as re-establishment of the circulation in the inflamed part takes place, the exuded matters tend to be absorbed, and so the inflammatory process slowly comes to an end.

The doctrine that the inflammatory process consists merely in "proliferation" virtually ignores the vascular congestion and the symptoms depending on it, such as *rubor cum calore et dolore*. The doctrine thus refutes itself, by omitting cognizance of the condition on which depends the supply of material from the blood for the maintenance of the increased activity of cell multiplication constituting "proliferation." By disallowing vascular congestion as an all-important stage in the inflammatory process, the doctrine of proliferation supplies a plausible argument against the necessity of bloodletting, easily admitting, however, of being disproved by clinical observation and experience.

A peculiar incompressibility of the artery in feeling the pulse, hot skin and white tongue are indications of the propriety of bleeding in general. They are so in iritis, in particular, and, I may add, catarrho-rheumatic ophthalmia also, in which the orbital or temporal pain and apparent depression of the strength are often much greater than in iritis, whilst danger to the integrity of the eye is as great, though in a different way—viz., by rapid ulceration to penetration of the cornea with all its disastrous consequences, such as prolapsus iridis, &c.

Irrespective of the general indications I have mentioned the local subjective and objective symptoms in each case of

iritis or catarrho-rheumatic ophthalmia will, often of themselves, furnish sufficient indications for the abstraction of blood. Circumorbital or temporal pain, for example, is a good indication, for when an acute ophthalmia in an ordinarily strong person is attacked by that subjective symptom, venesection, followed by calomel and opium, quickly gives relief. And the same may be said of ear-ache in acute inflammation of membrana tympani. The absence of such pain, however, would be no counter-indication in the face of well-marked objective symptoms.

In severe inflammations of important organs the system tolerates the loss of blood in greater quantity than when there is no inflammation present, or when the organ inflamed is of less vital importance in the economy. In illustration of this fact the late Dr. Marshall Hall, in his work "On the Morbid and Curative Effects of Loss of Blood," pointed out from his experience that if several patients affected with dissimilar complaints be bled, while sitting in the erect posture, it is found that one patient, perhaps, will faint on losing only a few ounces of blood, while another will stand the loss of ten times the quantity before syncope takes place.

The complaints in which the greatest quantity of blood may thus be drawn without the speedy induction of syncope are : inflammatory congestion of the brain, inflammation of serous membranes, such as pleuritis or peritonitis, and inflammation of the parenchymatous substance of organs, such as pneumonia, to which may be added, as before mentioned, iritis and catarrho-rheumatic ophthalmia. Now take notice that these are the very complaints in which abstraction of blood is of most benefit, and, therefore, most called for. Dr. Marshall Hall accordingly laid it down as an axiom that in the operation of venesection the quantity of blood lost before fainting comes on, whilst the patient is in the erect posture, is *never more than is requisite for the cure of the inflammation, and never so great as to prove hurtful to the patient.*

In regard to the propriety of repeating venesection, the late Mr. Wardrop remarked that of a number of persons bled for inflammatory diseases, those who have lost the

largest quantities of blood by the fewest repetitions of the operation have made the most rapid recoveries.

One moderate bleeding at first—say, to sixteen ounces—is usually sufficient for the speedy cure of an iritis or catarrho-rheumatic ophthalmia : but in some cases it may be necessary to repeat the venesection. The continuance of great pain in and around the eye, much vascular congestion, and the formation of a buffy coat on the blood previously let, will generally, taken in conjunction with other circumstances, indicate the propriety of a repetition of the venesection. If the first bleeding was well borne, a second may safely enough be had recourse to ; but it is to be remembered that fainting comes on from the loss of smaller and smaller quantities of blood in the subsequent operations ; showing that repetitions of the venesection are less and less necessary.

When it is not considered proper to repeat venesection, the application of leeches to the affected organ may still be necessary and prove advantageous. Leeches alone, applied near the corners of the eye, without any preceding venesection, you will often find sufficient for the speedy cure of moderate degrees of iritis and catarrho-rheumatic ophthalmia. It being always, of course, understood that the appropriate medicinal treatment is employed.

In acute inflammation of the membrana tympani attended by ear-ache in children, a leech or two behind the ear and a few doses of gray powder give speedy relief, and, by arresting the inflammation, prevent damage to the structure and function of the ear. In grown-up persons, if the pain in the ear be very great, venesection may be required, followed up with blue-pill or calomel, colchicum, and Dover's powder.—*Lancet*.

The Therapeutical Value of Drug-Smoking. By DR. REGINALD E. THOMPSON.

There are six channels by which drugs may be made to enter the system—1. By the skin externally. 2. By the mouth into the stomach. 3. By the rectum into the bow-

els. 4. By subcutaneous injection under the skin. 5. By the mouth into the lungs. 6. By the blood-vessels. Of these six methods the introduction of drugs directly into the blood-vessels by means of a fine syringe is accompanied with so much danger as to preclude their use in this fashion for therapeutical purposes, and the effects of drugs thus given can only be studied in experiments on animals, and from those accidental cases, happily rare, in which a subcutaneous injection has been followed by such speedy and extraordinary symptoms as to lead to the conclusion that a small blood-vessel has been accidentally pierced and the injected fluid has thus found its way directly into the circulation.

If this be a just conclusion, then it follows that the less the tissue intervening between the channel of introduction and the blood-vessels, the more rapid will be the absorption, the more intense the effect, and consequently the smaller will be the requisite dose. Considering, then, the special arrangement of the blood-vessels in the lungs as so disposed that the interchange of gases should take place freely with as little let and hindrance as possible, it might be fairly conjectured that absorption through the air passages would more closely approximate to the immediate introduction into the blood-vessels in rate of absorption and intensity of effect than any of the other modes of administration. The inhalation and the smoking of drugs—methods by which medicines may be delivered into the lungs—have, however, been much neglected, and left chiefly in the hands of irregular practitioners of the art of healing, who have taken their advantage to make free use of and to reap a pretty abundant harvest from these most potent methods of administering remedies. The few vapours that are on the list of the British Pharmacopœia are of modern date, and there is a total omission of any means for the pulmonary introduction of drugs by smoking—a form of therapeutics with which probably no practitioner would like to dispense when he has a case of asthma under treatment.

Asthmatic patients, consequently, have to resort to the various patent remedies which are sold for their use, and

with which they are generally fully acquainted : the benefit they receive from them is often great and immediate, and the physician is therefore compelled to advise the continued use of secret remedies which are certainly valuable but very objectionable from the empirical nature of their value. Moreover, it is, I conceive, a reproach to scientific knowledge to be outdone and to rest satisfied with being beaten by any one outside the profession, and the reproach is the greater if the secret remedies be only, as seems to be probable, particular combinations (in a special form) of drugs, the use of which is already recognized by the profession. It seemed, therefore, advisable that a series of experiments should be made on the therapeutical value of drug-smoking, and the results that have been obtained are here offered as a preliminary contribution to this important department of therapeutics.

There are several ways in which medicines may be administered into the lungs ; by inhalation with steam, as atomised fluids by insufflation ; or by fumigation with powders, prepared so as to burn freely in the air ; or lastly, by smoking.

A number of experiments were made with powdered leaves, obtained as fresh as possible, and soaked in nitre ; and this method of administering remedies may be adopted in some cases with advantage ; but for accurate results it is evident that some other method must be used, inasmuch as it is impossible to estimate the effective dose by such haphazard introduction.

The simplest and surest method for such a purpose is the use of paper soaked in a weak solution of nitre to make it burn continuously, and dipped afterwards in the tinctures or solutions of the drugs to be tested, the paper being rolled into cigarettes of uniform size.

In all these experiments I have received the valuable help of Mr. Leach (the head of the dispensing department of the Brompton Hospital for Consumption), to whom my acknowledgements are due.

The first point to settle was the best paper for the required purpose, and after many trials it was found that the

Swedish filtering paper, manufactured expressly for the use of chemists, and calculated to leave as little ash as possible after incineration, is the best, being absorbent, burning freely, and giving out but little odor of burnt paper.

In order to make the paper burn with certainty it has to be dipped in a weak solution of nitre, and to prevent too free combustion from the access of the air, the cigarette should be rolled of a definite size, not more than a quarter inch in diameter, and the rolling should be as tight as possible.

The most rapid way of rolling is obtained from the use of a stick of the required size, slightly tapering, so that it can be easily removed when the cigarette is finished.

The odour of burnt paper is so disagreeable that it was necessary to disguise it, and it was found that the best addition for the purpose was tincture of tobacco, to which may be added a small quantity of oil of anise.

The following formula represents the basis used for each cigarette :—Swedish filtering paper, size, 4 in. x $2\frac{1}{2}$ in. Potassæ nitratis, gr. $\frac{1}{4}$; tinct. tabaci, ℥ x.; olei. anisi, ℥ $\frac{1}{8}$. The tincture of tobacco was made with $2\frac{1}{2}$ oz. of the leaf to a pint of spirit.

A solution of any drug which is to be experimented on can then be prepared, and the paper having been floated through the solution in a flat dish, when dry can be cut into a certain size, and the dose thus accurately measured.

The tobacco and nitre had no appreciable physiological effect when smoked by healthy individuals, and their remedial effect on a case of asthma must be considered to be very small.

Opium was the first drug with which experiments were made, and we began by trying the $\frac{1}{8}$ th of a grain, but soon found that the effects produced by smoking this quantity were too intense, and finally we came to the conclusion that the $\frac{1}{64}$ th of a grain of the extract of opium was sufficient for an initial dose.

Cigarettes with this quantity of opium were smoked by myself and three other healthy men, and in few minutes a decided effect of dizziness was produced. These were

smoked in the ordinary way, the smoke being partly rejected, and a very small quantity of the drug remains in the lungs under these circumstances ; if the full effect of the dose be desired, the smoker should be instructed to expand the lungs with full inspiration and retain the smoke in the lungs.

With ordinary smoking it is probable that not more than half the quantity of opium in the cigarette could be counted as effective ; so that from the above instances we may conclude that the $\frac{1}{12}$ th of a grain of extract of opium can produce an effect when administered into the lungs by smoking.

The following cases may be given as showing the effective action of this extremely small dose :

Edith C., aged 22, suffering from phthisis of two years standing, with a constant and harassing night cough, which used to keep her awake. She had been having very little rest when she applied for advice. She was advised to smoke one of the above cigarettes at night. Only half a one was smoked at the time, and the report given at the next visit was that she had slept well from 10 p.m., to 9 a.m., and was drowsy when awaked.

Ralph W., aged 24, suffering from phthisis, and subject to night wakefulness. For the last three months he had never slept for more than two or three hours during the night. The use of the opium cigarettes in this case induced sleep for seven hours.

Albert W., aged 30. Chronic asthma of six years duration. Considerable relief experienced from smoking the cigarettes, and undisturbed sleep during the night.

Jane S., aged 30. For two years has suffered from cough which for some time has been very bad, chiefly at night. Much relief from cigarettes. Cough no longer prevents sleep.

Harriet B., aged 31. Mitral obstruction for some years. Has been under my care since 1877. Complaining lately of harassing night cough, sleeping only two hours during the night. Much relief from cigarettes ; sleeping all night.

Thomas T., aged 49. Has been subject to empyæma

and asthma for the last seven years. For the last week has been subject to attacks of asthma preventing sleep. Ordered to smoke the cigarettes. No spasmodic attack since using the opium cigarettes. Sleeps now from 9 p.m., to 6 a.m.

John B., aged 30. Asthma for the last two months. Cough and spasmodic attacks have been keeping him awake through the night. The cigarettes produced eight to nine hours' sleep, and prevented asthmatic spasm.

Eliza S., aged 45. Suffering from syphilitic pulmonary disease, with constant cough at night. The use of the cigarettes stopped the cough, and procured good sleep at night.

Eleanor W., aged 24. Suffering from bronchitis with destruction of lung. Very tight-chested at night, and kept awake at night. Relief and sleep from the use of the cigarettes.

The dose in the case of one healthy man was increased to $\frac{1}{32}$ of a grain of the extract ; but this, together with the same dose of stramonium, caused so much pain and such prolonged dizziness that such a quantity would be too large for ordinary cases.

That many hours of sleep should have been procured, as in the first instance given above, by so small a dose as the two hundredth part of a grain of the extract of opium is rather startling, and far surpasses the results obtained from the subcutaneous injection, a mode of administering drugs which has hitherto been looked upon as likely to give the most concentrated results.

The smoking of opium is especially adapted for cases of harassing cough ; the topical effect of the drug is immediately obtained without any part of the dose being wasted on other tissues ; moreover, this mode avoids those objectionable effects which are a bar to the use of the drug when it has to be given by the mouth into the stomach.

Opium-smoking is particularly useful in those cases of laryngeal ulceration in which all attempts at deglutition are accompanied with extreme pain, and the topical effect of the anodyne chiefly sought. It is also useful in those un-

developed forms of asthma which I have already described in a previous number of this journal, as characterized by night cough ; and lastly, opium in this form is very serviceable in the dyspnœa of asthma, preventing the night attack by inducing sleep.—*London Practitioner*.

The Medical Uses of Milk.

M. Biot, in the *Revue Mensuelle de Médecine et de Chirurgie*, March, April, and May, 1879, gives a summary of the clinical facts scientifically observed at the Hôtel Dieu at Lyons on this subject. The deductions and conclusions drawn by M. Biot touching the nature of acute articular rheumatism and the efficacy of the milk-regimen in the course of this affection, are based on a number of analyses of urine made as completely as possible, since they give the amount of the total nitrogen, of the urates, of the total chlorides, and of the phosphoric and sulphuric acids. His theoretical and therapeutical views on the subject are thus summarised. The fever of acute rheumatism generally lasts two or three weeks, and consequently, either from the time it lasts or on account of the high rise in temperature, causes an enormous consumption of blood-corpuscles, which produces profound anæmia in the patient. The fall of temperature is the best criterion of the cure, and coincides exactly and constantly with the disappearance of the pains. The tortures endured by patients suffering from acute articular rheumatism are in themselves alone of a violence and tenacity sufficient to induce the physician to endeavor to oppose to this disease a treatment which would unite the three qualities *cito, tuto, et jucunde*. The milk-diet seems capable of fulfilling this desideratum ; it causes the temperature to fall rapidly below hyperpyrexia, and simultaneously assuages the pains in a period varying from three to eight days. The effects from these two points of view are more prompt and more powerful if the patient be submitted to the milk-regimen at the outset of the affection. This milk-regimen, without overcharging the stomach or raising the temperature, by its nutritive power and its facility of digestion, prevents in great measure that characteristic and

generally troublesome anæmia left behind by attacks of rheumatism, Besides these general effects, milk-diet has a special action on the urinary function, which is clearly indicated in rheumatism. Milk strongly favours the elimination of all the waste principles accumulated in the organism; its exclusive use causes both the quantity of urine excreted in twenty-four hours and the quantity of all the saline principles dissolved in this liquid to increase rapidly; density, on the contrary, experiences a proportionate decrease. The impetus given to the urinary function by a milk-regimen allows a glimpse of the nature of rheumatism, its near and intimate causes. The analyses of urine seem to show that there is an accumulation of urates or uric acid in the organism of rheumatic sufferers, and that its diminution under the influence of milk is not one of the smallest benefits of this regimen.

CLINICAL RECORDS.

“Ex principiis, nascitur probabilitas: ex factis, vero veritas.”

*A Clinical Lecture on the Treatment of Leucorrhœa.** By T. GAILLARD THOMAS, M.D., Professor of Gynæcology in the College of Physicians and Surgeons, New York.

GENTLEMEN:—I want to make use of the cases that come before us to-day, not only to lecture upon their individual peculiarities, but to call your attention to one condition which exists to a greater or less extent in all of them, and that is leucorrhœa. You will find when you get into practice that these cases will annoy you more or less constantly, because of the difficulty in curing them. It is not with these cases as with those of phthisis, where you can assure your patient that she is improving under your treatment, and convince her of the correctness of your assertion. Here you cannot deceive her, for she has a better opportu-

* This instructive lecture taken from the *Canada Medical Record* and originally published in the *Medical Record* of this city, is given in lieu of an able clinical lecture (for this Journal) needing revision which, on account of illness in his family, the author is not able to accomplish.—ED.

nity of deciding that question than yourself, and although you assure her that she is improving under your treatment, she is positive she is not one bit better than when she came to you—rather worse ; and one of the miseries of the gynæcologist is to have some woman pestering his life, because he cannot cure her of her leucorrhœa.

I want now to refer to the several cases which I have selected for to-day's clinic. I have several times made the remark to you, that the man who does not practice surgery in gynæcology had better give up its practice entirely, for there are many cases where the use of the knife, even if it be only to a very slight degree, may effect a cure, where a prolonged course of treatment without it has entirely failed. I want to apply these remarks to some of the cases which come before us to-day, and when I speak of the use of the knife, I allude to it as a representative surgical instrument ; scissors, the curette, and the pessary are surgical instruments, all of great value, but I speak of the knife as the representative of all instruments necessary for the proper treatment of these cases.

Our first patient, Mrs. Julia M——, is a native of Germany ; has been married eight years, and has had two children and two miscarriages. Ten months ago she had a miscarriage, which was the last time she was pregnant.

Q. "How long have you been sick, madam?"

A. "I have not been well since I was fourteen years of age, but I have been much worse during the last ten months."

Q. "Have you ever been well since your miscarriage, ten months ago?"

A. "Not entirely well."

Q. "Tell us about your sickness."

A. "Two months after my last miscarriage I had a 'period' and began to flood ; this continued twenty-one days."

Q. "And what then?"

A. "You took two pieces of the after-birth from me, and it stopped."

It seems that I saw her at this time, and now I recollect

the fact that it was in consultation with her physician. I was asked to see her and found her blanched, with a small, feeble pulse and very weak, for she had flooded to a dangerous degree. The uterus was very large, and the view which I took of the case was, that the patient had some portion of the fœtal shell, for it could no longer be spoken of as placenta, left in the uterus, and that this flooding was a natural consequence of its prolonged retention. With the doctor's consent I made an examination, and convinced myself of the correctness of my first suspicion. I recommended the introduction of a sponge tent to dilate the cervical canal, which the doctor did, and the following day I removed from the cavity of the uterus two small pieces of the fœtal shell, each about the size of the distal phalanx of my index finger and one day later the hæmorrhage ceased.

Q. "Have you been well since that time?"

A. "Not entirely, for I have pain through my bowels, and am troubled a great deal with the whites."

We made an examination of this patient to-day, of course, and let me show you, upon the manikin, what I found. The uterus was quite large, something like the one I now place in position upon our model, and dragged down upon its supports so that the cervix had descended into the pelvis lower than it ought to be; and it is this condition which has caused our patient the pain and dragging sensation through her abdomen. Our patient says she has leucorrhœa, and now we want to talk of the method of curing leucorrhœa in her case. When I saw this case eight months ago, there was no question about the loss of a large amount of blood. Her condition was a precarious one, and my attention, at that time, was directed to giving immediate relief. After I removed these fœtal-shell masses with a large curette, the hæmorrhage ceased the next day, and I heard nothing further of the case. Since that time her menstrual periods have been, she now tells me, of only about two and a half days' duration. The uterus still remains large, swollen, tender, and heavy, and lower in the pelvis than normal. Now, what is the cause of it? This condition of the uterus is unquestionably the cause of the leucorrhœa,

and the condition consists in what is commonly called subinvolution of the uterus ; that is to say, the uterus has never returned to its original size since the miscarriage which occurred ten months ago. Now, what stopped involution of the uterus ? Unquestionably the retention of these masses of placenta ; there was no laceration of the cervix. These masses were retained in the cavity of the uterus for two months before any hæmorrhage occurred. Their presence served to keep up a condition of passive congestion or subinvolution of the uterus, and this subinvolution affected not only the parenchyma of the organ, but also, as usual, the lining membrane became deranged, and in consequence thereof we have had a leucorrhœal discharge ever since. I believe if this patient were only put upon uterine and vaginal injections, it would be a long time before the leucorrhœal discharge was arrested ; and it is very questionable whether she could ever be entirely cured by this means. But if we take this view of the case, that, owing to the presence of retained masses of the placenta, involution was prevented, thus giving rise to changes in the uterine tissue, and derangement of the mucous membrane, our treatment will be more intelligent and successful. I believe that this leucorrhœa could be rapidly checked by passing a curette up to the fundus, either after or before dilatation of the cervix (I do not think this case would require dilatation), and drawing it gently over both walls of the uterus. This process would probably result in displacing ten or twenty little growths over the lining membrane of the uterus, that is, fungoid growths, which being removed, the leucorrhœa would rapidly disappear. Now, you might ask the question, and it would be a very pertinent question, Why do we not have flooding if these fungoid growths are present ? I answer, they may remain there a long time without the occurrence of hæmorrhage, but hæmorrhage is likely to occur at any time. This patient tells us that she carried two pieces of placenta in her uterus for two months, after her miscarriage, before any hæmorrhage occurred, and in her present condition we may have hæmorrhage coming on at any time. The point I wish to make is this, that in many cases of leu-

orrhœa you will accomplish more by one application of a dull wire over the lining membrane of the uterus, thus removing these little growths which keep up a flux of blood to the endometrium, than you could by any other plan of treatment. If this patient were under my care I would pass a curette cautiously and gently, but with sufficient force, to dislodge any of these fungoid growths on the inner wall of the uterus. After this I would keep her quietly in bed for forty-eight or fifty-six hours, watching her condition as to the occurrence of pain or increased temperature. After this I would support the uterus by means of a pessary, and why? Because it would be getting lower and lower in the cavity of the pelvis whenever the patient went about her work; or, if she were a lady of leisure, the same thing would occur when taking the necessary exercise for her health. Consequently, I would put the uterus in a sling to relieve the pain due to downward traction, and to diminish the congestion of the uterus by preventing its dragging upon the ligaments which contain its blood-vessels. Having removed the cause of the abnormal condition of the lining membrane of the uterus, I would put her upon ergot or viscum album. This viscum album I have been using considerably of late, and find it very efficacious in many of these cases. I would employ it in the form of the fluid extract, for the purpose of making tonic contraction of the uterus. If this did not work, or if it disagreed with the patient, I would give twenty drop doses, three times a day, of Squibb's fluid extract of ergot, and, I believe, by this means, gradually the subinvolution would be removed, and her leucorrhœa would soon disappear.

Our next patient is Mrs. Catherine M. B——, a native of the United States, forty-nine years of age, has been married twenty-five years, and has had one child, but no miscarriages; her child is fifteen years of age.

Q. "How long have you been sick, Mrs. B——?"

A. "I have never been well since the birth of my child."

Q. "How have you been complaining during the last fifteen years?"

A. "I have pains in my back and in my groins; am very nervous, and cannot sleep."

Q. "Anything else?"

A. "I perspire a great deal."

You see, gentlemen, she looks very pallid.

Q. "How about your menstrual periods—have they stopped?"

A. "Yes, sir, some years ago."

Upon feeling of her pulse, I find it excessively weak. She looks like a woman who has some serious organic disease, some pulmonary or renal disease, or something of the kind. She looks older than a woman of forty-nine years. She suffers from leucorrhœa. I have picked the cases which I present to you to-day, so as to call out the treatment of leucorrhœa. If you are going to cure cases of leucorrhœa—and these cases will follow you, throughout your practice as gynæcologists—you must persist in trying to get at the cause of each case; and although this will not be possible in many instances, and you will find cases which will baffle all treatment, nevertheless it is the plan to be adopted as offering a clearer insight into the pathology of this class of cases. Now, what is it that is impoverishing this patient's blood? Very likely the leucorrhœa has a great deal to do with it. The leucorrhœal discharge continues, although she has passed her menopause. She is thus losing a large quantity of the albuminous portions of her blood, in consequence of which her nervous system has become depressed. Her appetite is poor, and although I have not inquired in regard to her bill of fare, I think it is not a very prolific one.

Q. "What do you eat for breakfast?"

A. "I do not feel like eating much in the morning. I usually take a little bread and butter, with perhaps some preserves and coffee."

Q. "When do you eat your next meal, and of what does it consist?"

A. "I usually do not get hungry before three o'clock in the afternoon, and then I generally eat a small piece of beefsteak, together with bread and some vegetables, such as canned corn, turnips, or potatoes."

Q. "When do you take your next meal?"

A. "I do not dare to eat much at night ; I usually take a cup of tea, together with bread and butter, and some sort of sauce."

Q. "And this is a fair specimen of your daily diet?"

A. "Yes, sir."

Well, gentlemen, I have nothing to say about that bill of fare, other than I think every student of medicine, after graduating and before entering upon practice, should be kept upon it about two weeks, so as to impress upon his mind how these patients are kept sick. Just compare that bill of fare with what a man in active life eats ; compare it with what an ordinary woman in active life should eat. You must remember that in this country this system of starvation is more general than in any other country. If you were to travel in England you would find no such bills of fare as this. The people there eat four or five meals a day, and of the most nutritious food, drinking a great deal of beer and wine.

Q. "What wine do you drink?"

A. "I do not take any stimulants whatever."

Now, the Americans. I think, have the misfortune of being the most temperate people in the world. The laboring classes do not take enough food and drink to sustain them in a condition of health. I am talking of a class, and not of the exceptions. The diet of American women, as a class, you will find is fairly illustrated in the case before you. You know we read of the rosy-cheeked, strong, buxom country maiden, so frequently described by old English writers ; but go into the farming districts in America, and do we find them? Not a bit of it. They live upon the same kind of fare as this patient, and in our country homes you will find women pale, lank, and showing absolute want of nourishment. Remember, I am not speaking as a reformer, but as a physician. If you want to cure these patients, you will have to commence in the kitchen, and make them eat more food, and of a more nutritious nature. Unquestionably, one of the strongest points in favor of the "rest cure," introduced by Weir Mitchell, of Philadelphia, is, that these patients are fed every two hours. They all

go there more or less starved ; but should one come there not in a starved condition, Dr. Mitchell would not submit them to this plan of treatment. One who is starved, immediately begins to improve under this course of treatment. But we have another element to consider in our present patient's case, and that is starvation due to loss of albuminous portions of the blood by this leucorrhœal discharge. I wish to impress upon your minds that one of the most important elements of treatment here is to feed this woman properly. If her diet were changed, and she were to eat fresh meat three times a day, together with other food, and between these meals take a tumbler of fresh milk, thus making six meals a day, if she were given iron, bitter tonics, beer, and ale, in addition to all this, we would find our patient changed entirely for the better in one month. This system of feeding up is what improves patients largely in our well-regulated hospitals. Very often the improvement in hospital patients is considered by the attending physician as due to the administration of remedies which he has recommended, when in reality it is owing to improved nutrition. I have not time to go into details concerning the diet of these patients, but I have told you enough to make you think for yourselves.

We must stop this leucorrhœal discharge ; but how are we to stop it? Look at this patient and tell her that she is suffering from anæmia or spanæmia, and put her upon iron, quinine, and good diet, and send her away, at the same time telling her to avoid all local treatment. That is all nonsense, as hundreds of medical men who are to-day talking in this ridiculous way to their patients, follow that plan, and this patient will never get well, for you are pouring water into the mouth of a hogshead and leaving a spigot open below. As long as you allow this constant leakage of the albuminous portions of the blood, your tonics and nourishing food will fail to effect a cure. Now, let me tell you the result of my examination. I placed the patient upon her back, passed my finger up the vagina, and at once discovered a polypus hanging from the mouth of the womb. Iron and quinine will not remove that polypus nearly as well as a

pair of scissors. If that polypus were snipped off now with a pair of scissors, we would be removing the cause of the discharge. It is called a cervical polypus, and is attached at the os internum. I suppose that polypus has been there fifteen years, or at least for several years—that is, I think it highly probable, for the leucorrhœal discharge has existed fifteen years, and there is nothing else the matter with this woman's genital organs. If that polypus were removed, the leucorrhœa would be removed, and she would not lose so much of the albumen of the blood every day. This little mass is constantly moving like the clapper of a bell, and every time she gets up, every time she respire, it is rubbing against the endometrial wall. This polypus ought to be removed, and the patient ought to be treated in a general way. By so doing, I believe, as in the case which preceded, she might be entirely cured. You can scarcely believe that this is all that is the matter with the patient, nor can I; but I do believe it, just as you believe it. Very often the physician is inclined to overlook a little thing like this, just as the leper of old was inclined to overlook the river Jordan as a means of becoming purified.

As I was going to say, suppose I remove that polypus, and suppose I cure the leucorrhœa, then I will have accomplished what the patient desires, and afterward I can repair the damage which has been done her system, not only by this, but by diet and tonics.

Our next patient comes to us from a distance. Mrs. Caroline R——, a native of the United States, has been married nineteen years and borne nine children, and has had one miscarriage, which occurred at her last pregnancy, a year ago, since which time she has not been well.

Q. "What is the matter with you, madam?"

A. "For a year I have felt as if there was something wrong here in my left side."

She tells us that after her miscarriage a year ago, she had a flooding which prostrated her very much, and when she got up from this she lifted a heavy stove, and as she did so she felt something give way. To this she attributes the dragging sensation which she has experienced in her left

side ever since. She says she feels very weak ; that she has considerable pain, and that her bowels are constipated. You observe that this patient seems emaciated. She says that she has been thin for several years, but never so much so as within the last year. Of course I at once proposed an examination, and found the vaginal canal bathed with leucorrhœa. You may say, do all these cases have leucorrhœa ? Many of them do, but I have intentionally brought these cases before you to-day to impress upon your minds the fact that that condition gives rise to leucorrhœa, and in consequence of which we have a flux of blood to the lining membrane of the uterus, which can often be relieved by surgery. Upon examination I found that the uterus had descended so as to project into the lower part of the vaginal canal, and this explains why she experiences a dragging sensation in her left side, but why it is confined to the left side I do not know ; probably because one of the broad ligaments is more sensitive to pain than the other, but why more sensitive I do not know. But now, to go a little farther ; passing my finger up to the cervix, I found it torn to a little extent upon one side, and the mucous lining everted. Leucorrhœal material was pouring out of the uterus itself ; it was not at all vaginal. The patient is very uncomfortable, very much run down, and this constant leucorrhœal discharge is sapping her strength. I will not stop to go over her bill of fare, but, from my knowledge of these cases, I am willing to take it for granted that it is about the same as in the other instance. Looking at her face, one would say she is certainly not a well-nourished person. In regard to this symptom, which is constantly robbing the blood of important elements, put this patient upon iron, quinine, and a good diet, together with vaginal injections, and send her home. Three years hence, if you see and ask her how she is, she will tell you she is a good deal better, but you did not cure her of the whites, and why ? Because you have not touched that part of her case at all. Now, as in the first case, where the cause of the continuance of the leucorrhœal discharge, that is, fungosities upon the endometrium, with subinvolution of the uterus, was different from the

cause which prevailed in the second case, namely a polypoid growth in the cervical canal, so in this case there is an entirely different cause from that in either of the preceding cases, and that is ectropion of the lining membrane of the organ. If you will absorb the idea that to be a good gynæcologist you must be something of a surgeon, and if in this case you will simply snip this ectropion on each side and turn in the edges of the mucous membrane, you will cure this patient of leucorrhœa within two weeks after the operation, or certainly within four: not by any other treatment, but simply by removing the cause of the leucorrhœa, which, as I have already stated, is a slight laceration with ectropion. But when this is removed, will the patient be well? Not by any means. The vagina is lax, the perinæum is worthless and in a state of subinvolution. The traction on the posterior walls of the vagina may be overcome by means of a pessary, and a great deal can be done by the use of astringent vaginal injections, thus keeping the vaginal walls contracted. But repair of the perinæum will do more toward the cure of the case than anything else that could be done.

Our next patient is Miss Julia B——, who comes to our clinic to-day in company with her mother and aunt. She is a native of the United States and is unmarried. She has been sick for six months.

Q. "Will you tell me whether you were in good health up to six months ago, miss?"

A. "Yes, sir, I was."

Q. "How have you complained during the last six months?"

A. "I have had a severe headache."

Q. "And how about your monthly sickness?"

A. "I have not had my periods for six months."

She tells us that she is troubled with backache and occasional rushes of blood to the head. She has also had the whites for a considerable time. Gentlemen, the case is before you; I will not add to the symptoms. Now, let us suppose you were in your office, not in the lecture-room of the College of Physicians and Surgeons, and just beginning

practice, say next April or May. It is very important that you do full justice to all your cases, and equally important that you do justice to yourselves. The diagnosis here is very important, of course, and you have to be exceedingly careful to arrive at a correct one for many reasons. In the first place, you may, by not doing so, damage your patient, and in the second place, by not arriving at a correct diagnosis, you would fail to cure the patient now before you. When a patient with a history like this presents, of course certain thoughts pass through your mind. One would perhaps be, is this a case of amenorrhœa occurring in a young woman otherwise healthy—amenorrhœa from some unknown cause, perhaps from some nervous state; and this amenorrhœa would perfectly account for her symptoms—the rush of blood to her head and backache, which is increased in severity at those times when she ought to menstruate, etc.? Well, you may accept this theory, but be careful how you act upon it. I proposed a more thorough investigation in this case, and the patient at once consented to an examination into the condition of the pelvic organs. I discovered an abdominal enlargement extending up to the umbilicus. In some cases of amenorrhœa you will find abdominal enlargements, and these are most commonly in hysterical patients, and hysterical patients almost always have tympanitis; so there is nothing remarkable about the fact that an abdominal enlargement exists. I proceeded to investigate farther, and placed one hand upon the surface of the abdomen, and with the other percussed, expecting to get a drum-like sound, but I did not. The sound elicited was of something solid, and so I said to myself this is not hysterical tympanitis, for there is no drum-like resonance. At once vaginal touch was practised, and the cervix discovered to be soft, with the os dilated. Now, other diagnoses presented themselves to view, and I began to feel that it was one of those cases in which a mistake would be particularly disadvantageous both to patient and physician. In your office it would be much more so than here at a college clinic. Is there any way by which we can arrive at a certain diagnosis in this case? She has been amenorrhœic

for six months, and the best way of arriving at a correct diagnosis under these circumstances is to place your finger upon the anterior wall of the uterus, just above the os internum, and push upward, and if you feel a round hard mass lifting itself up and dropping upon your finger, then you can be almost absolutely certain of your diagnosis because there is only one other condition which gives you this, namely, abdominal dropsy, with a small fibroid rolling around in the abdominal cavity, which, when you press it up, rolls about and drops upon your finger. I have had two cases of this kind in my own experience. Cazeaux declares he has seen a case of an anteflexed uterus giving this sign. I have never seen such a case. Examination of the cervix revealed softness and enlargement of the canal, and, in addition, we have the usual mammary and gastric signs, and our diagnosis is complete. (Exit patient, mother, and aunt.)

I have tried to deal as much as possible in technical terms while speaking of this case, so as not to embarrass the patient, or her mother and aunt. The young woman is six months pregnant, and is just as innocent of the knowledge as you were when she came into the room, and she is still the same way, for all that I have said is as Hebrew to her, her mother, and aunt. I am as sure that there is a foetus in the uterus of that young woman as I am that there are a certain number of gentlemen on the benches in this room, and that that foetus is about six months old. Without expecting a confession, at my request, after the girl went out, Dr. Hunter told her she was pregnant, and asked her if she had been exposed, to which she replied, yes. She is a *rara avis*, she tells the truth! You remember I told you you would have to be very careful how you announce your diagnosis in such a case as this. You are sitting in your office, and you are just about as sure of your diagnosis as I am of mine, and perhaps it is one of the first you have made, and on that account you are all the more anxious to announce it; but be careful how you do, for in all probability your patient will assume to get excessively angry, and denounce you as an unjust accuser; her father, mother, and

all her relatives will do the same ; they will take it as a matter of personal insult. They will do this when they know you are telling the truth. The girl will be spirited away for two months or so, and when she returns she will come back to you and will tell you that you made a horrible mistake, and nearly ruined the family ; that she has been examined by other physicians, perhaps by some in your own town, who will rather be delighted with the opportunity of saying that she is not pregnant. This may be so now, but she was pregnant when you examined her. Beware of it ! The case we have seen to-day is a rare exception to the general rule, for you will find ninety-nine women out of every hundred will swear to the very last that they know nothing of the matter. One of these cases came under my notice some years ago. I made a diagnosis of pregnancy in a young woman from the lower walks of life, but she declared it was preposterous, that it was not possible for anything of the sort to exist, as she had not been exposed in any way. She was so violent in her assertions that I accused her falsely, that I felt it my duty to defend my position. At my instigation she entered Bellevue Hospital, and when she was confined I was present and delivered her. When the child was born, and while yet attached to the placenta by the cord, I said to her, " Do you confess ? " She replied, " No, I do not ; you put that child there."

Now, gentlemen, as physicians you must protect yourselves as well as possible against the occurrence of such complications as I have just detailed. You may ask how is this to be done ? It is a little difficult to answer ; but I would say, if you are a beginner, and cannot stand upon your own merits in the case, it would be best, before announcing your diagnosis, to have a consultation, and commit some other man to the same diagnosis to which you have been committed. By so doing you will fortify yourself against attacks which would otherwise prove damaging to your professional reputation.

PROCEEDINGS OF SOCIETIES.

“Etsi non prosunt singula, juncta juvant.”

At a Meeting of the Academy of Medicine, held March 18th, 1880, Dr. Fordyce Barker presiding, after the usual routine business, Dr. J. Marion Sims read a Paper on
THE BROMIDE OF ETHYL AS AN ANÆSTHETIC.

The bromide of ethyl is now making considerable reputation as an anæsthetic. It was discovered by Serullas in 1827, but attracted no special attention till Dr. Thomas Nunnelly, of Leeds, made some experiments with it on animals in 1849. Dr. Nunnelly brought the subject again before the profession by a paper read at the British Medical Association in 1865, in which he says he had employed it as an anæsthetic “in all the principal operations at the Leeds General Eye and Ear Infirmary.” This was at the time when chloroform held such complete sway in England that no importance was attached to Nunnelly’s experience, and he had no followers.

In 1876 some experiments were made with it in France by Rabuteau on the lower animals, but without a knowledge of the fact that this had been done previously in England by Nunnelly.

To Dr. Lawrence Turnbull and Dr. R. J. Levis, of Philadelphia, we are indebted for what we know of the anæsthetic properties of the bromide of ethyl.

Dr. Turnbull began to experiment with it in September, 1877, using it first on himself, and then on his patients. After satisfying himself as to its efficiency and safety as an anæsthetic, he laid the subject before the Pennsylvania State Medical Society in 1878. In August, 1879, he brought it before the British Medical Association at Cork, and in September of the same year before the International Medical Congress at Amsterdam. In April, 1879, Dr. Turnbull had the good fortune to interest Dr. Levis in the subject. Dr. Turnbull’s operations under the ethyl were mostly in ophthalmic and aural surgery, and were generally of short duration. But Dr. Levis being surgeon to two large general

hospitals (the Pennsylvania and the Jefferson Medical College Hospital), had ample opportunities of testing its qualities and proving its excellence as an anæsthetic in general surgery and in prolonged operations; and through his influence and teachings at these hospitals it seems to be coming rapidly into common use.

The bromide of ethyl has been pronounced by Maisch and Stillé, and by Dr. Greene, of Philadelphia, to be hydrobromic ether.

There are two or three processes for making the hydrobromic ether. Our friend Dr. Squibb will explain them to you. The most economical is the phosphorus, alcohol and bromine one. The disagreeable odor belonging to the hydrobromic ether made by this process is supposed to be due to the phosphorus. Another process is by distilling absolute alcohol with about three times its weight of bromine. Another process consists in the combination of potash and bromine. Its formula is :

$C_2, H_5 Br.$; boiling-point, $105^{\circ} F.$; density, 1.419 at $59^{\circ} F.$

Dr. Turnbull defines hydrobromic ether to be "a pure, colorless, very volatile liquid which evaporates with great rapidity on bibulous paper, leaving no residue, and having a strong ethereal odor which remains upon the patient's breath long after its use. It has a sweetish and hot taste. Its boiling-point is intermediate between that of chloroform and ordinary ether. It is sparingly soluble in water, but mixes with it, and in all proportions with alcohol and ether."

I here show you samples of it made by four different manufacturers in Philadelphia. That marked No. 1 was made by Wyeth & Bro., and is mostly used by the surgeons in Philadelphia. You see how readily its vapor extinguishes a flame. No. 2 contains ether and ignites. These two have a peculiar but not disagreeable odor. Nos. 3 and 4 have a very strong, unpleasant odor, which is repulsive. This is the kind that was used by Turnbull and Levis before Wyeth made a better article.

It is claimed for hydrobromic ether that it produces anæsthesia more rapidly than chloroform, and is eliminated from the system more rapidly by the lungs and kidneys than

any other anæsthetic, and that it is less apt to produce vomiting than ether or chloroform.

It usually produces anæsthesia in two or three minutes—sometimes four ; and consciousness returns in two or three minutes after its administration ceases. It is given (according to Turnbull and Levis) “on a handkerchief or small napkin folded up to a space of about four inches square, and then laid on a larger napkin folded so as to be large enough to cover the entire face of the patient.”

About two drachms are poured on the napkin to begin with, and a drachm is added afterwards at intervals as required.

Hydrobromic ether has been administered in Philadelphia as an anæsthetic about two hundred times, and it is greatly lauded by all who have used it. Of course, this is a small experience upon which to base its absolute safety. Chloroform was administered to thousands of cases before we heard of a death from its use, and now we know that it has slain its hundreds.

Bichloride of methylene has been given by Spencer Wells most extensively, perhaps a thousand times without accident, and yet a voice comes up from the profession saying that it is quite as dangerous as chloroform ; and outside of the personal influence of Spencer Wells it is rarely used in England, and has not been generally adopted elsewhere.

The profession have been for a long time in search of a new anæsthetic. We have been waiting for one as pleasant to take as chloroform and as safe as ether. When we are convinced that we have one answering this description, it will be heartily welcomed by the profession all over the world. Does the Turnbull-Levis anæsthetic come up to our expectations ? Time alone will show. It is the duty of every man who has had any experience with it to lay it before his brethren. With this obligation pressing heavily upon me, I came here to-night to lay my contribution on this important subject before you.

For my knowledge of the use of hydrobromic ether I am indebted to Dr. Levis. I made him a visit on the 28th of January last, when he told me of his experience, gave me his paper on the subject, and gave me a bottle of the ether

for experiment. I came home saturated with Dr. Levis's views. From his experience I felt quite convinced that we had at last found the long looked-for anæsthetic.

Three days after my visit to Dr. Levis I gave the hydrobromic ether to a young lady at St. Elizabeth's Hospital ; but, not understanding the proper method of administering it, I failed utterly to produce its anæsthetic effect. In eight minutes we had wasted eight drachms of the hydrobromic ether, and it produced only a stage of excitement in which the patient was wholly uncontrollable. I then laid it aside and resorted to ether. On the next day I gave it to a young lady, twenty years old, who was completely anæmic from menorrhagia which had continued many months. She was so exhausted from loss of blood that she occasionally had syncope, even in the recumbent posture. By the inhalation of two drachms of the hydrobromic ether given by Dr. Wylie she was completely anæsthetized in two minutes. The operation was performed in about five minutes, and she was placed in bed and recovered consciousness in two or three minutes more. I was so well pleased with the anæsthetic in this instance that I felt encouraged to give it further trial. The effect produced in this case differed widely from that in the first, and depended entirely upon the different methods of administration in the two cases. In the first, the bromide of ethyl was poured on a folded handkerchief, and held close to the mouth and nostrils, but not in absolute contact with them. In the second case, it was poured on a folded handkerchief and laid in contact with the mouth and nose, and held firmly there by a towel folded into a square of eight or ten inches. By this method no air could be breathed that was not loaded with the ethylic vapor. With this experience as a guide I determined to administer it in a case of Battey's operation.

Miss B——, of Tallahassee, Florida, twenty-five years old, in perfectly good health, had been subject to epileptic attacks for the last five years. They came regularly on the fourth or fifth day after the cessation of the menses. Menstruation was scanty, lasting but two days. She had retroversion, and the right ovary was enlarged and painful on pressure.

Bromides had been largely used without any permanent improvement. The uterus had been replaced, but with no improvement; afterwards the cervical canal was enlarged by incision; then menstruation became normal in quantity and painless, and yet the post-menstrual epileptic seizures were not modified in the least. Her physicians, Dr. Betton and Dr. Bond, had advised Battey's operation, and from my failure to give her any relief by the tentative efforts just alluded to, I did not hesitate to advise her to submit to Battey's operation, and it was performed on Monday, February 9, 1880.

Everything being ready, a drachm of bromide of ethyl was poured on a folded napkin and held closely over the mouth and nose. In a minute more another drachm was poured on the napkin, and at the end of two minutes she became insensible and relaxed; but the conjunctiva was sensitive to the touch, and her eyes rolled about, and her breathing was very rapid. At the end of five minutes (the hydrobromic ether added as required) she was perfectly insensible and breathing sixty times a minute. This very rapid breathing would moderate whenever the ether-napkin was removed so as to allow the admission of pure air, and would always increase by pouring fresh ether on the napkin. At the end of ten minutes she could be kept quiet, breathing softly and regularly, but always above the normal standard. The pulse was now 86, full and strong. During the first twenty minutes we had used about two ounces of the hydrobromic ether. At that time she vomited freely the contents of the stomach. At the end of forty minutes she vomited again, with severe straining.

On three occasions during the operation there was considerable opisthotonos, with twitching and rigidity of the muscles of the extremities, and constant rolling of the eyes in every direction.

Dr. Nash thought these were similar to her epileptic attacks, in one of which he had seen her.

The operation lasted an hour and a half. Her condition was good during the whole time, and her pulse was strong and full. The rapid, short breathing was a peculiar feature;

the sensitiveness of the conjunctiva existed from the beginning to the end of the operation, and her eyeballs were in almost constant motion. There was no unusual dilatation of the pupils. In all, about four and a half or five ounces of the ethyl were used.

She recovered quickly from the anæsthetic after being put to bed, but she had the most distressing retching and vomiting imaginable. The straining was so violent that Dr. Nash more than once placed his hands over the abdomen to prevent the wound from bursting asunder. From the moment of returning consciousness she complained of violent pain in the head, and to relieve this pain she got a fourth of a grain of morphine hypodermically. In an hour this was repeated. Two hours after the operation (6.30) the pulse was 60, full and strong.

6.15.—Distressing retching and vomiting continued almost uninterruptedly ever since the operation was finished. Headache very severe. Quarter-grain of morphine hypodermically for pain in head. One ounce of urine drawn by catheter.

7.30.—Nausea and retching, but no vomiting; still has severe pain in head. Thin, yellowish brown movement from the bowels, watery, but a few ounces; odor very offensive, having the smell of bromide of ethyl.

8 P.M.—Another movement from the bowels, the same character as the first.

9 P.M.—Another movement of the same brownish water; each attended with some tenesmus.

9.30 P.M.—Milk and brandy, to be repeated at intervals.

10.15 P.M.—Two ounces of urine drawn; bowels moved twice in the last hour. This makes five movements of bowels in three hours. The odor of the bromide of ethyl in the passages was so strong that it attracted the notice of the inmates of the house.

11 P.M.—Pulse, 117; temperature in axilla, $99\frac{8}{10}^{\circ}$; respiration, 25. Still complains of pain in the head; small, brownish, watery discharge from the bowels, attended with tenesmus and mucus.

12.35 A.M., Tuesday, Feb. 10th.—Very restless; com-

plaints of pain and desire to go to stool. Gave one-fifth grain of morphine hypodermically. Hiccough occasionally since 10 P.M.

3.15 A.M.—Has slept since the administration of the morphine (2 h. 40 m.). Drew off two ounces of urine. Hiccough occasionally since 10 o'clock. Tenesmus and effort at movement of the bowels. Pulse, 125; temperature, $101\frac{1}{5}^{\circ}$. Sleeping.

5 A.M.—Pulse very feeble. Stimulants.

5.30 A.M.—Pulse scarcely perceptible.

6 A.M.—Small, brownish, watery movement from the bowels, with tenesmus.

6.40 A.M.—Recurrence of hiccough; quietly sleeping; perfectly conscious when spoken to.

7 A.M.—I saw the patient and made the following note: pulse imperceptible; no pain except in head; somewhat restless. I fear internal hemorrhage, because the diarrhoea does not seem to have been sufficient to prostrate her to this extent. Her breath is highly charged with the ethyl odor. The movements from the bowels are brownish dirty water with some tenesmus and mucus. Passed a catheter into the sigmoid flexure and injected thirty grains of tannin and twenty drops of laudanum, which passed off immediately.

7.45 A.M.—Very restless; wishes to sit up; growing weaker; mind wandering.

8.40 A.M.—Catheter introduced, no urine in the bladder; pulse imperceptible. Respiration, 36; temperature, $102\frac{1}{10}^{\circ}$.

10.30 A.M.—Catheter introduced, teaspoonful of high-colored urine drawn.

11 A.M.—Severe convulsion, with frantic ravings. Convulsions ceased at 11.40 A.M., with heart-rending screams, and she died at 12.15 P.M., about twenty-one hours after operation.

Wednesday, Feb. 11, 1880, 8.45 A.M.—Post-mortem made (twenty hours after death) by Dr. S. Waterman, Dr. Waterman, Jr., and Dr. Nash. External wound three and a half inches long. Sutures (8) removed; edges of wound adherent throughout. Abdomen laid open by free incisions, longitudinal and transverse. Two and a half ounces of bloody

serum in the peritoneal cavity, three drachms of it being in the Douglas pouch below the retroverted uterus. There was no exudation of lymph, and no signs of peritonitis.

The left broad ligament united to sigmoid flexure by old and strong adhesions were broken up, and then the uterus and broad ligaments were removed, together with the utero-sacral ligaments, a portion of bladder, and the upper part of vagina. The lower part of the ileum for about eighteen inches looked dark and congested, and about twelve inches of it were removed, severing it at the caput coli. The colon was also of the same dark brown color, and five or six inches of the descending colon were removed, and also both kidneys. The kidneys seemed to be healthy.

Now, the question arises : What was the cause of death in this case ? Before the post-mortem was made I supposed that the uncontrollable straining efforts to vomit had resulted in displacing some of the pedicle ligatures, and that my patient had died of slow internal hæmorrhage. But the post-mortem proved otherwise.

In a letter received from Dr. Levis (Feb. 19th) he says :

“It seems to me that the only unpleasant symptoms which could possibly be referred to the anæsthetic were those of the head, and it is evident that the death of the patient is not to be attributed to cerebral causes. As to the diarrhœa or cholérine, which, probably with shock, seemed to cause death, that could not be attributed to the anæsthetic. Ethyl has been used in this city about two hundred times, uniformly with the most happy results. In my experience there has been no headache or other evidence of cerebral disturbance following the administration. No bowel affections have been observed, and none would be thought of. Do not be too hasty in the association of the anæsthetic with the cause of death. Many thousands of patients have died within twenty-two hours after the administration of ether and chloroform.”

Some persons think that death was produced by cholérine. Let us sum up the evidence bearing on this point.

The patient took three drachms and fourteen grains of Rochelle salts at 8.30 A.M. It operated freely twice before

11 o'clock, and no more till 7 o'clock, about two hours after the operation. She then had six thin, brownish, watery discharges from the bowels between 7 and 11 o'clock P.M.—not large, but attended with tenesmus, and the last with a little mucus. At 12.15, 2.40, and at 6 and 7 next morning, there were other thin, watery, brown discharges, with tenesmus and a little mucus, and the patient wanted the bed pan under the pelvis constantly.

Thus, we see that, between 7 P.M., and 7 the next morning, there were not less than ten watery, not profuse, but exhausting evacuations, over which opiates and astringents did not exercise the least influence. Dr. Nash says: "A few hours before death there were several (two or three) large involuntary movements from the bowels, such as she had previously had—dirty, thin water, with the disagreeable ethyl odor." The lower portion of the ileum and the colon were black and congested, and altogether presented an appearance far from a normal, healthy one.

This is a strong array of facts to sustain the theory of death by cholérine; and in all probability this cholérine had an important bearing on the termination of the case. But from my standpoint of view this was only secondary. Was death, then, caused by the anæsthetic?

Let us here sum up the evidence bearing on this point.

The patient was under the influence of the anæsthetic for an hour and a half. Its effects were different on her from what has been observed by Dr. Levis and others in Philadelphia. She breathed often sixty times a minute. She had opisthotonic convulsions three times during its administration. When she recovered from its effects she complained all the time of severe pain in the head. She had a congested state of the eyes and eyelids; and she had convulsions before death; and the discharges from the bowels smelt so much of the ethyl that the inmates all over the house noticed and complained of its peculiar, disagreeable odor. The woman who washed and dressed the body after death says that the odor of ethyl from the lungs, when she would roll the body over, was as strong as when it was being administered. When we came to make the post-mor-

tem we found the ethyl odor pervading the intestinal canal, and other organs of the body. At 8.45 A.M., the post-mortem was made, and I wrapped up the portions of intestine removed, the uterus and its appendages, and the kidneys, in a sheet of newspaper, and took them home, and placed them (as I was hurried) on a table in the distal end of my consulting-room, where they lay till 9 P.M.—about eleven hours. During the afternoon and evening the ethyl odor emanating from these pathological specimens was particularly noticeable in the part of the room in which they were laid.

At 9 P.M., they were unrolled in the presence of Dr. Nash and Dr. Gilliam, to be placed in spirits for preservation. When the specimens were examined separately we found the intestine, which had been split open, smelling strongly, not of fæces, nor of dead animal matter, but of the anæsthetic; and when the kidneys, which had been laid open, were brought near the nose, it was almost like smelling ethyl from an open bottle. From this it would seem that every fibre, every tissue of the body, in its minutest parts, was saturated with ethyl.

We know that anæsthetics, whether ether or chloroform, must be eliminated from the body, and that the lungs and kidneys are the usual emunctories selected by nature for this purpose. But in this case the kidneys were locked up as it were, and hence the bowels were called on to aid the lungs in getting rid of the poison. It is altogether probable that the cholérine was due wholly to the action of the ethyl, and not to the salts, which, as is usual with such a dose, exhausted itself by 11 o'clock in the morning, four and a half hours before the anæsthetic was given, and eight hours before the thin, brownish, watery discharge began. It is hardly probable—I should say possible—for three drachms of Rochelle salts to produce such a condition of the mucous membrane of the ileum and colon as was found here.

I sent the pathological specimens to Dr. Gilliam for examination on the 12th of February, and I received a verbal report a fortnight afterward saying that the kidneys were healthy. But a few days ago I received the following :

“The kidneys to the naked eye look normal. Under the microscope there was a slight increase of the interstitial connective tissue. Many of the convoluted tubules showed swollen and coarsely granular epithelia, and considerable narrowed central calibre, a characteristic feature of acute catarrhal nephritis.

“Slight cirrhosis of the kidney, with acute catarrhal nephritis, often exists without marked clinical phenomena, and may be overlooked by the physician.”

Now, if this account of the kidneys (which I do not understand) amounts to anything, let us look at the case from this point of view.

Dr. Nash, in his report to me, says :

“From the time she was laid in bed, she was excessively nauseated, and had great restlessness and intense straining efforts to vomit ; her eyes were red, both conjunctiva and lids, and when asked what pained her, replied, ‘Oh ! my head ! my head !!’ When spoken to she would answer intelligently, but at no time addressed any question or conversation to any one.

“After answering questions she would relapse into a state of restlessness and groaning, often throwing her hands up to her head. In order to quiet her, sulph. morph. was given hypodermically, which never completely controlled her. It was difficult for two nurses to keep her covered, on account of constant motion of arms and legs, and rapid turning from side to side for two hours after operation. I frequently asked her if she had pain at the seat of operation, and she invariably replied, ‘No, my head !’ The expression of face was never natural after operation ; jaws much sunken, and eyes often rolled upward. The discharges from the bowels were saturated with the odor of the ethyl, and the lady of the house and others told me that the medicine we gave her to put her to sleep had gone through her bowels, as they smelt it when the bed-pan was emptied into the closet. Not until about ten hours after the operation did she acknowledge having pain in the abdomen, and that was merely the tenesmus attending the choleric evacuations.

“I never considered her as having entirely recovered

from the effects of the anæsthetic. The convulsions consisted in frantic ravings, with agonizing screams ; eyes wide open, glaring, and intensely red. Then followed a few minutes of quiet, and then death.

“ A few hours before death there were several (two or three) large involuntary movements from the bowels, such as she had previously had—dirty brown, thin water, with the disagreeable ethyl odor.”

In reading Dr. Nash's report carefully, we are led to ask : “ Was this a case of uræmic death ? ” We know very well that ether, as an anæsthetic, often proves fatal where there is organic disease of the kidneys. Dr. Emmet was, I believe, the first to impress this on the medical mind.

I have seen two deaths from etherization in women over fifty years of age, where no disease of the kidneys was suspected till fatal coma was produced by the ether, In these cases the secretion of urine was almost instantly arrested, and the little found in the bladder was loaded with albumen. One of these was a patient of Dr. James R. Wood's ; the other, a lady from Brooklyn.

In cases of organic kidney disease, the hydrobromic ether may be just as dangerous as ordinary ether.

In the case under consideration, between the time of operation and death, twenty-one hours after, there were drawn off but five ounces and one drachm of urine, viz :

One ounce at 6.15 P.M., and two ounces at 10.15 P.M., on the 9th ; two ounces at 2.40 A.M., on the 10th ; bladder empty at 8.40 A.M. ; one drachm at 10.30 A.M. ; death at 12.15 P.M.

Of course the purity of the article is essential to its successful action, just as the purity of chloroform and ether is essential to theirs. Was the ethyl given to my patient pure or impure ? You will perceive what a difference there is in odor between the two. The Wyeth sample is not unpleasant to the smell ; the other is execrable. It is very important to determine this point before we condemn this new anæsthetic. It has many qualities to recommend it : it is easy to administer ; the patient goes quickly under its influence, and recovers rapidly from its effects. But, if it is

dangerous, all these qualities pass for naught. Would it be asking too much of the Academy to order an analysis of these two specimens of the hydrobromic ether to be made for the benefit of the profession at large? If the two are identical in their chemical characters, then I should not advise the use of hydrobromic ether as an anæsthetic. But if it be proven that one specimen contains noxious properties not in the other, then I would advise further experiments with the pure article.

We know that ether is safe in long operations, and that chloroform may be unsafe in short ones. It may be possible that hydrobromic ether will prove safe in short operations, and unsafe in long ones.

In some of Dr. Lawrence Turnbull's cases it produced very distressing effects, which, if prolonged, might have ended, as my case did, fatally.

Dr. Turnbull gave the hydrobromic ether to a nervous, hysterical woman, aged twenty-five (Case 8), for the purpose of replacing a retroverted uterus and adjusting a pessary to hold it in position—Case 8,* “With a little less than one ounce of hydrobromic ether there was produced complete anæsthesia in four minutes, long enough for placing of a pessary to relieve the above symptoms. During the administration the pulse was but slightly accelerated; return of consciousness was accompanied by excessive gagging and vomiting of large quantities of mucous, great burning in stomach and throat, severe headache, cold perspiration, weak and rapid pulse, all of which continued for twenty-four hours, with more or less severity. Both sulphuric ether and chloroform had previously, on several occasions, produced similar symptoms, but not so severely.”

Any agent which in four minutes' time could produce “excessive vomiting, burning in stomach and throat, severe headache, cold perspiration, and a weak and rapid pulse” which continued for twenty-four hours, would, if the anæsthetic had been continued (as in my case) long enough for

* Artificial Anæsthesia, etc., 2d edition, p. 74.

the whole mass of blood to become poisoned and for every tissue in the body to become saturated with it—would, I say, certainly have ended in the death of the patient.

Dr. Levis has had a larger experience with this anæsthetic than any other surgeon, but his longest operation was only forty minutes, whereas my unfortunate case lasted an hour and a half. It may be that we did not administer the ethyl as skilfully as it should have been done. But I do not think we could have given less and maintained the anæsthesia sufficient for its purpose.

If the operation had been comparatively short—if it had lasted only twenty or thirty minutes—if it had terminated before my patient's system, solids as well as fluids, became thoroughly saturated with it, she would in all probability have recovered ; but, as it was, it seemed to kill by supersaturation which could not be eliminated, even with the aid of the whole mucous tract of the alimentary canal to aid the lungs. If mine had been a short operation, I might to-day have been lauding the new anæsthetic as a veritable boon to surgery. But, as it was otherwise, I must raise a warning voice, especially in prolonged operations.

It would be an interesting scientific inquiry to determine if ethyl-poisoning by inhalation produces cholera with a deeply congested condition of the mucous membrane of the lower portion of the alimentary canal, and also to determine what other pathological changes it might induce.

This could easily be done by experiment on the lower animals, and it is to be hoped that some of our physiological *savans* will soon tell us by such experiments what we have to fear from the long continuance of the bromide of ethyl as an anæsthetic.

The inference that I draw from the facts in the history of this case is that the anæsthetic was the cause of death, while the manner of death may have been by uræmic poisoning. The lesson from this is, never to give bromide of ethyl in prolonged operations, and never to give it where there is organic disease of the kidneys. What, then, shall we give ? certainly not ether ; because we know that it has often pre-

cipitated uræmic poisoning and sudden death. Our only resource then in such cases is chloroform as an anæsthetic, because we know that it produces anæmia of the brain, and is therefore less liable to develop uræmic explosion.

DR. LEVIS (on invitation) after some general remarks (which are substantially contained in the JOURNAL, page 339), said that he thought that the differing results obtained by Dr. Sims and himself were due to the differing methods used. He thought some of the errors were the same he at first made by too cautious administration. He had been able to produce complete anæsthesia by the use of two drachms in two or three minutes. Dr. Sims's case impressed him by its duration and the large quantity of ether bromide used. In his cases the operation had not lasted longer than forty-five minutes, and the entire quantity used was eleven drachms. He had seen no after effects. As to vomiting, etc., it might occur if too much of the anæsthetic was used. When using the same preparation as Dr. Sims he had noticed the odor in the breath, etc., but not with Wyeth's preparation, which was the best.

THE PRESIDENT. It will be seen that the effects differ from any other anæsthetic, I therefore call on Dr. Squibb, of Brooklyn, to explain if there are elements in this ether which might destroy life.

DR. SQUIBB. All I have to say is purely theoretical. I had a prejudice against the ether from the start on theoretical principles. I think as a chemical principle those ethers are the least dangerous which are most simple, and which yield by decomposition innocuous elements. Nitrous oxide is decomposable into innocuous elements, so is the oxide of ethyl. In the bromide of ethyl (not really an ethyl) the oxygen is replaced by bromine to the extent of 73 per cent. the other 27 being the ethyl. Now the simplest anæsthetics are easiest borne. Bromine is an irritant poison. Bromide of ethyl is an easily decomposed compound. If, therefore, it be decomposed and its irritant element the 73 per cent. of bromine goes into the system, it is easy to understand that grave effects might be produced. An

analogy exists in the case of chloroform which contains 89 per cent. of cholerine, two atoms of which in toxic effect are not equal to one of bromine. We can illustrate still further by supposing an arsenite of ethyl. If this argument have any value, we can, I think, understand why compound ethers are most dangerous, a fact that agrees with Richardson's observations.

DR. DALTON. I have never seen the hydrobromic ether before, but think different kinds of danger can be developed by different anæsthetics. I believe ether to be the safest anæsthetic we have. If the death of Dr. Sims's case was due to the bromide of ethyl it took place long after the substance was administered. The system could not get rid of the bromide of ethyl which produced peculiar symptoms in which the patient died; the system retaining long after death bromide of ethyl. Very different deaths take place from chloroform. I don't think Dr. Sims could have used greater care, but some improvements might be pointed out by Dr. Levis.

DR. A. C. POST. I long have been in the habit of using Prof. Nussbaum's procedure of injecting hypodermically seven or eight minims of Magendie's solution before giving an anæsthetic and find it adds to the safety of the patient and the comfort of the surgeon.

DR. JAS. L. LITTLE. I have to report the two following cases. Case I. Gave bromide of ethyl (Wyeth's) to boy four years old on whom Heaton's radical operation for hernia was to be performed. Gave it in Dr. Levis' way. Less than *two* drachms were used and the patient was under its influence in two minutes. Pupils contracted. Within five minutes after taking the cloth from its face the child responded intelligently. No vomiting. Case II. Adult in good condition had two or three drachms held close over the mouth and nose on a napkin, at the end of three minutes continued to struggle violently, more free application, more struggling, face suffused, pupils alternately dilated and contracted. In eight minutes, on account of these symptoms, the administration stopped. The man come out in a few minutes from what he had had; quantity used *two ounces*

and *two drachms*, no nausea or vomiting, pulse and respiration very rapid. He had never seen anything like this with ether.

THE PRESIDENT. Dr. Sims's patient's respiration was very rapid. Very little atmospheric air is admitted from the rapid giving of this anæsthetic and the carbonic acid exhalation is checked. May not this contribute to the danger?

DR. WYLIE (on being called on.) I have nothing to add to Dr. Sims's details. I have followed Dr. Levis's direction. I have seen three cases where the muscles were convulsed. I do not believe this anæsthetic can be used as freely as ether. It is quite possible I failed to give sufficient at the beginning of anæsthesia.

DR. SQUIBB. Anæsthesia is separable from the other effects produced by the anæsthetic, and all influences did not disappear with the disappearance of the anæsthetic. 2nd. Many of the symptoms of Dr. Sims's case looked like bromine poisoning. This should therefore be separated from the known nature of the anæsthetic. The color of the eyes, etc., pointed to some irritant agent. The idea about the influence of the kidneys was not probable in the face of these.

DR. ROBERTS, (of Philadelphia, on invitation.) I have administered bromide of ethyl many times both with Dr. Levis and in my own practice. In my experience it is a safe anæsthetic. Ether causes hypersecretion of mucous. The bromide of ethyl does not and only increases slightly the respiration. The eyes are not suffused as in case of ether. In two cases he had seen nausea. The operation in Dr. Sims's case might have been sufficient to produce death. Tetanic convulsions were sometimes seen with ether. In one case a patient who was found to have convulsions under ether turned out to be an epileptic. There might be a similar state of things with Dr. Sims's case. Bromide of ethyl was evanescent in its effects for plastic operations about the face.

The Academy then adjourned.

ORIGINAL CORRESPONDENCE.

“Sit mihi Fas scribere audita.”

TARRYTOWN, N. Y., *April 2, 1880.*

E. S. GAILLARD, M.D. :

Dear Editor:—I have read Dr. J. H. Pooley's communication on Needles, Pins, etc., and have been very much interested as there is seldom a day without some one meeting with accident from these little indispensables. The perusal recalls a piece written by my father more than thirty years ago, when he resided in Lexington, Rockbridge Co., Va. I have kept it among his papers in the original which I send you as curious, and bearing upon the points of Dr. P. I value the paper and if you do not wish to publish it please send it back. I saw Dr. Detmold nearly thirty years ago extract a large headed shawl pin from the right groin of a lad about twelve, who was emaciated to a skeleton from a wasting diarrhœa, which could not be accounted for until the abscess formed and Dr. D. opened it, and in taking hold of the pin with a pair of forceps it could not be extracted, the head being retained in the bowel. He used a thin knife and director, making a very small opening about the head of the pin, when to the amazement of the class and I think of the Dr. too, it came away. No bad effects followed, and the boy made a rapid recovery, the diarrhœa ceasing almost at once.

I have removed a great many needles from different parts of the body, more particularly the hand, and I have always made the V incision. Foreign bodies of all kinds we meet daily as having entered the alimentary canal, screws, marbles, buttons, pieces of nut shell, pins, small cents and the old-fashioned large penny.

Truly yours,

H. CARUTHERS.

TARRYTOWN, NEW YORK.

One of the most remarkable cases which has occurred to me in a practice now extending to eighteen years, happened previous to my removal to New York in 1829.

I was called to see the daughter of Major Joseph Wurn of Va., who, her parents informed me, had been laboring under a very singular and delicate disease for some time. She was a very interesting child of ten or eleven years old, and there was evidently very great reluctance to submit to medical treatment at all, both on the part of the little patient and her parents. This no doubt proceeded from an impression on their minds that the disease partook of the nature of a loathsome and disgraceful one, which often attacks the other sex in the same sphere of life.

What rendered the delusion still more complete was a general sympathetic condition of the glandular system, almost exactly simulating syphilis in its primary stages. Indeed I was strongly under the impression myself from *their* detail of the appearances and symptoms.

When I made an examination I found a tumour occupying the upper portion of the right labia, about the size of a hen's egg and somewhat similar in shape on the external half. Upon pressure it produced a deep-seated pain, which the little patient described as if a knife had been run into her. I immediately perceived the difference between this peculiar pain and the soreness of bubo, and this single point attained prevented me from making greater mistakes than I did in the treatment and from being urged into them by older and abler men who were finally consulted in the case, and among them Dr. Dunglison then of the University of Virginia.

The direction of the tumor was in a line drawn from the symphysis pubis to the external abdominal ring, the larger end of its egg like shape occupying the most dependent situation. There was no vivid redness over any portion of this singular protuberance, on the contrary it preserved the the same clear, healthy appearance of the skin for which the child was remarkable. I could perceive no connection whatever between this growth and the direct channel of the alimentary canal. No sound was given out during the dejection of the fæces nor was the slightest effect ever produced upon it by any remedies addressed to the bowels. Repeated taxis produced not the slightest remedial impression—in whatever position she was placed, and had to

be desisted from in every instance from the same lancinating pain, before described. No position of the patient gave any indication of the true diagnosis as is usual in hernia's. There were no peritonitic symptoms either direct or reflex—no connection could be traced even to its appendages the epiploon, nor was there any soreness pointing in that direction. No dragging sensation of the colon or of the liver or the stomach, all the abdominal viscera were in their normal positions while their functions were entirely uninterrupted. These preliminaries were all beyond a doubt, and the question was consequently narrowed down to the simple inquiry, was it omental hernia or a venereal tumor, and if the latter—of primary or secondary growth. To settle these matters I called in Drs. Jordan and Layburn—(the latter mentioned by Dr. Godman in his anatomical work as such a distinguished young anatomist). Now before I proceed to detail the result of this consultation I will here remark that it was the only instance which I recollect where all the members were unanimously wrong, and it was afterwards extended so as to include Professor Dunglison and he was in the same category. I do not now remember the distinct opinion of each of the physicians farther than that none of us hit upon a proper solution of the mystery.

I inclined myself to the opinion (after the examination) that it was omental hernia, and this idea, seems to have been sustained by a sufficient number of us to prevent the use of such means as would produce suppuration. All our remedies however proved fruitless, and the patient after six weeks of suffering had wasted away to a mere shadow. Col. W—— having formerly resided in the neighborhood of the University of Virginia and Dr. Dunglison having been there called into his family, he was desirous that the Dr. should be consulted in the case. Accordingly I prepared a detail of the symptoms and treatment, and after receiving the approval of my colleagues, it was sent to him. In due course of mail his opinion came, and it coincided precisely with the one expressed by me in consultation. The treatment of course was similar to that which had been pursued in the main—and when anything new was advised it was tried,

but all with the same discouraging results. Three months elapsed, during which no sensible relief had been afforded, and the dreadful emaciation continued. I say dreadful, because the child was by this time one of the most pitiable objects it was possible to imagine. She had to be supported in the arms of a nurse upon pillows, and was carried around the room like an infant, although ten or eleven years old, as before stated. By this time the consulting physicians had dropped away one by one, until I was left alone in charge of the case. Under these circumstances and with the consent of the parents, I determined to use means to promote suppuration and in case of failure to lay it open. A very few emollient poultices had been applied before the tumor began to manifest signs of suppuration; these were promoted by all available means, and in a few days her father came galloping into town with the joyful news that it had burst and that a large needle had escaped along with the pus.

The swelling rapidly subsided and the little patient as rapidly recovered her health. Indeed she had begun to improve from the time the poultices were first applied. How the needle got there it was impossible to ascertain, not a hint had been given to us of such an accident and of course it was impossible to surmise it. Nor indeed had she any recollection at least of having swallowed it. The only rational solution of the mystery was the supposition that she had fallen asleep and swallowed it unconsciously.

Dr. Physic used to relate to the class the case of a young lady who had swallowed a large number of pins, which finally made their way out at the hips—back and perinæum, with the same emaciating effects upon the body of the sufferer.

That the patient swallowed the needle I never entertained a doubt because if it had been introduced through the urethra as foreign bodies are sometimes introduced by lascivious girls, the constitutional disturbances would not have been near so great, and the tumor would of itself have pointed outward more readily.

W. ALEXANDER CARUTHERS.

PROF. E. S. GAILLARD :

Dear Sir :—I wish to relate a singular case that came under my observation in the summer of 1878.

I was called to visit Martin Wignes, Norwegian, farmer, aged 28 years. He had been shot a few hours before. A large quantity of number eight shot were found imbedded in the hypogastric and right inguinal regions. Shaved the parts probed, and removed all shot found. Applied carbolized water dressings, gave opium in one grain doses as required to ease pain. After much suffering and a slow convalescence he recovered, and when able to walk we found—to my astonishment, not having heard of his hernia before—that a large rupture had been perfectly cured. He has since harvested and performed the usual hard work necessary on a Minnesota wheat farm, without a return of the hernia—it is perfectly well.

About five weeks ago I operated without an anæsthetic, and with no great pain, on a large scrotal hernia for Joel Harkness, of Monroe, this State. As much is being said for and against the Heatonian operation, this case may be of interest.

First shaved the parts, then placed the patient on his back and reduced the hernia. Then used index finger of left hand as a guide, thrust the needle of a hypodermic syringe directly into the ring alongside the finger guide. Waited perhaps two minutes—no blood came through the needle. Then attached the syringe in which there were thirty minims of the following :

℞ Semi-fluid extract of White Oak, ℥ xx,
Morphine Sulphate, gr ½,
Semi-fluid extract of Hemlock, ℥ xx.

Injected all of the above mixture rotating and moving the needle in different directions, as the mixture was being forced through the needle into the ring. The rupture seems perfectly cured. The patient has worked on his farm since the fifteenth day after the operation, the only support or rather protection against a return of the hernia, being a Loudon supporter, which I have advised him to wear during his spring

ploughing. Will operate on an old gentleman for double inguinal hernia in a few days by Heaton's method and inform you of result.

Respectfully, your old student,

D. F. POWELL.

LANESBORO, MINN., *March 24, 1880.*

KANSAS CITY, MO.

E. S. GAILLARD, M.D. :

Dear Doctor :—Enclosed please find photographs illustrating instrument for holding prepuce and for making microscopical examinations of the same. Some months ago I conceived the idea of making microscopical examinations of the tissues of the human body "in situ" ante-mortem, and it occurred to me for obvious reasons that the prepuce was the part best adapted to this purpose. During the several months of my investigations I have come to the conclusion that this is going to prove a very valuable means of diagnosing constitutional diseases, as well as of observing the effects of different remedies. Even with the low power I am able to examine with perfect satisfaction the areolar tissue.

In several cases I have noticed degenerated elements, sort of broken down cell products imbedded in the submucous and fibrous tissues, which I suppose to be characteristic of syphilis. I have several patients whom I have examined in this way, and in future I purpose to make drawings of what I see at the first examination, and then from time to time note the changes if any. I am scarcely able, as yet, to tell whether what I see is normal or abnormal, but by practice in careful observation and study I am confident one will be able to distinguish the difference between persons with syphilitic taints and those without.

In conclusion I would say that this means obviates the necessity of going to the web of the frog's foot to see the circulation of the blood, for by gently pressing the prepuce between the stage of the microscope and the thin cover glass, and making the parts tense by means of the membrane,

with the reflected and condensed light the circulation of the blood can be very satisfactorily seen. I will give to any one photographs of the instrument.

Respectfully yours,

FLAVEL B. TIFFANY, M.D.

DOCTOR E. S. GAILLARD :

Dear Sir :—The following case of puerperal convulsions was very interesting to me while under treatment, and thinking it might prove interesting to some of your many readers, I have concluded to give you a short history of it.

Late in the evening, Oct. 9th, 1879, I was called in haste to Mrs. D———. I arrived at 8 P.M., and learned the following history of the case. Mrs. D———, Primipara, was taken in labor in the early morning, was delivered of a male child at 11 o'clock A.M., had two or three light fits before the birth of her child. Dr. G., arrived soon after her child was born and gave her a mixture of Tr. Gelsemium and Spts. Nitre with Bromid Potass., ordered treatment continued, and left. Convulsions continued and rapidly increased in frequency and severity, until I saw her at 8 P.M. She was having them every 40 to 60 minutes, was unconscious, it was impossible to get her to swallow anything, tried chloroform but it failed to control the convulsions. Dr. G., now arrived, and I at once proposed to give an injection of Morphia and Bromid Potass, to which he consented. Unfortunately, neither of us had a syringe; we had to send three miles for one, and when we got it found that some officious nurse had lost one of the valves, and in that condition was entirely useless. Nothing daunted, we obtained a small piece of lead, and with a pocket knife soon manufactured a valve that did admirable service. (I name this circumstance to show you city doctors what difficulties we backwoods' doctors sometimes have to contend with.) At midnight I gave her an injection of Morphia, $\frac{1}{3}$ gr. pretty strong solution Bromid Potass $\frac{3}{4}$ ii, Starch Water $\frac{3}{4}$ ii just after a severe fit. The injection was well retained. No more fits until 2 A.M. Nurse repeated the injection as soon as the convulsion passed off and that was the last she had.

Oct. 10, 8 A.M. Patient conscious, would talk but did not realize her condition, would not own her babe, her mind seemed to be an entire blank. Ordered quinine every 3 hours, small doses of morphia 4 to 5 hours. Water had passed unnoticed in bed, very little flow.

Oct. 11, 9 A.M. Patient rational, took great delight in her child. Passed urine in a vessel, treatment continued.

Oct. 12, 10 A.M. Patient bright and in good spirits, appetite returning, no fever, from this time she rapidly recovered.

I was induced to use the Morphia and Bromid Potass. in this case, from reading a report of the successful treatment of obstinate vomiting in pregnancy by Bromid injection, and from seeing the good effects of injection of an opiate to relieve the intense suffering after cauterizing the os uteri in some cases in my own practice.

Respectfully,

J. H. HAYNES.

ADYEVILLE, IND., 1880.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

“Judex damnatur cum nocens absolvitur.”

Essentials of Anatomy, by WILLIAM DARLING, A.M., M.D., L.L.D., F.R.C.S. Professor in the N. Y. City University, Medical Department, and AMBROSE L. RANNEY, M.D., Adjunct Professor. G. P. Putnams' Sons Publishers. New York, 1880.

This is the volume regarding which there has been so much litigation in the New York Courts; a litigation, which, taking into consideration its relatively inferior character, is very surprising, and must be due to the fact that the “text-book” system is in vogue in New York, and students find it necessary to purchase these text-books of their professors. There is nothing original in the book except the anatomical tables of Dr. Darling; it is to be presumed these constitute his sole contribution to the work. They are of

great value to the student but whether it is desirable to have so much chaff to get at so little wheat is a question. There is no reason other than the "text-book" one already mentioned for the appearance of this book, seeing that numerous valuable English works are already in the field and if necessary translations could have been made from the French and German authorities, Hyrth and Sappey, much superior to even the English. For such stiffly written, and at times, verbose medical works, there should be no place in literature, and it is to be regretted that they can find publishers. Some of the illustrations are by no means models of excellence, one section of the brain resembling markedly a contorted squash. The publishers have done their duty and if the artist and author had done theirs, the book would have been a success. K.

Therapeutics, Materia Medica and Toxicology, by H. C. WOOD, M.D. J. B. Lippincott & Co., Philadelphia, 1879. Third Edition.

The appearance of the third edition of this work gives pleasure to every American physician. It forms a full compendium of the recent knowledge of *Materia Medica* in all of its branches.

The divisions of the general subject are very good, although a closer adherence to the plan of Headland might have been an advantage. The placing of the officinal preparations at the end of each article is certainly to be commended. It is to be regretted that certain agents like *Viburnum prunifolium* *Pulsatilla* and *Hammelis* which are of much value and exceedingly efficacious are omitted; perhaps in a future edition this will be remedied.

There is a very singular omission in the literature of strychnia of the researches of Spitzka which were made at the same time as those of Klapp and under the same conditions, viz: in competition for the Hammond Prize Essay. These researches which will be found in the Jan. 1879 No. of the *JOURNAL*, of Nervous and Mental Diseases, are of much importance and it is to be regretted that an American contributor should be thus passed over.

The section on Jaborandi is of much interest and gives all reliable indications for the use of this important remedy. This may also be said of the section on Apomorphia.

Sufficient stress is not laid on the dangers of the use of Chloral Hydrate in the section on that subject, in cases where there is any cardiac deficiency, nor is there any allusion to the existence of the "Chloral Habit," two very important omissions. Nitrite of Amyle is fairly discussed but no mention is made of its application in melancholia where it has been found of use, especially in the atonic form.

The articles on disinfectants are of much value and interest. That article on "prescribing" is just what is needed by the average practitioner, although the opening recommendation about putting the most important ingredient first should not always be observed.

The article on electricity is also an important addition.

The printing of the book is good; and its binding is fair, but there is one shortcoming on the part of the publisher which is a great nuisance; that is the addition of advertisements. This is in bad taste and destroys the unity and value of a book. The advertisements could be just as well given to each purchaser as inserted at the end, thus spoiling a volume.

K.

Lectures on Diseases of the Nervous System. Delivered at La Salpêtrière by M. CHARCOT, Professor to the Faculty of Medicine of Paris, etc. Translated from the second French Edition by GEORGE SIGERSON, M.D., etc. Philadelphia, 1879, Henry C. Lea, pp. 271.

We may take it for granted that whatever Prof. Charcot writes will be of importance to medical science if only in the way of pertinent suggestion. As an investigator of symptomatology and pathology he has made a mark which will endure for all time; as a therapist he is absolutely nothing and even his clinical experiments in metallo-therapy, into which he entered with such enthusiasm, and which for a time promised such great results, have as he himself confesses, led to no practical result.

But in possessing this type of character he does not es-

essentially differ from the majority of French and German physicians of the present day whose chief *raison d'être* is distinctly indicated by the remark of one of their number who, being asked why in his opinion, Providence had cursed the human race with so many horrible diseases, replied that doubtless it was in order that physicians might be developed to study them.

In the book before us M. Charcot is seen at his best and worst. There is a good deal of semi-original matter on symptoms and pathology, many valuable hints on diagnosis, but nothing at all on treatment beyond a few hints which appear to be of more importance as curious pathological facts than as curative agents, such for instance as the temporary arrest of the spasms of hystero-epilepsy by pressure upon the ovary.

The work has of course long been known to all neurologists who read French (and it is impossible to conceive of a neurologist who does not read both French and German), and the present translation will place it before those unable to avail themselves of the results of Prof Charcot's labors as published in his own language. Dr. Sigerson has prepared his work in a very satisfactory manner, but the omission of the lithographic plates which formed so prominent a feature of the French edition, is certainly not to the credit of the English publishers or their American followers.

Common Mind Troubles, and The Secret of a Clear Head.

By J. MORTIMER GRANVILLE, M.D., M.R.C.S., etc.

Published by D. G. Brinton, Philadelphia, Pa.

Dr. Joseph Mortimer Granville has been encouraged by the reception which has been awarded to his previous papers on the subject of Mind Troubles, to adventure the present volume. It is not published in the interest of the scientific reader, and if such should by accident honor this little work by their notice, they must remember that this collection of essays was not written for persons who have studied the subject scientifically. Dr. J. Mortimer Granville believes that there is a "stage of conscious embarrassment preceding mental derangement or mind weakness," and that

persons in this critical condition will find in his volume of essays such help as may enable them to repair the mischief which already exists, and avoid, through his wise suggestions, more serious troubles. In all of which he is assisted with "additions" by an American Physician.

Our Homes. By HENRY HARTSHORNE, A.M., M.D. Presley Blakiston, Philadelphia, 1880.

This is one of the series of American Health Primers published by Presley Blakiston. His object is to diffuse as widely and cheaply as possible among all classes a knowledge of the elementary facts of Preventive Medicine and the bearings and applications of the latest and best researches in every branch of Medical and Hygienic Science. They are not intended (save incidentally) to assist in curing disease, but to teach people how to take care of themselves and all dependent upon them. Each volume, when the subject calls for it is fully illustrated so that the text may be readily understood by the unscientific. There is thus furnished to the general reader, in a compact form and low price, reliable guides for the prevention of disease and the preservation of both mind and body in a healthy state. *Our Homes* is probably the most valuable of this series, yet issued. Dr Harts-horne takes up the question "How shall we have healthy homes?" and deals with it wisely and intelligently. There is no subject of more vital importance to all sections of society.

Sea Air and Sea Bathing. By JOHN H. PACKARD, M.D., Surgeon to the Episcopal Hospital, Philadelphia. Presley Blakiston, 1880.

Dr. Packard has contributed this small volume to the series of American Health Primers. It is, like all of the series, intended for the general reader, and while the information given is already familiar to frequenters of Sea Side Resorts, it will doubtless be of use to those who have no experience in such matters.

Muscle-Beating: or Active and Passive Home Gymnastics

for Healthy and Unhealthy People. By C. KLEMM, Manager of the Gymnastic Institution in Riga. Published by M. L. Holbrook & Co., New York, 1879.

This little brochure is of Russian origin and is endorsed by Dr. Karell, Physician to his imperial Majesty the Emperor of Russia. As the object of the work is to show the extreme value to the physical man, of self-castigation, with india-rubber tubes, there is room for doubt whether the new theory will find as congenial a home in America, as it has apparently done in Russia.

“Muscle-Beating” is but another form of “Massage” and a very poor one.

A Guide to the Practical Examination of Urine. By JAMES TYSON, M.D., Professor of General Pathology and Morbid Anatomy, in the University of Penn. Third Edition with Illustrations. Philadelphia, Lindsay & Blakiston, 1880.

This being the third edition of this book, it is only necessary for this Journal to re-recommend it in warm terms to the Profession. The practitioner could not have a better manual.

Post-Mortem Examinations with Especial reference to Medico-Legal Practice. By Professor RUDOLPH VIRCHOW, of Berlin Charité Hospital. Translated from the Second German Edition by Dr. T. P. Smith. Presley Blakiston, Philadelphia, Pa., 1880. A perfect manual.

THE FOLLOWING PAMPHLETS HAVE BEEN RECEIVED.

Annual Announcement of the Medical College of the Pacific, Alta California, San Francisco 1880.—The Therapeutic Action of Quinine, by J. W. Compton, M.D., The Courier Company, Evansville, Ind., 1880.—Clinical Notes upon the use of The Galvano-Cautery, by William A. Byrd, M.D., The Practitioner Publishing Co., Baltimore, 1880.—Essay on the Chemical and Pathological Action of the Virus of Syphilis, by Littleton H. Walter, M.D., L. C. Lavat

& Co., St. Louis, 1880.—The Medical Journal Advertising Bureau Gazetteer, Edited and Published by H. B. Conrad, M.D., New York, 1880.—A New Industry, Fig Culture at the North a Success, by G. F. Needham, Washington, D.C., 1880.—Posture in the Treatment of Intestinal Colic and Ileus ; with a consideration of the Pathology of “ Spasmodic Colic,” by Frank H. Hamilton, M.D., 1879.—The use of Water in the Treatment of Diseases of the Skin, by L. Duncan Bulkley, A.M., M.D., New York, 1880.—New Method of Permanently Removing Superfluous Hairs, by L. Duncan Bulkley, A.M., M.D., G. P. Putnam’s Sons, New York, 1880.—Therapeutic Action of Mercury, by S. V. Clevenger, M.D., Knight & Leonard, Chicago, 1880.—A Postural Method of Copulation for the Cure of Some Forms of Sterility in the Female, by Walter R. Gillette, M.D., New York, 1880.—Ethylization: The Anæsthetic use of the Bromide of Ethyl, by R. J. Levis, M.D., Medical Record, Philadelphia, 1880.—Notes on The Anatomical Relations of Uterine Structures, by T. H. Buckler, M.D., Riverside Press, Cambridge. 1880.—A Contribution to the Pathology of the Organ of Hearing, by Thomas R. Pooley, M.D., New York, 1880.—Contribution to the Pathology of the Temporal Bone, by Thomas R. Pooley, M.D., Mercury Publishing Company, New Bedford, 1879.—Sixth Annual Report of the Superintendent of the Cincinnati Sanitarium, A. H. Poundsford & Co., Cincinnati, 1880.—The Fallacies of Popular Clinical Medicine, by Jarvis S. Wight, M.D., G. P. Putnam’s Sons, New York, 1880.—Valedictory Address to the Class of the Jefferson Quiz Association, at the Philadelphia School of Anatomy and Surgery, by John V. Shoemaker, A.M., M.D., Philadelphia, Published by the Association, 1880.—Hygiene and Education of Infants, or How to take care of Babies, Translated from the French by Geo. E. Walton, M.D., Robert Clarke & Co., Cincinnati, 1880.—The Problems of Insanity, by George M. Beard, A.M., M.D., New York, 1880.—Free Navigation of the Ohio River, Speech of Hon. Albert S. Willis, of Kentucky, in the House of Representatives, R. O. Polkinhorn, Washington, D.C., 1880.—On the Nomenclature and Classification of Diseases of the Skin, by L. Duncan Bulkley, M.D., New York, 1880.

TRANSLATIONS.

“ Ubi mel ibi apes.”

(NEW AND REGULAR DEPARTMENT OF THIS JOURNAL. CONTRIBUTED BY
J. G. KIERNAN, M.D., NEW YORK.)

Menorrhagia, a Lecture by Dr. Bernutz at the Charity Hospital, Paris. La Revue de Thérapeutique Médico-Chirurgicale, February, 1880.

Menorrhagia, from the diverse conditions to which it owes its origin, is one of the most complicated and puzzling subjects in gynæcology.

The term menorrhagia implies only an excessive menstrual flow, that is so to speak, hæmorrhagic menses. This superabundant loss of blood may result, either from a condition in which the flow of blood is excessive, although lasting but the usual time, or from one in which the menstrual flow is not increased in quantity, but the period is longer, or finally from both the length of the period and the quantity of the flow being increased at the same time. The loss of blood from this cause may be sufficient to cause death. Raciborsky cites two cases in which too profuse menses put an end to the patient's existence. The first patient fell suddenly on her buttocks; the shock thus produced led to an abundant menorrhagia which recurred at the two following menstrual periods. At the third catamenial epoch the flow was so excessive that the patient died on the thirteenth day. Nothing was found on post-mortem to account for the great loss of blood, but a small clot in the uterus.

In the second case, menstruation was so profuse at its first appearance, that the patient died on the third day. No lesion was found on the autopsy to explain the profuse hæmorrhage. In these two cases there is no doubt that death resulted from an excessive loss of blood. As might be expected menorrhagia leads to all the symptoms ascribed to rapid loss of blood; it produces, like all rapid abundant hæmorrhages, an acute anæmia. The patients are therefore pale, liable to dyspnœa, and palpitation of the heart, in a word, to all those functional diseases due to anæmia. What

is chiefly to be regretted in these cases, is the fact, that the anæmia and menorrhagia work together in a vicious circle ; the anæmia leads to the menorrhagia and the menorrhagia leads to an increased anæmia ; further, the single menorrhagic attack leads to a repetition at the next menstrual period. The menorrhagia will of course leave traces of its presence behind. The linen worn by the women is generally deeply stained by the menstrual fluid showing what the amount flowing from the vagina must have been ; the cervix is frequently found slightly softened and dilated. As a rule the menstrual flow is toward the external organs of generation, but, under the influence of some morbid cause, the fluid sometimes passes through the Fallopian tubes into the peritoneum, giving rise to a hæmatocele. Menorrhagia differs from metrorrhagia chiefly in the fact that the latter occurs in the inter-menstrual period. Menorrhagia properly so-called, is only an excessive menstrual flow ; metrorrhagia needs for its production a more powerful morbid influence.

These two morbid functional conditions are frequently conjoined ; they present many analogies and it is often difficult to differentiate between them. Menorrhagia is determined by many diverse morbid influences ; it may result from a simple functional perversion which happens once but fails to return. The etiology of menorrhagia can be best discussed under two heads, moral and physical. Among the moral causes may be cited violent impressions, sudden anger, etc. Among the physical causes are found fatigue due to exertion before the last menstrual period, masturbation, excessive coitus, and the passage from cold to warm climate. Thus when French women pass from France into Italy, they rarely fail to pay tribute to the fatigue of the journey, and the increased temperature, by an attack of menorrhagia which is ephemeral in character and does not return. Menorrhagia may be the result of traumatic causes. Tardieu has cited a case of death occurring under the following circumstances. A husband, in a sudden fit of anger kicked his wife in the abdomen during her menstrual period. The blood passed through the Fallopian into the peritoneum resulting in sudden death ; which condition was revealed

by a medico-legal autopsy. This accident is, however, very rare. Menorrhagia is frequently noticed among women who are attacked by acute diseases during the menstrual epoch. All febrile affections as pneumonia, articular rheumatism, etc., may produce it ; but it is during the eruptive fevers that menorrhagia presents its most dangerous aspect for the life of the patient. Scanzoni has observed a case of menorrhagic rubeola resulting in death. Elie and Labolléns have had similar experience with menorrhagic scarlatina. I myself have lost a patient attacked by purpura during her menstrual period. In this case uterine congestion caused a reflux of the blood through the Fallopian tubes into the peritoneum. These facts should be remembered, for if menorrhagia supervenes under these circumstances it is an exceedingly grave complication to be combatted with proportionate energy. During convalescence menorrhagia may recur every month for a longer or shorter period. As is shown by the two cases already cited from Raciborsky, menorrhagia may be idiopathic ; these cases are, however, very exceptional. Hæmorrhagic menses as a rule are symptoms of either a general or local condition of disease. They are generally the result of affections of the genital organs. All miasmatic and malarial influence, as well as albuminaria, and cancer, can cause them. Menorrhagia results also not unfrequently from chlorosis ; it is not seldom observed among young girls at the time of the establishment of their first courses. The first menses are not ordinarily menorrhagic ; this comes on some time later towards the age of fifteen. When menorrhagia depends on conditions of the general system there are no genital troubles and no inter-menstrual complications. On the appearance of the menses the patients experience pains in the abdomen and loins, with a sense of weight, all phenomena dependent on an excessive congestion. The menses are almost invariably followed by leucorrhœa but during the inter-menstrual period there is no pain or other disagreeable symptom noticed. In the upper classes of society diagnosis is not always easy for in young well-born girls a direct examination is not very fruitful of results. The persistence of the hymen is a great obstacle

to a local examination. To secure as nearly as possible an exact diagnosis an adroit interrogation must be resorted to and every circumstance capable of throwing light on the situation thoroughly investigated. The diagnosis thus arrived at is of great importance in treatment for, as was said by Trousseau, chlorosis requires a very careful treatment. In the menorrhagias from local causes the use of iron would be attended with bad results as it would serve only to increase already existing evils. Menorrhagias due to rachitis and malarial fevers, require the treatment proper to those diseases ; quinine is indicated in all cachectic conditions. Albuminuria, and above all when accompanied by aortic insufficiency, gives rise to menorrhagia. West was the first to call attention to this complication of those diseases. In all such cases a cachectic condition of course exists, but in addition it seems that the material lesion of the heart plays a part in the increased menstrual flow. This fact should therefore be recognized and the proper remedies used. Menorrhagia is often due to the menopause especially towards the age of forty, when it is not unfrequently observed. Here the diagnosis is often far from being easy, as the menstrual flow may be either an excessive functional act, or due to some new condition, be it what it may, of the genital apparatus. An important inference can be drawn from the analogies observed in families. If the menses ceased in the mother at the age of forty, the same will probably happen with the daughter. If, therefore, menorrhagia occurs at this age it is almost certain that it is a functional trouble arising from the change of life. There are other symptoms that characterize the critical age and assist in throwing light on the case ; thus in the intervals the patient feels flashes of heat over her face, she is subject to cold sweats, her nervous system is very excitable, if she is hysterical the attacks increase in intensity, if this previously existing affection has disappeared it returns. Even at the menopause pregnancy must be thought of. The question should always be rigidly examined into whether the loss of blood be not due to an abortion.

Diagnosis is rather difficult, it is true there is always pain

with the expulsion of an ovum, but there are similar pains in dysmenorrhea. As the patients are usually not virgins, in this instance, there are no such difficulties as with the young chlorotics. To clear up the matter a direct examination should be made. In the case of pregnancy touch will show if the uterus be augmented in volume and slightly anteverted, if the organ gives the elastic sensation common to pregnancy, for the still further characterization of which there are the rational signs, the digestive troubles, the changes in the breasts, etc. In spite of all this it is far from being easy to settle the diagnosis of pregnancy. As prudence is the mother of security it is best in a doubtful case to act as if an abortion was imminent. Keep the patient in bed, administer opium by the mouth and rectum, employ, in a word, all means to stop abortion. Even admitting that the diagnosis is incorrect, this treatment will in any case be of benefit to the patient. There are certain local conditions now to be considered to which menorrhagia is often due. *Fibroid tumors.* Of all local conditions there are none more powerful in the production of menorrhagia than fibroid. Often the only evidence of the existence of the fibroid is the menorrhagia.

There have been observed, it is true, large tumors which did not give rise to any disturbance of the system either general or local. In the establishment of a diagnosis local exploration is exceedingly valuable. Touch and abdominal palpation should be combined. In order to measure the height of the uterus, the abdominal parieties should be depressed with one hand while a finger of the other explores the cervix. Touch at the same time settles whether the *cul de sacs* are diminished in depth. It may happen that the fibroids are too small to be recognized by the most attentive manipulation. In this case only the progress of the disease can settle the diagnosis and the etiology of the menorrhagia which has either been called idiopathic or referred to uterine fungosities. A well defined diagnosis is necessary since the treatment of fungosities and fibroids of the upper part of the body of the uterus is very different from that applied to idiopathic menorrhagia. Toward the age of thirty, fibroids

generally appear, but they have been found in girls of twenty and twenty-two.

Polypi are nothing else than fibroids, larger, more attached, elongated and connected by a pedicle with the fundus of the uterus where they generally develop. They often give rise to pains similar to those of parturition, and in the inter-menstrual period, cause an abundant secretion of mucous. The hysterometer is of much service in the diagnosis of polypi and fibroids which are very frequently recognized by its use. In such cases the depth of the uterine cavity is found increased from a tenth to an eighth or even by two-thirds. In such cases special medication should be resorted to. In the first place ergot should be used; the pain will increase under its use but it causes the fibroid to engage in the cervix where it is possible to seize and destroy it. This result obtained the hæmorrhage ceases in virtue of the old axiom, "*Sub lata causa tollitur effectus.*" Mucoid Polypi, so well described by Hugnier, are rarer than fibroid. They are formed by a hypertrophy of the glandular follicles of the cervico-uterine cavity and give rise to a less abundant loss of blood than the fibroid polypi producing about the same effects as uterine fungosities.

Peri-uterine inflammations. Of these a diagnosis is to be made chiefly from the antecedent history and local examination. In these cases the patients have had sometime preceding symptoms of peritonitis. Touch reveals signs belonging to uterine deviations. The cervix is drawn to the left, or right, or behind, and kept there by adhesions. The *cul de sacs* are less deep, the furrows less regular and the presence of cicatricial bands is frequently to be detected. The patients experience symptoms of active or passive congestion which give rise to a flow of blood of greater or lesser duration; the blood flowing drop by drop. The best hæmostatic method is to attack vigorously the cause of the hæmorrhage by treating vigorously this phlegmasia by leeches and vesication. In the chronic condition the cachectic state must be attended to. The more debility the greater loss of blood and the greater loss of blood the more debility. For this reason anæmia should always be attended to

in all attempts to repress hæmorrhage. In this connection it is interesting to note that abscesses of the large ligaments rarely give rise to menorrhagia. *Cancer of the uterus* causes metrorrhagia more frequently than menorrhagia, that is, there is more blood lost between than with the menses. These repeated hæmorrhages have often resulted in the exhaustion, and sometimes even the death of the patient. In all cases this exhaustion hastens sensibly the progress of the disease. Diagnosis of cancer is pretty easy. In point of fact it has its seat ninety-nine times out of a hundred in the cervix, attacking the fundus only exceptionally. It is generally found in persons of a ripe old age but has been observed at from twenty to twenty-two years. It has followed on delivery. These particulars will suffice for diagnosis which is not as simple as might be supposed. Direct examination shows the cervix to be larger, and firmer in the texture. Fungosities come on later. It is ulceration that causes the lancinating pains. The fact should however be remembered, that all pain may be lacking until the moment of the fatal denouement. The disease once in progress causes a sanious flow which it is desirable to relieve, as it is very exhausting to the patient. For this purpose tampons of charpie charged with perchloride of iron should be applied locally.

Engorgement of the uterus, metritis chronic can also cause menorrhagia. There are just now in my wards two patients who find themselves in this condition. After delivery they rose too soon, the uterus did not decrease in size in either and an ulceration of the cervix appeared. This is a grave condition and can remain a long time, as the repeated losses of blood will plunge these unfortunate patients, already much exhausted into the vicious circle of the chlorotics just spoken of. Diagnosis in these cases is easy since the results of the local examination need only be added to the antecedent history to throw a clear light on the case. It is not so however when the menorrhagia is due to an abnormal pregnancy. It is in these cases that in the period of commencing gestation the flow of blood not unfrequently occurs backward. The cervix is enlarged and soft-

ened. In some cases the existence of pregnancy can scarcely be determined. Here an exact diagnosis is very essential, for this condition when following on delivery, is best treated by the actual cautery. In this connection I recall an accident which happened to me three years ago. I believed that a uterine engorgement existed ; to put an end to the flow of blood caused by this I applied the actual cautery. This cauterization was followed by an abortion, there had therefore not been an affection of the uterus properly so-called, but an abnormal pregnancy. A confrere of mine once cauterized the uterus with nitrate of silver carried pretty high up, when to the confusion of the physician and the great joy of the patient, premature delivery occurred. These abnormal pregnancies should always be expected, for the women are too often interested in deceiving the physician. He must therefore question them with much tact and conjoin with care the physical and rational symptoms. There still remains a rare affection which gives rise to persistent menorrhagia, that is not very amenable to treatment, the *uterine fungosities*. To decrease losses of blood caused by these, Récamier invented his famous iron curette.

This affection is sometimes found in the city, but during my long connection with this hospital I have not seen a single case in it. The diagnosis of this affection is not easy at its inception. Following a pregnancy, symptoms of what is thought to be a second pregnancy are observed. The swelling of the breast, the peculiar sensations, morning sickness, etc., are observed. I have seen milk cease to be secreted from five to six months after delivery. The cervix is soft enlarged drawn perhaps to the right, perhaps to the left. Specular examination shows the organ to be in appearance healthy, perhaps a little congested, the os is open and from it flows a muco-sanguino-purulent fluid. At the same time the menses persist for from twenty-seven to twenty-eight days and reappear after a short interval. The flow is not abundant and only exhausts the patient by its duration. It seemingly resembles therefore an abnormal pregnancy. Only by exclusion can a diagnosis be arrived

at. These are not the acute symptoms characteristic of fibroids. In this case there is not a hæmorrhage properly so-called but a simply dropping of blood. This is not a local disease but due to some diathesis and has no chance of spontaneous cure. Locally it can be modified only by some topical application designed to change the condition of the uterine mucous membrane, as for instance astringents caustics, especially nitrate of silver carried deeply into the uterus by a porte caustic. The use of Récamier's famous curette is attended with much danger. Robert who was in the habit of using it always applied the day previous ten leeches to combat the inflammatory complications that rarely failed to follow the use of the instrument. I believe all this kind of treatment should be stopped in consequence of the dangers almost inevitable to it. But it must not be forgotten that the disease is due to a diathesis; any local treatment will be in consequence insufficient unless associated with a general treatment tending to combat this diathesis. The gouty should be sent to mineral springs like Vichy, the scrofulous to the sulphurous waters.

CHEMISTRY AND PHARMACY.

“Diruit ædificat, mutat.”—HOR.

SALICYLICA.—By some inadvertence an advertisement of salicylica (so-called) appeared in this JOURNAL, but the advertisement was dropped as soon as the character of the agents was known and the matter was investigated. Those editors who are carrying this advertisement and the Profession generally will read the following with interest.

“Quincy VonHummel arrived in this city a few weeks ago from San Francisco, and ascertaining that Mr. Ernest Washburne, of No. 212 Broadway, wanted a partner, he called on that young man at his place of business. The general appearance of things there pleased him, and Mr. Washburne explained that he was in the patent medicine business and wanted a partner. He would only charge that

gentleman \$5,000 to come in. VonHummel thought that cheap, considering the fashionable young man and the elegant office and his own desire to do something, so he went in. He examined the books, found everything rosy and he invested \$2,000 in his new partner as a first instalment. Two days later he concluded that would be the last instalment, as he discovered another book which was the true record of the patent medicine business, and whose pages told a tale of debts amounting to \$40,000, all for advertising. Thereupon he caused the arrest of Washburne, who was arraigned before Justice Kilbreth in the Tombs Police Court. He was held to answer in the sum of \$5,000 bail, and Raymond Covert, his clerk, was sent to the House of Detention."

BENZOATE OF SODIUM USELESS IN DIPHTHERIA.—Gnändinger (*Cbl. f. Chir.*, 1879, No. 49; from *Weiner Med. Blätter*) says that of seventeen cases of diphtheria in children treated by the benzoate of sodium, so warmly extolled by Letzerich, eight died. Of seventy-six others treated in the same hospital with ice, chlorate of potassium, and stimulants, twenty-five died, while two were under treatment at the time of the report. Gnändinger propounds the four following questions: 1. Has benzoate of sodium any perceptible influence upon the rapidity with which the existent false membrane is thrown off? 2. Has it any influence in preventing the formation of this false membrane? 3. Are disturbances of the general system relieved or prevented? 4. Does this medicine itself influence the condition favorably? All four of these questions are answered negatively by Gnändinger. He says, "The benzoate of sodium has not sustained the character claimed for it by Letzerich, of 'certainty and rapidity,' either with regard to its influence in curing the disease, or even of relieving the more important symptoms."

EXTRAORDINARY LENGTH OF ARM.—The *Chemist and Druggist* says the *London Telegraph* is responsible for the following monstrosity: "A young man in Paris was in the

habit of cleaning out the stem of his pipe with a knitting-needle, when, by some mischance or other, he ran the point of the instrument into his finger. On the steel lay nicotine, and this, mingling with the blood, which flies through the system at the rate of about twelve inches a second, quickly spread in the arm, until it became necessary to amputate the limb in order to save the smoker." Twelve inches a second is 20 yards a minute. The surgeon could hardly get his amputating instrument ready in less than five minutes, so that he must have cut off more than 100 yards of arm to intercept the poison on its way to the heart.

BROMIDE OF IRON.—Bromide of Iron is according to most authorities a poisonous salt, but a very extended experience has convinced me that this is erroneous, and it is of benefit in certain cases where a ferruginous tonic and sedative are required. The following is a good extemporaneous method for making it :

℞ Sodium Bromid, ℥i.
 Aquæ Distill., ℥ii.
 M ut adde
 Tr. Ferri Mur., ℥i.
 Ms. gttā x ter un die.

Dr. Walls White prepares the Salicylate of Iron by dissolving together

℞ Ferri Sulphat., gr. xxiv.
 Sodæ Salicylate, gr. xxx.
 Sodæ Acet., ℥ii.

which combines the antiseptic antipyretic powers of salicylic acid with tonic the powers of the Iron.

RISE IN THE PRICE OF QUININE.—Last winter, some of our friends residing in malarial districts, exulted greatly on account of the duty on sulphate of quinia being removed. They would get relief from the extortion of American manufacturers and enjoy cheap quinine. But the very opposite has taken place. The article has risen in value, and within the last month or two fifty cents an ounce has been added to the price. Somebody is writing down the American

product as much inferior to the French. And yet it commands a higher price.—*Ex.*

ATTENUATIONS.—From an old address of Prof. Armor, we clip the following, his address being textually “Medical Science and Common Sense :”

“But the high dilutions stagger our credulity, not to say our common sense, when used as curative agents. It is difficult to believe, for instance, that a patient is cured by high dilutions of lime, when he is swallowing a thousand times as much in every drink of water he takes. Every egg he eats has a thousand times as much sulphur or phosphorus in it as a ‘high dilution’ homœopathist would give him. Every morsel of meat he takes contains more iron than a homœopathic dose. The very air we breathe is full of those ‘attenuations’ in most confusing perplexity. There may be science in these high potencies, but common sense is slow to accept them.”

“Dr. F. Powers, of Westport, Connecticut, says that a woman about sixty years old entered a drug store in the town, a short time ago, and called for forty-five grains of morphine. The druggist weighed it out. She then called for a glass of water, put the drug in it, and swallowed the whole. The anxiety of the druggist was somewhat relieved by her saying that she had taken morphine for forty years, and that forty-five grains was now her regular dose.”

MISCELLANEOUS.

“Non omnes eadem mirantur ament que.”

BROMIDE OF ETHYL IN FRANCE.—At a session of the Paris Surgical Society, held March 31, 1880, Dr. Terrillon reported a case of operation under the anæsthetic influence of bromide of ethyl. The patient was a woman thirty years of age, of an hysterical temperament, having left hemianæsthesia and suffering from an anal fissure. During the first two or three minutes of the administration of the

anæsthetic a slight hysterical attack supervened. Then all became calm and at the end of seven minutes the anæsthesia was complete, a slight contraction persisting. Half an ounce only of the anæsthetic had been required. The anus was dilated by a widely opened speculum and singularly enough as soon as the operation was completed the patient could be aroused without any delay or the presence of any stupor, and answered questions without any hesitation. To be accurate it should be stated that the patient having drunk after the operation was attacked by nausea even amounting to slight vomiting which continued for two hours. Dr. Terrillon in reporting this case hastens to say that no conclusions can be drawn from it as the patient was hysterical and the operation a rapid one.—*Le Progrès Médicale, April 3, 1880.*

HYDRATE OF CHLORAL.—Dr. H. H. Kane, of New York City, specially requests members of the profession with any experience whatever in the use of the Hydrate of Chloral to answer the following questions, and give any information they may possess with reference to the literature of the subject :

1. What is your usual commencing dose ?
2. What is the largest amount you have administered at one dose, and the largest amount in twenty-four hours ?
3. In what diseases have you used it (by the mouth, rectum, or hypodermically), and with what results ?
4. Have you known it to affect the sight ?
5. Have you ever seen cutaneous eruptions produced by it ?
6. Have you known it to affect the sexual organs ? If so, how ?
7. Do you know of any instance where death resulted from or was attributed to its use ? If so, please give full particulars as to disease for which given ; condition of pulse, pupils, respiration and *temperature* ; manner of death ; condition of heart, lungs and kidneys ; general condition, age, temperament, employment, etc., etc., etc. If an autopsy was held, please state the condition there found.
8. Have you seen any peculiar manifestations from chloral—as tetanus, convulsions, or delirium ?
9. Do you know of any cases of the chloral habit ? If so, please state the amount used, the disease for which the drug was originally administered, the person's temperament, and the present condition of the patient, with reference to state of body and mind in general, and the various organs and systems in particular.

Physicians are earnestly requested to answer the above questions *fully*, especially 7 and 9, in order that the resulting statistics may be as valuable as possible.

All communications will be considered strictly confidential, the writer's name not being used when a request to that effect is made. Address all letters to Dr. H. H. Kane, 191 West 10th Street, New York City.

DR. C. H. THOMAS of Philadelphia has been making a study of the various new devices for helping the deaf to hear. All of them, he says, depend for their action upon the principle of acoustics that solids vibrate in unison with the sound waves produced in the air near them. In these instruments the vibrations are of sufficient force to be audible when conveyed to the internal ear through the medium of the teeth and cranial bones, independently of the ordinary channel of hearing. He says that a simple and excellent instrument for the purpose "consists simply of a rod of hard wood about two feet long and a quarter of an inch thick, one end of which is placed against the teeth of the speaker, the other resting against or between the teeth of the person hard of hearing. If the speaker articulates in a natural tone of voice, the vocal vibrations will be transmitted in great volume through the teeth and thence to the ears of the deaf person. It will also convey the voice distinctly when placed against the forehead or other portions of the skull of the hearer. It will also convey perfectly audible speech from the skull of one to that of the other, or such sounds may be conveyed by simply bringing the heads themselves in contact. Again, instead of the speaker holding it against his teeth, he may place it against the upper part of his chest, when, upon using his voice, the sound will be conveyed as before, of course independently of the teeth of either person."

ONE Peschka, an innkeeper of Neustadt, in Bohemia, was bitten some weeks ago by his own house dog. Unwilling to slay the animal on bare suspicion of its sanity, he consigned it to the town grave-digger, enjoining that functionary

to take care of it until further orders respecting its ultimate fate should be imparted to him. A few days later, however, Peschka was attacked by hydrophobia, of which he died in excruciating agony. The sanitary authorities of Neustadt forthwith applied to the grave-digger for the mad dog committed to his custody, intending to have it destroyed. Their astonishment may be conceived when the sexton, in answer to their requisition, calmly observed, "The mad dog? I have eaten him!" "You have eaten the mad dog?" incredulously exclaimed a horror-stricken sanitary official. Better that than he should eat me!" rejoined the philosophical grave-digger. This man of strange appetites not only had swallowed and digested the rabid animal, but it had agreed with him; for, as the story runs, he still enjoys robust health, and pursues his professional avocations with unabated vigor.—*Ex.*

THE death is announced at Gijon, in northern Spain, of a very old gentleman indeed, who had completed his 112th year only a few days before he quite unexpectedly paid the debt of nature. Unlike Mr. Weller, Sr., this reverend Iberian was by no means the "victim of connubiality," for he successfully withstood the wear and tear of five successive marriages during his long life. His last wedding day was also the eighty-ninth anniversary of his birth, upon which occasion he espoused a comely maiden of "sweet seventeen," whose union with him resulted in the addition of two sturdy boys to his already numerous family of six-and-twenty sons, the fruits of his previous matrimonial alliances.

THE *Medical Press and Circular*, in an editorial on Pathological Fog, says the recent fogs of London have worked much harm. "Bronchitis, emphysema, laryngeal affections, and a long train of kindred evils have received an impetus which will be felt for years to come. Many an invalid of the next decennium will have to date his invalidism from January or February, 1880."

MEDICAL NEWS

“Nulla dies sine linea.”

DR. W. R. SMITH a practitioner of Angelica, N. Y., has been appointed health officer of the port of New York, a position of \$100,000.00 per annum, in place of Dr. Vanderpoel the late incumbent.

DR. EDWARD R. HUN formerly special pathologist of the Utica Lunatic Asylum, died last month of General Paresis.

DR. FRANKLIN, formerly assistant physician at the Washington Insane Asylum, has been appointed superintendent of the Blackwell's Island Lunatic Asylum.

THE following death certificate was filed last month at the Board of Health of New York City: “Maria Dresch, aged one month and day, Switzerland, of No. 325 West Forty-first street, died of pneumonia. The child began to cough a few days after death. Sick ever since.”

THE *St. Louis Clinical Record* gives the following from a local newspaper: “In the trial of a case in Judge Wickham's court, yesterday, a female witness who followed the business of a midwife, in answering questions touching her qualifications in that regard, testified that she had read Aristotle's works in three volumes. She read them in Cork, Ireland, where Aristotle used to live, but she never saw him there. He lived principally in London and Liverpool, where he published his works in the English language. There is something wrong in the history of that distinguished philosopher.”

DR. HENRY C. CHAPMAN has been appointed Professor of the Institutes of Medicine and Medical Jurisprudence in Jefferson Medical College, Philadelphia.

TWO Methodist ministers were recently expelled from the Philadelphia Conference for being connected with the “Philadelphia University of Medicine and Surgery,” an institution for the sale of diplomas. This institution sold a diploma to the relatives of a patient of the Pennsylvania

Insane Asylum (in the patient's name) for seventy-five dollars.

DRS. CHAPMAN of Pennsylvania, and Klein of London, are applicants for the vacant chair of physiology at Jefferson Medical College.

DR. JAS. KING, Ex-Surgeon General of Pennsylvania, died recently at the age of sixty-five.

THE AMERICAN PHILOSOPHICAL SOCIETY celebrated its centennial anniversary on March 15th. Drs. Gross, Hammond, DaCosta and other prominent medical members were present at the exercises.

DR. B. F. DAWSON has been appointed assistant surgeon to the Woman's Hospital, New York, in place of Dr. A. A. Smith, resigned.

IN a recent surgical malpractice suit in Baltimore, the plaintiff was so much impressed with the physician's evidence, that he apologized to the defendant and had his counsel enter a *nolle prosequi*.

SIR WILLIAM GULL began his medical life as a bottle-washer in Guy's Hospital.

DR. LEWIS A. SAYRE was recently elected an honorary member of the Holland Society of Natural and Medical Science.

BATTEY'S operation has now been performed one hundred and twenty-two times, with twenty-eight deaths.

DR. JOHN J. MCDOWELL, Prof. of Anatomy in the St. Louis Medical College is dead.

THE colored physicians of Tennessee have organized a State Medical Society.

THE English Archbishop of Canterbury recently conferred a degree of M.D., for \$400; following in the footsteps of the Methodists above mentioned, an old law giving him this right.

A PATIENT in the Ward's Island, N. Y. City Insane Asylum died recently from hæmatemesis, and on the autopsy *two iron teaspoons* were found in the stomach.

A MONUMENT to Dr. P. Shepherd who fell at Isandhlwana, has been erected in Liochel Cushnie, Scotland, where he was born.

MRS. BENCHLEY, the daughter of an Episcopal clergyman of New York, ordered that in case of her death an autopsy be made, and her skeleton to be deposited in the museum of the Women's Medical College of that city. She died recently, and all was performed in accordance with her request.

DR. D. G. THOMAS, a prominent physician of Utica, died recently.

DR. BENJ. I. RAPHAEL, a prominent New York physician died a short time ago.

DR. E. D. COPEMAN, Vice-President of the British Medical Association, died last month. His writings on the subject of dilatation of the cervix for the nausea of gestation attracted great attention.

THE following Bill was introduced into the New York Assembly by Mr. Husted, favorably reported on, and referred to the Committee of the Whole :

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION 1. It shall be and is lawful for the physicians and surgeons of any medical school duly recognized under the laws of this state to meet in consultation, in cases of sickness, with physicians of any different system of practice now recognized by the laws of this state.

§ 2. No county, state or local medical society shall in any way or manner discipline or punish any member of such county, state or local medical society for any aid, assistance or counsel he shall render to any physician of a different school of practice.

§ 3. All acts in conflict with this act are hereby repealed.

§ 4. This act shall take effect immediately.

DR. LYONS, visiting physician to the Dublin Industrial Hospital, has been elected to the British Parliament as a Liberal.

A LIFE-SIZE bust of Dr. J. Marion Sims has been presented to the Alumni Association of Jefferson Medical College by the surgical staff of the hospital.

ACCORDING to a recent decision of the Court of Appeals of Kentucky, it is not a punishable offense to produce an abortion on a woman prior to the time she is quick with child.

DR. R. H. TIMPANY, at one time a prominent physician of Toledo, Ohio, died recently.

DR. CHAS. H. SAYRE, eldest son of Dr. Lewis A. Sayre, fell down a hatchway in the Gilsey House, New York, sustaining a compound comminuted fracture of the femur, and other serious injuries, from which he died April 11th. He had the services of the most eminent surgeons of New York. His afflicted father has the sympathy of the entire profession.

DR. GOERSEN, an old physician of Philadelphia, died recently.

IT has been decided in Iowa that a man may recover for medical services, etc., rendered necessary by an injury even if these be rendered gratuitously.

MRS. ALFRED L. LOOMIS, wife of Dr. Loomis of this city, died April 15th. The Doctor has the sincere sympathy of the profession in his bereavement.

L'Union Médicale is responsible for the following: A physician of Chalons was called to a village some distance from that city to see a patient, and in his haste forgot his pencil and prescription blanks. On arriving at the village and after seeing the patient, he asked for a pencil and paper to write a prescription; but compulsory education had not reached there, since neither in the patient's house nor in the whole village were the desired articles to be found. Tired of waiting the physician wrote the prescription with charcoal on the *barn door* and left. Early the next day the inhabitants of the most fashionable *faubourg* of Chalons were astonished at seeing an enormous farm wagon traversing the street and stopping before the store of the most prominent pharmacist which the driver of the wagon desired to enter with his enormous prescription. The pharmacist remonstrated and induced him to compromise by reading the prescription on the sidewalk and preparing it thereafter.

AN Ordinance has been passed by the New York Board of Aldermen ordering every charitable institution to have its inmates examined by a physician and those suffering from any disease separated from the others.

THE following "*Medical*" Colleges sell their diplomas without any evidence of study or fitness for the degree : The American University of Medicine and Surgery of Philadelphia ; Philadelphia University of Medicine and Surgery ; Physio-Eclectic College of Cincinnati, Ohio ; Physio-Medical College (new issue), Cincinnati, Ohio ; American Vitiopathic College, Cincinnati, Ohio ; American Eclectic Medical College, Cincinnati, Ohio ; St. Louis Homœopathic Medical College ; St. Louis Eclectic Medical College ; New England University of Medicine and Surgery, Manchester, N. H. ; The University of Medicine and Surgery, Haddonfield, N. J., besides the concerns that " Dr." Jno. Buchanan and " Dr." Wm. Paine control.

THE Galveston *News* is responsible for the following : " It was the intention of the physician to operate before death, but he did not arrive in time. When he did come the operation was at once performed and the boy resuscitated."

DR. J. G. HYNDMAN, lately appointed Lecturer on Chemistry, has now been chosen Professor of Medical Chemistry in the Medical College of Ohio.

DR. FREDERICK KELBER has been appointed Lecturer on Pathology in the Medical College of Ohio.

DR. E. H. SHELL of Gainesville, Ala., says the negro lung is only two-thirds as large as that of the white man.

A WISCONSIN medical act reads as follows : " If any physician shall write or cause to be printed on any prescription '*No Duplicate*,' any druggists duplicating said prescription without the physician's consent, shall pay a fine of ten dollars for each offense."

SALICYLIC Acid one part, Spts. Vini Recti sixteen, is said to be a good local application for psoriasis.

A PENNSYLVANIA village is suffering from *witchcraft*, and

has the witch doctor and all the usual belongings of the seventeenth century.

THE Profession will read with interest the facts in connection with the death of the late Dr. Edmund Strudwick of Hillsborough, N. C. He was for many years one of the representative medical men of his section and very justly beloved and respected. The following extract is from the *North Carolina Medical Journal* :

On the morning of the 29th day of November, 1879, Frederick N. Strudwick, Esq., Solicitor of the 5th Judicial District, returned home from his circuit so ill that very active treatment was needed to relieve him. Atropia was administered by hypodermic injection, one-twelfth of a grain of which was prepared in solution. Three drops of this were used, the remainder in a glass tumbler, being set aside on the mantel. About 1 o'clock P.M., Dr. William Strudwick entered the room with a flask of whisky for the use of the patient should it be required. Dr. Edmund Strudwick, then on the point of going out for dinner, asked his son to pour him out a little of the whisky as he was wearied and weak, presenting at the same a tumbler which he had taken from the mantel. This was the glass in which was the atropia ; but at the time the mixture had been forgotten ; and there being three tumblers side by side on the mantel, discrimination was not thought of. Dr. Strudwick drank the whisky, and went out and ate his dinner ; and after returning, smoked a pipe and then lay down to take a nap, a usual after dinner habit with him. He slept about two hours. On awaking and attempting to rise, his limbs failed him, and he sank almost to the floor ; but his grandson, Mr. R. C. Strudwick sustained him, and assisted him to the adjoining room in which lay Mr. F. N. Strudwick. Up to this moment, there had been no suspicion of the fatal fact. But, in essaying to speak, his voice, thick and inarticulate, attracted the notice of Dr. Wm. Strudwick, and caused him to look up in his father's face, and he saw at once the reason. He told his father that he had taken the deadly potion, and urged the most vigorous treatment. But before

yielding, Dr. Strudwick said "give me my book" (almost his last distinct utterance) referring to some familiar treatise on toxicology. The book was given to him and he attempted to read. But the dilatation of the pupils was then so great that this was impossible; he laid the book down and was put to bed. Dr. Wm. Cameron and Dr. Thomas J. Wilson, were in attendance, and with Dr. Wm. Strudwick, used every appliance that knowledge and experience could suggest. Dr. A. W. Knox was summoned from Raleigh by telegraph and promptly obeyed. But the poison had fastened its hold upon the system in the long interval between its use and discovery, and all remedies failed; and relapsing more and more into unconsciousness, Dr. Strudwick passed away painlessly at ten minutes before eight o'clock on Saturday night, November the 30th, A.D., 1879.

He was buried in the cemetery of the Presbyterian Church at Hillsborough at half past 3 o'clock on Monday afternoon succeeding; the funeral being attended by almost the whole population of the town.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—HOR.

AMERICAN MEDICAL ASSOCIATION.—The friends of this Body will be pleased to learn that every arrangement is being made to make the next meeting the most successful in the history of the Association.

All who intend to present papers are urgently requested to send titles and abstracts of the same to Dr. W. R. Gillette, (Secretary of the Committee of Arrangements), 149 West 23d Street, as soon as possible. These papers will then be classified and properly assigned for presentation and discussion in the different sections.

In consequence of the resignation of Dr. S. O. Vanderpoel, who has gone abroad, Dr. T. Gaillard Thomas has been by the Committee of Arrangements unanimously elected Chairman of this Committee.

THE HARVARD REGISTER.—The last number of this periodical contains so interesting an article on the subject of the Harvard Medical School that it is published *in extenso*. There seems to be a laudable ambition on the part of all Medical Schools to improve their system of teaching, and many of them have introduced the best features of the Harvard course.

This venerable institution, not content with what it has already accomplished, is still introducing improvements. The following facts of interest to the whole profession will be read with pleasure and profit :

A FOURTH YEAR IN THE MEDICAL SCHOOL.

BY PROF. JAMES C. WHITE, M.D.

Ten years have not yet passed since the medical department of the University took that great step which has so largely changed the character of medical education in this country, and each succeeding year has demonstrated more positively the advantages of the measures then adopted. The classes have grown constantly larger; and the quality of the students has improved in the same degree, nearly one-half of them being at present graduates in arts or sciences. The complete success of this reform has not failed to impress itself upon other medical schools in all parts of the country, and some of the most important of them have adopted and are about to adopt the "Harvard plan." In the mean time the school has not been content to rest upon the merits of its first step. As soon as practical it instituted an admission examination, so as to exclude at the start that class of students who would approach the study of medicine unfitted by any previous mental training; and it has just now materially added to the efficiency of this preliminary test. It has continuously sought to enlarge the scope, to systematize and to improve the quality, of its instruction, and has been constantly adding to its corps of instructors, which now numbers over forty. But with this great increase in the amount of teaching, a serious obstacle arose,—a want of time in which to teach properly. It had become, in fact, an impossibility for the student to profit by all the instruction offered; and some of the special branches taught, those not considered essential in the requirements of graduation, were largely and necessarily neglected.

The medical faculty has long recognized the necessity of adding another year to the curriculum. America is the only civilized

country which gives the degree of doctor in medicine on a three-years' course of study. In how much less time, and on what slight requirements, many of her colleges confer this title, I am ashamed to say. Several of the European universities require six years of study. But the establishment of a fourth year was felt to be also a serious matter in the face of the strong rivalry of schools so lax in their requirements in this regard ; and it has not seemed practicable before the present full financial prosperity of the school was assured, and its extensive system of general and special teaching thoroughly organized, to attempt this additional step in medical education. Even now the faculty does not deem it wise to make the four-years' course obligatory at the start, but has left it optional for the present to the student, whether he will continue to attempt to crowd an impossible amount of work into three years or spread his studies over the longer period in a proper order, and reap the full advantages of all the instruction which is offered him. There can be no doubt that the latter course will be chosen by that large class of students who are constantly disappointed in their endeavors to do justice to all the teaching open to them. To those, however, who are unable to avail themselves of this extended plan of education, the Degree of Doctor of Medicine will continue to be given, until further notice, at the end of three years of study under the conditions hitherto observed, and there will be no diminution in the amount, or change in the arrangement, of instruction hitherto given in this course.

The faculty, however, urgently recommend the following plan of study to all students desiring a thorough medical education :—

FIRST YEAR.—The studies of the first year are to be, as hitherto, anatomy, physiology, and general chemistry ; and there will be an examination upon these at the end of the year.

SECOND YEAR.—During the second year the studies will be topographical and practical anatomy, pathological anatomy, medical chemistry, and materia medica ; and an examination will be held upon them at the close of the year, general anatomy excepted.

THIRD YEAR.—At the end of the third year there will be an examination in therapeutics, theory and practice of medicine, obstetrics, and surgery ; and at the close of the—

FOURTH YEAR, in clinical medicine, clinical and operative surgery, obstetrics, clinical and operative obstetrics, ophthalmology, otology, dermatology, syphilis, mental and nervous diseases, laryngology, hygiene, legal medicine, diseases of women, and diseases

of children ; but the main studies of the third and fourth years will be more or less continuous.

The instruction in the special branches, in which an examination is now for the first time instituted, is intended to be more clinical and individual in character than that heretofore given, and should in large measure take the place of that practical private teaching which has been hitherto sought by American students in European schools, after graduation. In the general branches of medical education, too, instruction will be carried, especially in practical directions, farther than was possible in the former cramped period of study. The degree of Doctor of Medicine will be given to candidates who have passed a satisfactory examination in all the studies of the four-years' course, and the distinctive degree *cum laude* to those who have pursued the whole course, and have obtained an average of seventy-five per cent. upon all examinations above given.

The new plan of instruction goes into operation at the beginning of the next academic year, and can be adopted by all students who are then members of the school. It deserves, and will undoubtedly receive, the earnest support of the profession in all parts of the country.

DR. JNO. J. MCDOWELL.—The profession will learn with regret that this distinguished teacher, formerly Professor in the St. Louis Medical College, died recently at Hot Springs, Arkansas. He was for a long time one of the most distinguished teachers of anatomy in this country. The school with which he was identified in early life being known chiefly by his name.

CONSULTATIONS WITH IRREGULAR PHYSICIANS.—As will be seen by the NEWS columns of the JOURNAL a bill has been introduced into the New York Assembly prohibiting societies from disciplining any members who may consult with irregular practitioners. This bill should be fought by the Medical Profession with all the means in its power, for aside from the fact of its being a wanton and unjustifiable attack upon the liberty of the citizen, it enforces a compromise between the scientific man and the charlatan. No one would compel an Academy of Science, to admit astrol-ogers who advertise in the papers as members, yet the effect

of this bill would be exactly the same. There is nothing scientific in any of the other (so-called) systems of Practice. Take all of their Journals and there will be found not a single discovery in any way tending to advance science. Their Journal matter is largely taken from those of the regular school, and what else is there? Chiefly confessions that the "peculiar system" has failed in certain cases, and that most of the case reports of their school are not genuine or true. New ideas in anatomy, surgery, physiology or pathology never emanate from these "systems." One "school" has too great a "*materia medica*"; another has too much need of "*organization*," etc.; such are the reasons given for not contributing to those branches of medical science about which there can be no dispute. If there be any regular physicians desirous of consulting with irregulars they should come out from the regular profession and take their stand where they belong. If the public mind is setting strongly, as is claimed, in the direction of Spiritualism, Witchcraft, (as in Pennsylvania, see NEWS column) Homœopathy, Eclecticism, and similar delusions, the medical profession, the proper educators of the people, should not accept these, but resist all such tendencies as strongly now as it did in the days when homœopathy was more respectable and more genuine than it is now.

A marked and conspicuous failure of this so-called system was recently shown in the management of the Camden County Asylum (N. J.,) where, after a thorough trial, homœopathy was definitely abandoned by the Supervisors. One epileptic patient having had as many as a "*thousand fits*" in a week under homœopathic treatment, as is said by the conscientious homœopathic Superintendent. The Philadelphia *Medical Times* says "that the putting of this asylum under homœopathic care isolated it from all other asylums"; this is an error (a fact that should be alluded to in this connection) for the Association of Insane Superintendents admits and always has admitted the homœopathic Superintendent of the Middletown, N. Y., Asylum, who is a homœopath by profession and act.

MEDICAL CONVENTION—ELECTION OF OFFICERS.—The convention of the Medical and Chirurgical Faculty of Maryland resumed its sessions yesterday at Johns Hopkins University, President Samuel C. Chew in the chair. Dr. L. McLane Tiffany read a paper on “Malignant Tumors of Upper Jaw in Youth.” Dr. John Morris read a report of the committee appointed to submit a draft of a bill to the Legislature of Maryland to provide for the collection of vital statistics of the State. One-half of the membership fees this year is to be appropriated for the use of the library. The committee on library were empowered to exchange any or all the duplicate books in the library. The delegates appointed to attend the approaching convention at Washington to revise the Pharmacopœia include the professors of the two medical colleges in Baltimore.

The following officers were elected for the ensuing year : President, H. P. C. Wilson ; Vice-Presidents, L. McLane Tiffany, G. E. Porter, of Alleghany county ; Secretary, W. G. Regester ; Assistant Secretary, Eugene F. Cordell ; Corresponding Secretary, J. E. Michael ; Treasurer, Judson Gilman ; Executive Committee, C. Johnston, T. S. Latimer, J. C. Thomas, P. C. Williams, I. E. Atkinson ; Examiners, Western Shore, H. M. Wilson, F. T. Miles, C. H. Jones, R. McSherry, T. B. Evans, S. C. Chew, J. A. Steuart ; Examiners, Eastern Shore, W. G. G. Wilson, A. H. Bayly, Julius A. Johnston.—*Ex.*

THE INDEPENDENT PRACTITIONER.—Edited by Drs. Harvey L. Byrd and B. M. Wilkerson. The first numbers of this Journal published in Baltimore have been received. It contains both a Medical and a Dental Department. The numbers so far issued have been prepared with care and ability, and will doubtless secure the support of both the Medical and Dental Professions. This Journal is placed with pleasure upon the Exchange list.

THE ARKANSAS MEDICAL MONTHLY.—Vol. I. No. I., of this Journal has been received. It is edited by Dr. J. J. Jones, Little Rock, Ark. The first number contains 56

pages and the Journal is published at the rate of \$3.50 per annum. Its first appearance is very attractive and it will doubtless be found worthy of support.

MEDICAL DEPARTMENT OF THE ARKANSAS UNIVERSITY.—This College has been regularly established, its Faculty consisting of able and influential Medical gentlemen. There were twenty-three matriculants in October last, and the College seems fairly established. It is a member of the American College Association and has adopted the three years graded system. It is at Little Rock.

THE ARKANSAS STATE MEDICAL SOCIETY.—It seems that all difficulties in regard to the contending Societies of Arkansas have been settled, and that the regular State Society has been organized and will meet at Little Rock on the fifth day of May.

SANGUINIS BOVINUS EXSICCATUS, or Defibrinated Bullocks' Blood (dessicated) is a comparatively new remedy and is now presented to the Profession by Parke, Davis & Co., in their usual neat and beautiful style. It is said to be very valuable as a sustaining agent. This house also offers to the Profession the rare and expensive Duboisia the drug which seems to have in a measure supplanted Atropia in the practice of ophthalmology; with many other new remedies.

THE NEW YORK HOSPITAL LIBRARY.—The supplementary catalogue of the New York Hospital Library is just out and shows that this library is kept well up to the times by the able and conscientious librarian, Dr. Vandervoort, who is always willing and in fact desirous of assisting any reader pursuing medical researches. Such assistance seems to come *con amore* with him, and he has thus no doubt aided greatly, though indirectly, many medical investigations by the leading members of the profession.

WELL DONE.—All of the Medical Colleges of Louisville, Kentucky, have increased their fees to seventy-five dollars.

JOURNAL delayed by increased size.

GAILLARD'S MEDICAL JOURNAL.

(Formerly the Richmond and Louisville Medical Journal.)

VOL. XXIX.]

JUNE, 1880.

[No. 6.

ORIGINAL COMMUNICATIONS.

“Qui Docet Discit.”

ART. I. *The Ship Origin of Yellow Fever, with Comments on the Preliminary Report of the Havana Yellow Fever Commission.* By ROBERT B. S. HARGIS, M.D., Pensacola, Fla.

America may well be proud of the attitude assumed and successfully maintained by its medical men on the great question of Public Hygiene. State Boards of Health, the American Public Health Association, and last but not least, the National Board of Health represent the vigorous efforts of practical Sanitarians for the permanent advancement of the country's welfare. A boon beyond all price to the New World is to result from efforts aimed mainly at the prevention of Yellow Fever. Whatever conflicts of opinion or errors in practice may retard the work, I am confident, as I said years since, that under an adequate central administration by a Medical Board, the plague of American commerce, more especially of Atlantic sea ports, would be stayed and extinguished for all future time from the bloody annals of controllable epidemics.

One year's experience of the operations of the National Board of Health satisfies me that the disease is being attacked locally on land as a contagion, whatever the precise method of transmission may be and that special centres for the isolation and purification of shipping are to liberate

commerce of unnecessary inter-State obstructions. The practical difficulties encountered will suggest the details of a preventive system. The land will be cleared of the maldy and its threatened invasion in shipping will be met rationally. If I know anything in medicine,— if there be any medical truth which I have grasped by searching methods of careful study—it is that year by year a fresh crop of poison springs from foul vessels sailing in the tropical Atlantic and from such infected ships, or their contents, and others infected directly or indirectly by them, the country can be protected without onerous restrictions on commerce.

As physicians we must never forget that prosperity is the surest key to national vigor and individual health. Obnoxious quarantines and schemes of non-intercourse imply an acknowledgment of our impotence. Happily we are far from being driven to this extremity. The meaningless term, quarantine, should be made obsolete. It is odious to all and its use excites more enmity than the most tedious safeguards we have to impose. Professor John Gamgee, whose work on “Yellow Fever, a Nautical Disease,” should be studied by every medical man, has suggested to me the expression “Sanistation,” instead of “Quarantine Station.” The word sanistation refers to the practical prevention or purifying measure to be applied on land or ships. Why not speak of “Ship Island Sanistation” instead of “Ship Island Quarantine”?

An unexpected incident has induced me to direct the attention of my professional brothers to a correspondence which has appeared in the Pensacola and other papers. In reply to a circular issued by Dr. C. L. Hardy, of Savannah, relating to proposed Congressional action affecting the National Board of Health, whilst strongly advocating that the powers of the Board should be increased rather than curtailed, I remarked as follows :

“The National Board of Health has been unfortunate in favoring the view that Yellow Fever is endemic in Cuba. The Report of the Havana Commission must, before another decade is past, meet, as it deserves, with the strongest condemnation. Such is my opinion on this one point. It is

difficult enough to get the Spanish Government to do its duty, towards this country, by purifying the Pearl of the Antilles, and how can we hope for their energetic action when an American physician, clothed with all the prestige of authority, assures the world that Yellow Fever in Havana is inevitable?"

"In this most healthy region, singularly free from contagious maladies, where climatic seasonal conditions, only rarely favor the propagation of imported yellow fever, and where the winter hibernation of the malady has been proved impossible over a period, to my knowledge, of 30 years, how can we throw open our Port to commerce, in the summer and autumn, when a single ship from Cuba having one case of the disease on board, will close all inland communication?"

"It is, I confess, with absolute impatience that I learn of the continued advocacy of the local origin of yellow fever, either on this Continent or in the West India Islands. The blunders of the Profession are still in striking contrast to the common sense of the people, on the one vital question of the communicability of this disease. The eloquent teachings of shot-gun quarantine—detestable as every form of real or apparent inhumanity must be—may yet drive home the substantial truths, in relation to the transmissibility of the malady by Railroads and refugees."

This provoked an answer from Dr. Chaillé, which tends to remove any doubt as to the tendency of the Report which so far as I am aware has not been discussed in the Medical Journals. That such discussion is urgently called for, I trust to prove by comments intended to avert mischief if they fail to elicit truth.

NEW ORLEANS, *March* 19, 1880.

EDITOR OF THE PENSACOLA ADVANCE:

Dear Sir—My attention has been called, this day, to the letter of Dr. Hargis on yellow fever, published in your issue of March 10, 1880, and I respectfully submit that in opening your columns to a denunciatory attack, common justice requires that equal publicity should be given to the defense.

Dr. Hargis, whom I know, and have had reason to regard with friendship and respect, states: "The National Board of Health has been unfortunate in favoring the view that yellow fever is endemic in Cuba. The report of the

Havana commission must, before another decade, meet, *as it deserves, the strongest condemnation.* Such is my opinion on this one point."

Dr. Hargis would confer a favor by stating when and where the National Board of Health "unfortunately favored" any such view. This board did instruct its Havana committee to investigate "the *so-called* endemicity of yellow fever in Cuba." I am not aware that it has ever said or done more than this to unfortunately favor a view, in opposition to which Dr. Hargis will find it difficult to cite one single Cuban authority, of any weight in medicine. In Cuba yellow fever is very certainly a "so-called endemic."

While this is the non-committal position of the National Board of Health, the Havana yellow fever commission calls attention to the indefiniteness of the signification of the word "endemic," and then states that if the word is accepted as signifying an habitual annual prevalence of a disease, and the existence of causes favoring its propagation, *then* the facts prove that yellow fever is endemic in certain localities of Cuba. The facts, on which this conclusion is based, are stated, so that no man can be led astray either by the indefiniteness of the word endemic, or by the theories and fancies of the commission, which, under the circumstances, will await with great equanimity the expiration of Dr. Hargis' fatal decade. So much for "this one point."

Dr. H. also writes: "It is difficult enough to get the Spanish government to do its duty towards this country by purifying the Pearl of the Antilles, and how can we hope for this energetic action when an American physician, clothed with all the prestige of authority, assures the world that yellow fever in Havana is inevitable?" I, Mr. Editor, am this unfortunate but unrepentant "American physician." Here again, as everywhere, the facts were first given, in order that "the world" might correctly judge the validity of the conclusion. Those facts are, briefly that since 1761 yellow fever has annually prevailed in Havana; that all the favoring conditions during the past one hundred and twenty-eight years persist that there were no evidences that these conditions would be arrested, and that as long as these conditions persisted it was inevitable that the effects would persist. The Havana commission is well assured of the correctness of the premises of this syllogism, and submits the conclusion with great confidence to the test of logic.

In fine, it seems that Dr. Hargis is an earnest advocate for *the origin of yellow fever on ships*, a view which the Havana yellow fever commission earnestly condemns, and here, I imagine, is the great cause of his offense against and condemnation of the commission. But the commission was careful to state the facts on which its opinion was founded, and feels very confident that however false this may be, all just and generous men will view with liberal charity any such conclusion when preceded by and accompanied with the very facts from which it was deduced.

In conclusion, Mr. Editor, permit me to make a prophecy about that "next decade" with which Dr. Hargis so unmercifully threatens the Havana yellow fever commission. This prophecy is, that at its expiration many more doctors than at present, though they are now numerous, will think it as idle a waste of words to discuss the *origin* of yellow fever as to discuss the *origin* of a cat or of a dog. The great practical question is with yellow fever (as with all vegetables, animals, and epidemic diseases), how is it *propagated*? For my own

part, I have even less hope of determining the *origin* of yellow fever than the *origin* of small-pox, scarlatina, typhoid fever, cholera, trichina, tape worm, etc. Now, if Dr. Hargis will inform us how the causes of any of these *originate*, while handling with so much confidence the origin of yellow fever, he will confer an inestimable favor on science and mankind. In order that the correctness of my statements may be tested, I forward you a copy of the report of the Havana yellow fever commission. Yours very truly,

SANFORD E. CHAILLÉ, M.D.,

President of Havana Yellow Fever Commission of the U. S. National Board of Health.

To which I replied as follows :

EDITOR OF THE PENSACOLA ADVANCE :

Sir—Grateful am I, for the publication this day of my friend Dr. Chaillé's remarks on my letter which appeared on the 10th inst. I have known Dr. Chaillé for many years. It is the duty and privilege of professional men to discuss scientific questions, with ardor and force, based on intelligent conviction, whilst avoiding personalities. You, sir, have enabled Dr. Chaillé to define his position, and to stand out in self-dense in the most manly attitude, not sheltered behind the titles of the Havana commission and the National Board of Health. I accept his challenge only for truth's victory and the demolition of specious argument or theory based on false premises.

Dr. Chaillé holds himself responsible for "a concise preliminary report, stating the general results accomplished" by the Havana commission, so far, at all events, as the questions in dispute, and which refer to the endemicity of yellow fever in Cuba and the origin of the disease in ships and harbors.

Whatever mystery there might have been as to his interpretation of the word endemic it is dispelled. It is used by the Havana yellow fever commission to signify the "habitual annual prevalence of a disease and the existence of causes favoring its propagation." The "facts are briefly, that since 1761 the yellow fever has annually prevailed in Havana; that all the favoring conditions during the past one hundred and twenty-eight years persist; that there were no evidences that these conditions would be arrested, and that as long as these conditions persisted it was inevitable that the effects would persist."

Words in diplomacy may be used to conceal man's thoughts; the language of science should be precise. Webster, after Hoblyn, defines endemial or endemic as signifying "peculiar to a people or a nation, and *endemization* as equivalent to naturalization, to indicate an indigenous growth. We speak of ague as an endemic of the marshes. It is an *autochthonous* disease springing from the soil—from local conditions. Cholera is the endemic of Hindostan, and only known to us in America like yellow fever, as an imported plague, pestilence, or epidemic, and, at most, medical men have spoken of sporadic cases, to indicate isolated attacks, before or after epidemics, or as casual accidents. When the Havana commission, in its report, speaks of small-pox as endemic in Havana, it confounds yellow fever with the purely contiguous maladies, and classes it where it cannot for one moment, be placed by an enlightened pathologist. That Dr. Chaillé commits this serious error is shown by the important conclusion, that "it is as idle a waste of words to discuss the ori-

gin of yellow fever as to discuss the origin of a cat or a dog"—“for my own part,” he adds: “I have even less hope of determining the origin of yellow fever than the origin of small-pox, scarlatina, typhoid fever, trichina, tape worm, etc.”

The fact, sir, that yellow fever is totally unlike any of these diseases, that it is entirely specific and distinct, and, unlike any other known plague, invades land rather than springing and spreading from land, stamps it with peculiarities which enable us to determine its origin. There is no more interesting truth in pathology, nor one better established to those who are not blind or deaf to the clearest evidence, that the yellow fever poison, engendered and reproduced outside the human system, is the active cause of an infection and malignant pestilence which may travel under favorable conditions wherever man may go, even as far north as Quebec. The correct history of yellow fever places it indisputably amongst the localized diseases of the globe, and its habitat since the discovery of the new world, *and not before*, has been the tropical Atlantic. It has not originated in the Pacific, nor in the Indian ocean; in the Mediterranean, nor in the Red Sea. But within the tropical Atlantic belt the records of all islands and cities, including Havana, is the record of every American city, such as New Orleans and Pensacola.

Since, therefore, yellow fever has unquestionably its center of development on ships in the tropical Atlantic, and is transmissible from the ship to the port and from the port back to the ship again, many intelligent and trustworthy observers, without prejudice and sophistry, have recorded the spontaneous development of the disease on the broad ocean. If the vast array of facts, carefully studied, indicate this to be possible and frequent, the acknowledged impossibility of tracing its land origin anywhere, indicates that I am fully justified in considering the disease in its inception as a ship fever.

Dr. Chaillé did not hesitate in his concise report to devote ample space to the denunciation of this view and of those who entertained it. He said “there were formerly many, and there are still some few, who, without personal experience or extensive knowledge of the special subject, look upon it in a much simpler light. They pronounce yellow fever a “nautical disease.” Until the publication last October of Prof. Gamgee’s work, entitled “Yellow Fever a Nautical Disease,” I was practically the only person who had since 1858 adopted and propagated the idea that yellow fever was a disease of ships at sea, and since 1839 I have been an active observer of six great epidemics in Mobile, New Orleans, Pensacola and Milton, besides an annual experience with many sporadic cases amongst the shipping in this bay and the United States marine hospital.

But Dr. Chaillé thinks naval surgeons best entitled to credence, and quotes Dutroulau, who was compelled to publish in 1851 that in *not a single instance* of many infected vessels did the disease “originate on board,” This is a sample of the authorities and facts given “in order that ‘the world’ might correctly judge the validity of the conclusions,” and the Havana commission submits this “with great confidence to the test of logic.”

There are not many physicians in this country who have access to French medical libraries, and Dr. Chaillé has not sought the references, numerous enough in the English language. His champion is Dutroulau, whose recorded

facts and main conclusions Dr. Chaillé passes over in profound silence, with the object, I suppose, to use his own words, that "all just and generous men will view with liberal charity any such conclusions when preceded by and accompanied with" his own selection of data. I have not read Dutroulau's works, but I have before me the very able lecture delivered by Prof. Gamgee on the 10th of December in New Orleans on the possible extinction of yellow fever, and from which it appears that Auguste Frederic Dutroulau said in his thesis, published in 1842, that an indispensable condition of the focus of development (foyer d'emanation) is its maritime attribute." Nay, more, the examples are not rare of vessels in which yellow fever has declared itself spontaneously in the open sea (*en pleine mer*), and without having communicated with any infected land." He then reports a typical case, too long to be quoted, which occurred in 1833 in the brig *Cuirassier*, aboard of which Dutroulau was the surgeon in charge.

In 1853, in the Archives Generales de Medicine, Dutroulau distinguished the endemic or land miasms from the yellow fever poison which shuns the marshes. He said, yellow fever is limited to a very short distance from the sea-shore, whereas paludal fevers are observed wherever marsh miasma occurs, and authorizes the conclusion that the miasma of yellow fever derives one of its essential characters from the influence of the sea. More recently still, and in the very work quoted by Dr. Chaillé in his report, Dutroulau declares, that the essential and primary cause of yellow fever is localized on the sea—an infection proper to certain maritime localities."

I am now actively engaged in the preparation of my work to be entitled "The Tropical Atlantic Plague, Yellow Fever," wherein I shall show how simple and grand the truth is revealed by history, coupled with a wide experience in several cities of numerous epidemics. The science of pathology is not so hopelessly without basis, as Dr. Chaille indicates when he confounds plagues proper, the pure contagia ever propagated from pre-existing cases, such as small-pox, with diseases like yellow fever of localized origin. Anxious as I am to see the work of the National Board of Health flourish for the salvation of our country, I trust to show yellow fever is an endemic of no land, in the sense in which the word endemic is defined by the profession at large. Once this is acknowledged, and the mercantile marine purified, yellow fever must become extinct.

I am sir, your obedient servant,

ROB'T. B. S. HARGIS, M.D.

This was succeeded by the two following letters:

NEW ORLEANS, *March 31*, 1880.

EDITOR OF THE PENSACOLA ADVANCE:

DEAR SIR—Permit me to furnish Dr. Hargis a brief reply, which will be final, because, if I had time and inclination, which I have not, to engage in a newspaper controversy on the problems of yellow fever, I despair of either receiving or conferring benefit by controverting an opponent who so much misunderstands, and, apparently for this reason, misrepresents me. This is not the less discouraging because of my friendly and firm conviction that the misrepresentations are without intention or bad purpose.

My first letter was designed to show how groundless was Dr. Hargis' charge against the National Board of Health, to indicate how little provocation he had for denouncing with strongest condemnation and consigning to the vengeance of "the next decade," his brother physicians, animated by scientific zeal, integrity and knowledge, possibly as great as his own, and to intimate that he had misrepresented his true cause for his "strongest condemnation." His last letter, of March 27, fully confirms my positions in reference to these three points, and I very much regret that additional misrepresentations, some implied, others clearly expressed, should tempt me again to weary your readers.

For my own credit, and the honor of the position held, it is to be hoped that there has been misrepresentation (implied) as to my "diplomacy" and "lack of precision in the use of scientific language," as to my "specious arguments based on false premises," as to my ignorance of the yellow fever literature of the English language, as to my being "blind or deaf to the clearest evidence," and as my woeful deficiencies as an "enlightened pathologist." I have long taken an humble part in medical literature, but am unaccustomed, and intend to remain unaccustomed, if silence will assure it, to such implications.

Dr. Hargis persists in misrepresenting my views as to that ill defined word "endemic," and upbraids me for the use of it with "mystery," but if used in a manner mysterious to him alone, am I responsible? He misrepresents the value I attach to Dutroulau's evidence, and he misrepresents, apparently misled by another, that evidence itself. He misrepresents my views as to the relationship between yellow fever and such diseases as small-pox, failing here, as elsewhere, to understand even in what particulars I agree with him. Finally, he misrepresents my own and the correct signification of the word "origin."

Even should he accomplish the Herculean feat of convincing others than himself "how simple and grand the truth is revealed by history, coupled with a wide experience in several cities of numerous epidemics—(whatever this may mean)—and that yellow fever originates on ship, he would then have done no more than prove *where* the disease originates, not *how* it originates, nor *what* the poison is, and would be just as far from the true origin of the disease as he would be from the true origin of a cat, after having conclusively demonstrated that some cats have made their first appearance in his stable. Would any one discussing the "origin of man" deem himself answered by even the most conclusive proofs as to the *mere place where* man made his first appearance? In such sense did I very manifestly use the word origin, and not in the sense misrepresented by Dr. Hargis.

If after having thus specified the more important misrepresentations, Dr. Hargis should fail to appreciate them, then one of two things: Either this failure to appreciate will be his misfortune and not my fault, or my ignorance of the English language is so dense that I ought to refrain from abusing it further, to the vexation of Dr. H. and of your readers. Therefore I decline to enter into long and tedious explanations for the purpose of exposing in detail the misrepresentations which have been specified. Should any of your readers desire such explanations, they can find those most essential by a

perusal, more critical and thoughtful than Dr. Hargis has given, of that very report which, in his opinion, "deserves the strongest condemnation." On the other hand, since the majority of your readers do not probably care a button about either the subject or misrepresentations, or explanations, they will rejoice that I hasten to subscribe myself,

Yours, very truly,

STANFORD E. CHAILLÉ, M.D.

TO THE EDITOR OF THE PENSACOLA ADVANCE :

SIR—Dr. Chaillé has anticipated a resolve which I had formed, that any technical discussion between us should cease in the public press. The medical profession shall judge who it is that "misunderstands" or "misrepresents." Argument and evidence can only be fairly met by argument and counter-evidence. I seek enlightenment, whilst standing firm by the knowledge so far gained.

Dr. Chaillé attempts to fasten on me some charge against the National Board of Health. So much depends on comprehensive and uniform sanitary measures, that the influence of the medical profession should stand pre-eminent in the nation's councils, and no one shall excel me in fostering a just confidence in its chosen representatives.

Fortunately Dr. Chaillé assumes the personal responsibility of defending views which I condemned, and data which I rejected as without foundation. He defines our relative position. I do not condemn the entire Havana Commission. Far from it, and the researches of Dr. Sternberg promise to result in great good.

When refusing to hamper the operations of the National Board, by opposition before Congress, it was desirable to indicate that my action was not dictated by personal preference, but simply by a sense of public duty. In my letter to Dr. Le Hardy I held myself free to take exception to that which I deemed pernicious, whilst supporting the excellent general work of the Board. My Pensacola friends must have thought for many years past, that I was fighting the winds, so constant and earnest have been my utterings on the subject of yellow fever, and its possible exclusion, not only from America, but all other lands. The time has come to show whether the opportunities enjoyed have been wasted, or whether another century must witness periodical outbursts of malignant pestilence, owing to some agency which mysteriously haunts the minds of Dr. Chaillé and others, as beyond the ken and grasp of man.

Dr. Chaillé requires, as the only measure of safety, non-intercourse as absolute as possible. He declares the ships are primarily contaminated from the shore, catch the *disease from land*, whereas all yellow fever history points unmistakably the other way.

I have a higher regard for your readers than to think, with Dr. Chaillé, that the majority "do not care a button" about this subject. Attempt to fence in the Gulf or other ports, by impenetrable barriers, and then we may see what the non-intercourse programme implies. Our merchants care not less for Pensacola than the New Orleans citizens for their port. In the last they are raising one hundred thousand dollars this year for sanitary purposes to avoid

the inconvenience of useless quarantine and non-intercourse. They are led in this by an experienced physician, Dr. C. B. White, whose influence, in such a community, does honor to the profession, of which he has long been an energetic member.

I shall in due course announce in which of the medical journals my views as to Dr. Chaillé's writings are to be amplified, and meanwhile I subscribe myself,

Your obedient servant,

ROBT B. S. HARGIS, M.D.

The charges and declarations made by Dr. Chaillé in the foregoing letters are of far too serious importance not to be fairly and fully met by arguments and statements which I respectfully submit to the judgment of the profession. In the first place I shall speak of the

ENDEMICITY OF YELLOW FEVER IN CUBA.

Dr. Chaillé says it would be difficult "to cite a single Cuban authority of any weight in medicine" in opposition to the view of the endemicity of yellow fever. To speak more plainly, Cuban physicians advocate "local origin," and being in this, in my estimation, a quarter of a century behind the time, it is essential that the National Board of Health be informed of the actual and substantial grounds for entertaining such an opinion.

Dr. Chaillé insists on the great value of experience on this question. No one doubts it but the most skilful hygienists and epidemiologists are not the busiest practitioners who visit the sick. I have been familiar with yellow fever for forty years but have learnt that sanitarians who have never witnessed an epidemic can grasp the practical questions involved in the prevention of this and other diseases, quite as well if not better than I can. An episode in the history of American medicine may prove instructive and a warning to writers who belittle their adversaries. When Philadelphia was scourged by yellow fever in 1793, Dr. Chas. Caldwell was a truly brilliant student of medicine. He was the first and last in charge of the city hospital and has described, in a graphic manner, the dread of contagion which caused medical men and students to fly, thus rendering assistance scarce. The nurses were few and inexperienced. The provisions and arrangements of the

hurriedly prepared asylum were in all respects limited, crude and insufficient. In fact the whole establishment being the product of but two or three days labor "was a likeness in miniature of the city and the time, a scene of deep confusion and distress, not to say of utter desolation." The sick, dying and dead were hourly coming and going. "No apartments being yet prepared for the use and accomodation of the medical assistants, I was obliged," says Dr. Caldwell, "to eat, drink and sleep (when indeed I was permitted to sleep) in the same room in which I ministered to the wants of the sick. And not only did I sleep in the same room with my patients but also at times on the same bed," receiving occasionally "on some part of my apparel a portion of the matter of black vomit, and I was inhaling the breath of the sick, and immersed in the matter which exhaled from their systems, every hour of the day and night." He often woke to find his patient dead beside him. Under these circumstances Dr. Caldwell abandoned his belief in the contagiousness of yellow fever and published the fact. At a meeting of the Philadelphia Medical Society, in the fall of the year, he redeemed a promise made to Dr. Bush and read a paper on the domestic origin of the disease. He was opposed by several who had left during the epidemic, and in the most dexterous manner he said, "Yellow fever has but just disappeared, the miasm productive of it having been destroyed, as it will always be, by the occurrence of cold weather. My wish therefore, sir," (addressing the Chairman) "is to hear from the gentlemen arguments in favor of its foreign origin, drawn from what they have learned by their recent intercourse with it, in the way of observation as men of science, and of experience as physicians engaged in the treatment of it."

"This I knew," says Caldwell in his autobiography, "would be gall and wormwood; because not a single individual who, as yet, had contended, in the present debate, that yellow fever was an imported complaint, had ever seen a case of it. They had all hurried into the country on its first appearance in Philadelphia, and had now but just returned, to instruct the community, including those who

had met it, contended with it, and studied it, as the mystery of its origin."

Dr. Caldwell and many since his time have overlooked the fact that, as with a statesman defending a nation, who controls generals, or distant fields of battle, though himself not a warrior, so in epidemic times the calm and broad view of the events at many points, in a country so vast as this; give the skilful scientific pathologists a clearer perception than the local observer of the adverse influences he has to antagonize in order to limit the spread of disease. It is thus also with the logical mind building up a sound conception of the nature of plagues. He cannot afford to overlook any, they or any one in the past, and, with far greater justice can we to-day, than ever before, apportion to Chisholm and Bancroft, Hosack and Bush, Chervin and LaRoche the praise or the blame for the truths or errors they promulgated. Who more than Caldwell and Bush could vaunt a *practical experience* and being trusted by all in the afflicted city, they imposed on the stricken a course of blood-letting and the famous "ten and ten dose of calomel and jalap?" Perhaps there is no living American who has seen more yellow fever than I have since 1839, so that I am entitled to encourage our unprotected hygienists, especially in the North, not to risk their lives, to add weight to their opinions, whilst engaged in the laborious duty of culling, for the common good, from the experience of centuries. Nay more, the events recorded by unsophisticated minds, by young physicians, when careful note takers, rather than burdened with years and theories, will often be found to bear the impress of the most solid fact. This is conspicuously the case with the greatest of the authorities quoted by Dr. Chaillé, viz., Dutroulau.

We can look back to-day with composure and competent perception to the many fruitless efforts made to indicate the localities and circumstances charged with the "dementic origin" of yellow fever on American soil. The question settled early by Tully and others of the broad line of separation between endemics or malarial fever of marshes and the pestilence carried North annually right into the

ports on the Connecticut, is still feebly agitated and periodically demolished. Land malaria and filth on land are charged with the local production of yellow fever only by those who do not read and cannot observe.

The "exotic origin" of the malady may be said to pervade the American medical mind as the fashionable opinion of the day. So far so good, but some land must be charged with the odium of developing this pestilence, since its localized character is too striking to be ignored and hence the importance of Dr. Chaillé's remarks concerning Cuba.

A very common and amply justified opinion is that yellow fever poison develops and propagates outside the human body, and it has been declared by such authorities as Jewell that "there is no adequate reason whatever for believing that it attacks, especially to, or is multiplied in, the bodies of the sick." The latest views promulgated tend to oppose the idea of the spontaneous origin of yellow fever anywhere. In a clinical study by S. M. B., in the April number of the *American Journal of the Medical Sciences*, it is stated that yellow fever "is reproduced chiefly, if not wholly, within the body." The indispensable "germ" spreading from man to man is at the root of this opinion, but I agree with Mr. Gamgee that "there is no foundation in *fact* for the plausible explanation of the propagation of the disease by the reproduction of the lowest organisms."

With all these conflicting declarations before them, the National Board of Health very naturally sought to determine whether Cuba constituted a primary and permanent home of yellow fever. In other words whether it is endemic there as it was once supposed to be even in New York. In attempting to settle this question Dr. Chaillé who has acknowledged his responsibility for this portion of the Havana Commission Report, neglects the common signification given by medical writers to the words *endemic* and *endemicity*. He says that "the word endemic will not be used to imply that either this, or any other disease, which there may be occasion to thus designate owes its origin *necessarily* to local causes." Then why use the word at all other than to indicate a disease peculiar to the people

or the nation? That endemicity in Cuba in relation to yellow fever is in temporary or controllable condition is indicated by the statement that "the day may come when the people of the United States will demand whether their welfare would not be best promoted by suspension of intercourse with Cuba during certain months of the year." Since small-pox would probably be found "as exceptionally and almost as severely prevalent as yellow fever, it has also become endemic in Cuba," and to fix beyond peradventure Dr. Chaillé's position, the following statement may be noted: "It should not be forgotten that while none of the causes referred to, suffice to always explain all the variations in the prevalence of yellow fever, during certain seasons and years, yet that this *terra incognita* of this disease is also a *terra incognita* for small-pox, of malaria, and of other diseases. Science has no right to expect explanations of the mysteries of the one, while still unable to solve the similar mysteries of other much more familiar and widely prevalent diseases."

Small-pox has its home wherever man can live and be approached by other men. Malaria has a strictly defined boundary, as its source, as much as a river has in a mountain. Drain the land within these limits and malaria disappears. Relapsing fever originated during the great Irish famine, and travelled across the Atlantic. The geographical distribution of yellow fever and its relations to commerce, wars and revolutions, are illustrated by an array of facts not to be surpassed in epidemiology and only equalled by the abundant data possessed by Asiatic cholera.

Dr. Chaillé has but sought to justify the utter confusion in which, to say the least, an irregular use of the words endemic and endemicity, has created in the minds of readers of his preliminary report. Since he objects to Webster's definition after Hoblyn, I have searched a few of the principal authorities whose works I possess. Dr. C. B. Williams in his Principles of Medicine settles the question as understood by the whole profession. He avoids the expression by certain causes "inasmuch as this involves a hypothetical signification of their modes of action." Endemics he says, "are instances of diseases which may be said to dwell among

the residents in particular spots ; hence they are called endemic *in* the people." His examples are *ague* and *goitre*. Other diseases are not confined to particular localities "although they infest some more than others." "They attack a whole district, a whole country—nay, almost a whole hemisphere. These are called epidemics, like a blight or pernicious influence blowing on the people."

Dr. Aitkin says in his *Science and Practice of Medicine*, "endemic influences result from those conditions or agencies peculiar to a locality which favor the development of various miasmatic diseases, and may thus account for their sudden origin. Such diseases are then said to be *endemic*."

Dr. Roger S. Tracy in Dr. Buck's *Hygiene* speaking of endemic diseases says, "The type and exemplar of such diseases is the malarial fever, which takes upon itself so many forms and causes so much misery and so many broken constitutions in the West and South-west, and which shows itself with something less of intensity at various points along the Atlantic coast. Typhoid fever can almost be called endemic in the beautiful valley of the Connecticut, and tetanus in a certain district of Long Island. These diseases are due to local causes, and it is altogether probable that these causes will at some time be ascertained ; and when they are once known, means can be adopted for their extinction."

Dr. Dunglison in his *Dictionary of Medical Science* says, "an *endemic* is owing to some peculiarity in a situation or locality. Thus *ague* is endemic in marshy countries ; *goître* at the base of lofty mountains, etc. Some authors use the term in the same sense as epidemic."

Dr. Daniel Drake, than whom it is not easy to quote a more precise author, whatever opinion we may form of his conclusions, anticipated many years since in his ætiological deductions, all that Dr. Chaillé implies when speaking of the endemicity of yellow fever in Cuba. Dr. Drake said, "whether the yellow fever of Havana originated there, or was introduced from abroad, we may speak and treat of it as a disease of that city ; seeing that although it is not extensively prevalent every summer, it is never absent, and thus, if not a native, *is a naturalized endemic*."

Now what influence has Dr. Drake surmised on the Profession in relation to yellow fever? The hopeless confusion he launched the subject in, after the sound teachings of Tully and others may be gleaned by the following. He asked:—"Is yellow fever, then it may be asked, merely the remittent autumnal fever with which we are all familiar? The answer, according to these views of its origin is, that it is one of the varieties, as a tertian fever is another." That is where alone *endemicity* leads us and the National Board of Health undoubtedly wished to know if the West Indian Islands were the plague spots, whence yellow fever sprang, and was annually propagated. In other words whether the *source* of the great stream of yellow fever, like the source of a river in a mountain, was not absolutely restricted to islands of which Cuba is a type.

Dr. Chaillé has favored us with many useful facts and inferences relating to yellow fever. Every one of these may be cited as evidence against, *the domestic origin*, of yellow fever in Cuba and, in plain medical language, against its *endemicity* in that Island. He says that "knowledge of nature's laws, of disease, of yellow fever particularly, and of other subjects relating to the present topic, convert the suspicion, justified by scanty historical records, into an absolute conviction that yellow fever was at least worse, in some of the West Indies with their first settlement by Europeans." No record or tradition lends the slightest support to the view that yellow fever reached the West Indian Islands before the ships of Columbus and his followers. Indeed the first epidemic of yellow fever, that probably ever occurred in this world, was that carried to Barcelona in 1497 by sailors returning to that port from the second expedition to the "Indies." The second epidemic of which we have any approximately reliable notice was that recognized as a "new disease" which was named "*coup de burre*" from the intense rachialgia and which was introduced into the Antilles by the ship *Le Bœuf*, from Rochelle, in France. Neither the West Indies in the Barcelona epidemic, nor Rochelle in the first invasions of the New World, had anything to do with the probable development of these epidemics,

which like so many others in my opinion, emanated from the tropical Atlantic.

But we may pass from inferences and suppositions which however interesting, have only a very limited scientific value, and truly does Dr. Chaillé remark that, "though Spanish literature is unusually rich in valuable histories of Cuba, no allusion has been found justifying even a suspicion that yellow fever was known in the Island from 1655 to 1761. On the contrary, repeated references are made to the remarkable salubrity of Havana and to the non-existence of any exceptional or devastating diseases during this interval."

That Cuba is naturally a most healthy Island is proved by Dr. Chaillé's statistics, which indicate in the special case of Havana a salubrity equal to the finest European and American cities, if "endemic yellow fever," "endemic small-pox" and phthisis in people seeking a warm climate are excluded. Not all the filth, so forcibly described, nor a tropical climate of the most definite character engender any plague there. As to yellow fever it "habitually prevails in every place in Cuba from which reports were received, *provided these places are of any size or commercial importance*, and contain any considerable number of unacclimated persons to furnish food for the wide-spread poison."

No epidemiologist can misconstrue the meaning of the sentence I have marked in italics. An endemic attacks the few or the many which are subjected to the evil influences engendering such a disease. The very spot mentioned by Lind in his Diseases of Hot Climates as having proved fatal in the summer and autumn of 1766 to French settlers on the Escambia River is well-known to me, and frequently since, attempts at peopling that place have ended in the sickness and death of all who dared to sleep in that locality in August or September.

ON ACCLIMATION.

I must also object most strenuously, especially when speaking of yellow fever, of the use of the words, acclimation, acclimated and unacclimated. All persons with slight differences of race predispositions are liable to yellow fever,

however long they may have resided anywhere on land. Protection is only absolutely gained by an attack of the disease, which in some cases may be slight and barely perceptible. My objection to the word acclimation extends also to the true endemics for a wide experience of these maladies has proved to me that people inhabiting malarious regions suffer more the longer they remain there, and the fatal form of yellow disease, a malignant paludal fever, as in the cane brakes of Alabama, ultimately develops.

Dr. Chaillé "proves how erroneous is the idea that yellow fever is especially and exceptionally severe in the shipping and harbor of Havana. He has not stated what my own extensive and very precise inquiries have indicated, in that the crews of ships frequenting all West Indies and Gulf Ports are protected to the extent of full 50 per cent. Besides this, many a healthy ship escapes the disease just like a large number of even "unacclimated" people pass into Havana and even Vera Cruz every year without contracting the disease.

The subjoined remarks indicating that yellow fever depends on something more than local filth are instructive, and indicate that the yellow fever poison is an element superadded to defective hygienal conditions :

"There has been no intention to convey the idea that houses may not be found in New York and other American cities as foul as they can be, and, therefore, as foul as they are found in Cuba ; but in the former these evil conditions are seen as exceptions, confined to narrow, disreputable limits, while in Havana these conditions in the "homes of the poor" are widespread and general. Moist, foul, stagnant air, confined low to the ground, is found everywhere, so everywhere can be seen the refuse of fruits and vegetable substances, furnishing abundant materials for decomposition, while numerous turkey buzzards, roosting on the trees and house-tops of populous cities, sufficiently testify to ample supplies for animal putrefaction. These gross insanitary evils are as abundant in Havana, where yellow fever always prevails, as in Canton and Bombay, where this disease never occurs.

There is one more subject which deserves brief notice in connection with air-polluting causes and with theories maintained as to yellow fever. Sanitarians were greatly offended by the burial of the dead of Havana in its churches until 1806, when the "cemetery of Espada" was established outside the walls. In the course of years the growing city surrounded this cemetery, and to this was again attributed, among other insanitary evils, a bad influence on yellow fever. Overcrowded with more than three hundred thousand dead bodies it was closed in 1871, since when all the dead of Havana have been interred in the new "cemetery of Colon," which is admirably located and too distant from the population to exercise upon it any evil influence. It is noteworthy that there has apparently been no abatement in the prevalence of yellow fever."

THE SHIP ORIGIN OF YELLOW FEVER.

Failing to determine the causes of endemicity and noting the perplexity as to what measure may be advocated for the benefit of Cuban Ports and the world trading with them, Dr. Chaillé tells us "that the people must be provided with means to become intelligent, enlightened, especially in hygiene, prosperous, and sufficiently numerous to eventually gain both the knowledge and the power necessary to correct their insanitary evils. This is not only the best, but the only means. Until their accomplishment (which the present generation will not live to witness) Havana will continue to be a source of constant danger to every vessel within its harbor, and to every southern port which these vessels may sail to during the warm season.

While these are the conclusions of this Commission, there were formerly many, and there are still some few, who, without personal experience or extensive knowledge of this special subject, look upon it in a much simpler light. They pronounce yellow fever "a nautical disease," and seem to believe that if means were adopted to rid ships and harbors of the poison generated, as is alleged, and contained in them, there would be an end to it. Since this view leads to practical results of great sanitary importance, the facts in the matter have been carefully examined in Cuba, and also the records of the facts in other of the West Indies."

“*The only means*” seems to me as indefinite and unattainable as any ever proposed, and Dr. Chaillé’s declaration concerning the former, “many” and “still some few” who “without experience or extensive knowledge of this special subject,” pronounce yellow fever a nautical disease, is in direct and flagrant defiance of all history.

For 25 years I have sought allies and supporters for this truth from amongst writers of the past and my contemporaries. I left the Medical School of Louisiana a believer in “local origin” on land like every disciple of Stone. The Northampton direct from England, infected New Orleans in 1853, and I purposely visited the ship to satisfy myself as to its condition. A new light dawned on me, but it was five years before I felt warranted in declaring in direct opposition to every authority I could consult, that yellow fever was never a local malady, but always localized in its source on the sea in the tropics. The few who have hinted at the nautical origin of yellow fever, have been men of exceptionally large experience. The individual cases of ships in which the disease has been unmistakably developed are, as a rule, singularly well recorded. They offer a striking contrast to the many but utterly baseless assertions concerning the sites and circumstances of local origin on land. They have been recorded by contagionists and non-contagionists alike, though we must admit that many of the earliest and most instructive examples relating to local origin in ships were published by physicians who believed the malady would originate anywhere, under definite conditions of heat, moisture and foul effluvia.

Those who have written with fairness and learning on yellow fever, have not ventured to explain away the precise facts which abound, but which somehow failed to create the impression needed to formulate the law that “yellow fever is a naval malady of the tropical Atlantic, communicable to, and capable of, persistence on shore, but never presenting the feature of a land plague like cholera. It was most disappointing to me, at first, to notice that the ablest authors, in discussing the source of yellow fever, failed to appreciate this one fundamental idea, an adequate statement

and demonstration of which was never in print until Mr. Gamgee treated the question last summer with learning and thoroughness. When he first broached the matter to friends, and before he knew of any writings, he was met by expressions of astonishment precisely as I have been, even as late as at the Nashville meeting of the American Public Health Association. It is, therefore, a little surprising to find an attempt made to discredit the originality of this conception, and to overlook its important bearings on the present medical era.

It is true that towards the close of the last century Dr. Griffiths of Philadelphia in a letter to Dr. David Hosack used the following words: "The disease called yellow fever—but which I call the ship fever of the tropical climates." It is not clear that he did not ascribe some influence in its production to the West Indies where, according to La Roche, Dr. Griffiths believed the fever was not apparently contagious, "but he thought it became so during the passage from the Antilles to the United States." Hosack of all men came nearest the truth, for he considered yellow fever to be the disease of northern men removed to the tropics, but he had not the data before him to limit its precise centre of development. He classed it with plague, typhus, etc., apart from the pure contagia, "which are communicated exclusively by contact and under all circumstances; the diseases of this separate class, which includes yellow fever, he points out as '*specific*,' but only in general communicable, through the medium of an impure atmosphere."

Though Dr. Bush ascribed the fever of 1797, at Philadelphia, to a foul ship, direct from Marseilles, and an outbreak at Kensington to a ship from Hamburg (both very possible occurrences in the days of sailing ships striking a southern course) he did not suspect that the disease was a pure ship fever. Dr. Caldwell's report of the sloop Mary, which had visited no sickly port, and produced yellow fever amongst several persons exposed to the effluvia of the hold after opening ports and hatches, was one of the earliest, followed at various intervals by carefully noted cases, a

perusal of which, as La Roche asserted, "will fully sustain the opinion of those who ascribe, in very many instances, the appearance and spread of the disease to morbid effluvia generated in the vessels themselves." Dr. Ferguson of Demerara, Andenard, Dickson and Alison have spoken of the occasional origination of the fever on board of ships. Copland saw it on a slave ship and thought it might be produced where masses of human beings were congregated in the hold of a vessel. He said: "If this opinion as to the probable origin of the infectious poison be not admitted there is certainly no other deserving greater confidence.

Dr. J. C. Fagot of New Orleans, in his *Memoirs on Yellow Fever*, published in 1859, accepts as most reasonable, Andenard's views concerning the outbreak of yellow fever in ships at sea (*mêm en pleie mer*) as Dutroulau had declared in his Thesis in 1842. In the *New Orleans Medical News and Hospital Gazette* for January, 1859, will be found a letter in which I say, *for the first time*, that "yellow fever is neither indigenous to this country nor a native of any foreign clime," and "that it is in the holds of vessels within the tropics a certain period of time, that are to be found the nidus in which the germs of yellow fever are engendered, developed and propagated, and from them, under favorable circumstances, disseminated on reaching inhabited shores, within certain degrees of latitude."

Last year Professor Gamgee entered into greater details and pointed to the conditions which localized the disease in its origin *de novo* in the calm belts of the Atlantic, namely on the western half, the originally infested ships infecting land and other ships until the full sway of malignant epidemics might be witnessed under similar conditions in the West Indies and in our sea ports. In his first New Orleans lecture he defined the malady as a pelagic or ocean malady confined within definite limits in the Equatorial Atlantic and whilst communicable to points most accessible to maritime commerce, never penetrating as a plague in or across continents. He likewise indicated how utterly without basis was the "germ" theory of the disease. The supposed vital cause, demanding progressive generation through-

out time and restricted to reproduction like animal and vegetable forms is not only hypothetical but at the root of a new hypothesis which represents the latest fancies of yellow fever pathologists, who refuse to acknowledge the possibility of the spontaneous development of any disease. They endow with life the essential elements of all transmissible maladies. In this I believe them to be in error.

Dr. Chaillé must kindly enlighten us as to the *many* or *few* who, inexperienced or “without extensive knowledge of this special subject,” have pronounced yellow fever “a nautical disease.” I challenge him to support this statement by anything like adequate proof.

DR. CHAILLÉ'S EVIDENCE.

Three columns of the concise Report are devoted by Dr. Chaillé to the origin of yellow fever in ships and harbors in order to state the “facts” at variance with the view. The vast importance of setting this point at rest is indicated in a very peculiar way by Dr. Chaillé. He says :

“There is a final deduction of much scientific importance derivable from the conclusion that yellow fever never originates on ships. This deduction will be better understood if preceded by the statement that the facts occurring within an infected place, and bearing upon the questioned transmission of yellow fever, can be as well explained by infection of locality as by infection through the movable things and persons in such locality ; and that therefore these facts as they occur outside of infected localities must be more particularly relied on to solve the question. Now, vessels—because of their restricted limits and of their small and more readily observed contents and population—are the places which present the most numerous and favorable opportunities for the solution of all questions which relate to the modes by which the poison is conveyed to such places, as well as from thence to other places, and also to the conditions necessary for the propagation of the poison.”

It is clear from this and all other statements that Dr. Chaillé considers “the facts now presented” . . . “tend to prove beyond question that the poison of yellow fever is on the shore, and *not in the waters of the harbor.*”

Now what are these convincing facts? The reader is requested to peruse the three columns of evidence and to assure himself that my summary or criticism, as follows, is justified. Dr. Chaillé begins like many recent writers on yellow fever, vaguely discrediting inexperienced writers and observers, without enabling his readers to determine whom he is hitting at or for what reason an invisible enemy is demolished.

“Naval surgeons, and especially those among them charged with marine sanitation, are of all other medical men best entitled to credence and confidence in this matter. Evidence from two such French witnesses will first be submitted, one of these being A. F. Dutroulau, ‘*premier médecin en chef de la marine,*’ who had more than twenty years’ personal experience of yellow fever, particularly in Martinique, and the other being Béranger Féraud, who held the same high post in the French navy, and also had extensive personal experience. Each of them was charged at different epochs with the duty of preventing yellow fever on ships and in seaports; and while surrounded for years by special opportunities for observation, was required by imperative official duty to study particularly the causation and prevention of yellow fever.”

The evidence of Dutroulau, as given in my first reply to Dr. Chaillé, is conclusive that this authority considered the essential element in the development of the yellow fever poison as of maritime origin. And if Dutroulau’s facts, as well as some later theory had been quoted by Dr. Chaillé, the readers of the concise report would have had some means of independent judgment. To choose what suits a simple hypothesis from the pages of a voluminous author, is not quoting “facts” as the fair premises of a syllogism.

This is not all. Béranger Féraud’s “facts” are not cited for he has none; he does not deem it necessary to specially consider the subject. Dr. Chaillé quotes him as insisting on the isolation of ships from land and states a fact “that the common experience of mariners in the ports of the West Indies teaches them especially to avoid the shore.” It is truly astonishing to find such a statement, which I am

almost tempted to style puerile, published in disproof of the ocean origin of yellow fever. Is it not certain that for one ship, in which the disease springs *de novo*, scores are infected in epidemic times in the same way as houses are in seaports?

Dr. Chaillé does not say that he personally visited the shipping and acquired a knowledge of the striking differences between foul ships carrying disease to Havana from the ocean, and the recently infected ships smitten in the harbor. Had he done this, he might have had some *facts* the nature of which I shall specially detail in my work to be shortly published.

The next authority, quoted by Dr. Chaillé, counts for another authority but, so far as the report is concerned, not for another *fact* against the position I hold. Dr. Chaillé says :

“Dr. Fuzier, a French army surgeon in high official position during that most favorable period for observation, 1861 to 1865, when France occupied Mexico, and at that most favorable place for observation, Vera Cruz, denies absolutely the spontaneous origin of yellow fever on ships.”

“Such is the evidence derived from the highest French authorities.”

Intending to analyze all these “facts” the abundance of quotations is to avoid the slightest chance of misinterpretation. “The experience in the Spanish navy is not less emphatic” than the French. Dr. de Caneda has “*frequently*” observed the first cases on board ships amongst “persons whose duty calls them oftenest to the shore.” Could he have said “*always*” instead of “*frequently*,” he might have been of some use to Dr. Chaillé. Dr. de Caneda and a special commission appointed to report on the questions propounded by Dr. Chaillé could in truth only declare what every tyro in a busy seaport in the tropics knows, where navies congregate, that those most liable to contract yellow fever are those who inhabit the arsenal, and who frequent the wharves. Dr. Chaillé does not seem to have heard of the speed with which any prudent Commander in the American Navy clears out of a Port when an epidemic is

threatened. That the shipping in harbor forms part and a most dangerous part of an infected sea port has been well and widely known for over three quarters of a century. Did not Lind show that healthy ships put to sea might save those who boarded them, and that "during the sickness at Cadiz and Pensacola, the removal of the sick into ships which lay at anchor, in a pure air, produced the same happy effects?"

Has it not often happened that a ship has crossed the Atlantic with a healthy crew notwithstanding a protracted sail in the tropics, and yellow fever breaking out when the ship was being unloaded, the "vile" climate of the port has been charged with engendering a poison which had been days and weeks in process of development within the vessels? As Humboldt (one of the despised philosophers, if we are to shun the teachings of those who have not studied yellow fever clinically) said, "as malignant fevers are easily engendered, amid a large crew, crowded together in filthy vessels, the commencement of an epidemic dates pretty often from the arrival of a squadron." The people affirm that the disease has been imported from a neighboring port as it often, but far from invariably, has been.

Reverting again to Dr. de Caneda's commission Dr. Chaillé tells us, they had "not sufficient time to collect statistical data in detail" for a "demonstration beyond question" of that which needed no demonstration, for it did not in the least bear on the naval origin of yellow fever in the tropical Atlantic.

"Fortunately" however, says Dr. Chaillé, "that able and zealous officer of the United States, Dr. D. M. Burgess" "was enabled to collect statistical facts in detail, and to present a very valuable tabular statement of these facts." The table is reserved for the final report, but Dr. Burgess asserts "that those vessels which lie at wharves suffer incomparably the most. Of 31 vessels discharging at wharves in July, August and September, 1879, only one in 15 escaped infection. "The liability to infection in this harbor is in an inverse ratio to the distance at which a vessel lies from wharves and habitations." More-

over, there "is a striking difference in the chances of infection, when making comparison between the wharves and the open bay." Dr. Burgess has "no hesitation in saying that the nearer the vessel is to wharves and to habitations, the more it is exposed to infection," and with a caution, which may be commended to Dr. Chaillé's special attention, he concludes by saying that "statistical records are very desirable on all these points."

Such is the *evidence* (?)—*the whole evidence—every fact and opinion*—enumerated, which precedes the extraordinary conclusion of Dr. Chaillé which he states as follows: "While all freely admit that yellow fever finds a favorable medium on vessels, especially in the parts where air is confined, for the propagation of its poison, the facts now presented are totally irreconcilable with the theory of the spontaneous origin of this poison on ships." It is quite impossible to give adequate expression to my astonishment at the complete misconception manifested by Dr. Chaillé, of the ordinary meaning of the words "*fact*" and "*evidence*." He has simply ignored anything and everything bearing, even incidentally, on the possible origin of yellow fever in ships. Going out of his way to quote French Naval Surgeons, could he not find ample material, ready at hand in the Annals of our Navy Medical Department? I happen by chance to have on my table the Sanitary and Medical Reports for 1873-74, by Officers of the U. S. Navy, in which Dr. Thomas N. Penrose reports on the yellow fever on board the U. S. S. Ticonderoga at Key West, Fla., August, 1874. This is one of many cases which will furnish food for reflection.

That the Profession may distinctly understand the practical result which I anticipate from proving that yellow fever is the ship fever of the tropics, I may at once state that its malignancy when first introduced under circumstances favorable to a high mortality, has a natural tendency to diminish. In a warm climate and in warm dwellings, it may remain over one, two or three years, but as with cholera its known tendency, even in the West Indian Islands is to extinction. Fresh poison and fresh people are indispensable to its permanence. According to Dr. Chaillé, the

endemicity in Cuba will ensure the persistence of the disease whatever measures might be adopted with the shipping. I do not agree with him and believe that the exclusion of newly introduced yellow fever poison could restore Havana to the condition in which it was prior to 1761, and that at the worst the local developments would admit of sanitary control. The history of Jamaica, Martinique, Guadeloupe and the Bermudas teaches this if it teaches anything.

Fierce in his attacks on the exotic origin of yellow fever, La Roche, armed at all points by evidence which he reproduced fairly whilst attempting to bend it in support of his views, admitted the absolutely incontestable character of the records of vessels "in which the yellow fever has truly originated and prevailed." I ask Dr. Chaillé to analyze the numerous cases quoted by La Roche and explain how they can possibly be erased from the pages of reliable history. In the light of augmenting experience, apparently incomprehensible and irreconcilable facts, came to be understood, and we now know how it has often happened that an epidemic in an American or European port has succeeded the arrival of a vessel with a clear bill of health from a port which could not possibly be infected. Even taking such a case as that of the ship *Eliza* accused of carrying yellow fever into Philadelphia in 1799, La Roche was not justified in dismissing all that was said "inasmuch as she came from Leyburn, where the disease did not exist at the time, and has as yet never occurred." Hundreds of cases prove that she might develop the disease on the voyage as the Norwegian ship *Sklebodua* did in 1877 on a passage of sixty-three days, laden with sweepings from the streets of London, and lay becalmed in the latitude and bent of Fernandina.

The question before us stands thus. The old doctrine of "domestic origin" of yellow fever, wherever this occurs on land, has been abandoned by Dr. Chaillé, who dared not attempt to prove it in Cuba. There the endemicity of yellow fever—whatever that may mean—is precisely analogous to the endemicity of small pox. Dr. Chaillé, without

supporting his opinion by facts, nor evidence of the slightest importance, actually neglects the numerous statements of his leading authority, Dutroulau, that the essential element of yellow fever is of maritime origin. He denies that yellow fever ever originates *de novo* in ships. Where then is its source? Nowhere? The whole history and the geographical limits of the disease point to this as simply absurd.

But for the length of this article I would have commented on Dr. Chaillé's extraordinary declaration, as to the impossibility of defining the sources of the special diseases he mentions. Resting satisfied with our example—the case of human tapeworms—what more do we require to learn, with a view to limiting their reproduction, than that they are always derived from eating raw meat. Measly pork is the immediate cause of *taenia solium*, and raw veal of *taenia mediocan cellauota*. Of all so-called fevers or epidemics, none present more clear and trenchant features than yellow fever and its recognition, as an ocean pestilence, will contribute quite as much to the advancement of pathology as a science, as did the labors of the illustrious Louis in relation to the distinction between typhus and typhoid.

In conclusion I shall quote a few words from a philosophical lecture, just published in the London *Lancet*, on the History of Mental Medicine, by Ball. He tells us in the first place, to respect our ancestors. In the second place, to observe well, and in the third, to be sceptical; and he explains the word scepticism as follows: "I do not mean by that, that morbid frame of mind which makes us receive all new conceptions with a vulgar irony, and which would become, in the long run, more destructive to the true interests of science than the most childish credulity. I mean by scepticism that negative virtue which consists in never accepting a fact without verifying it, an idea without discussing it, and which teaches us to yield only when the laden mind comes to bend beneath the burden of proofs"
. . . . "subdued only by truth."

ART. II.—*The Vagino-Rectal Ring Speculum.* By M. S. COLE, B.S., M.D., Rivas, Central America.

The history of specula in general, is veiled in much obscurity. That it was an instrument known to, and used by ancient physicians, there can be no doubt, as it is frequently mentioned in their writings. Herodotus distinctly alludes to the specialties that existed and the instruments used for the alleviation of disease by the physicians of his time.

* Though Hippocrates and the ancient Greeks and Egyptians speak of the instruments then used in the treatment of diseases of women, in the writings of Galen, who lived in the second century, we find the first allusion to the speculum vaginæ, as being a separate and distinct instrument from the speculum ani, and in his sixteenth book, Aetius, who flourished at Alexandria in the sixth century after Christ, treats of the speculum, sponge-tents and medicated pessaries. He gave a more extended account of the speculum than Galen, with explicit directions for its introduction and use.

Paul of Ægina, who succeeded Aetius, speaks of the speculum as an instrument in general use at, and before his time, and from his writings we find that the speculum then used consisted of a hollow tube ; as he says, “ the person using the speculum should measure the depth of the woman’s vagina, lest the tube of the speculum being too long, it should happen that the uterus be pressed upon.”

During the period that intervened between the time of Galen and that of Paulus, the science of medicine and especially that branch relating to diseases of women, had attained a high degree of development. But the knowledge which had been so earnestly sought for and obtained by the Greek and Roman Schools, as well as that of Alexandria, was destined to be disseminated throughout the whole known world. With the subjugation of Egypt by the Saracens in the seventh century it passed as a trophy of war into the hands of the Moslem invaders.

Though the advancement of medical knowledge, was thus

* Thomas on the Diseases of Women.

in a measure retarded, it is gratifying to know that the barbarians were civilized by their booty, as from this dispersion of learning sprang the Arabian school. Albucasis one of the last of this school flourished about the end of the eleventh century, and after him, though from time to time, there arose writers of more or less note on diseases of women, nothing worthy of mention occurred, save now and then an allusion to the speculum which had evidently fallen into disuse.

The condition of medical science at this time was deplorable. The learning of the Arabians gradually became engulfed in the gloom and ignorance of the "Dark Ages," that upas tree under whose malignant foliage the intellect of man withered, and the writings of the Greek and Roman schools as well as those of the early fathers in medicine were destroyed or lost. But as society emerged from that mental midnight, the thread of inquiry and genius was taken up and followed slowly but devotedly to the beginning of the nineteenth century.

Towards the middle of the seventeenth century we find allusion made to the speculum and its uses by Ambrose Paré and Scultetus. The specula used by them were of two varieties. They were valvular, one consisting of two blades, the other of four. They were used mainly in treating diseases of the rectum, though Scultetus says "by their use ulcers in the vagina and uterus may be seen and observed according to their extent and kind."

This is the first authentic account we have of the valvular speculum.

In 1761 Austruc wrote in detail on the use of the speculum in the treatment of atresia vaginæ, but it was left for Récamier forty years later to bring this instrument more fully before the profession. For this service she is supposed by many to have invented the speculum. But it is not for the invention, but regeneration of an instrument which had been curiously lost sight of, that the profession are indebted to this learned woman. To her therefore is due the credit of recognizing the value of what was well-known, but not appreciated by her predecessors and contemporaries.

Even before this fortunate revival, as the eighteenth century drew to a close, the glimmer of the new dawn could be seen in the advanced views of such men as Austruc, Clark and Hamilton, as well as their followers Gooch, Récamier and Lisfranc, and from that time on the science with the instruments which accompany its application has been slowly and steadily progressing. Indeed the instruments used in the application of gynæcology comprise a larger list perhaps, than those of every other branch of medicine taken collectively. Of these none perhaps rank higher as a means of diagnosis and treatment than the speculum, whose history we have traced from the primeval days of the profession down through the "Middle and Dark Ages" to the present time.

All specula now in use are of two varieties, viz.: tubular and valvular. Of the first variety, cylinders of wood, porcelain and ivory have been used. The most popular of this form is Dr. Ferguson's of London. It consists of a glass tube lined with quicksilver, and covered with rubber which is thoroughly varnished.

The objection to this speculum is its great length. To suit all cases it must be at least six inches long, which effectually prevents probing the uterus through it and the application of remedies to the fundus. It has, however, been modified by Dr. Thomas of New York, under the name of the "telescopic speculum." This consists of two tubes instead of one, one slipping within the other. The outlet of the outer tube is everted into mugs which support the labia majora, and above and below in these mugs are two fenestra, which admit of the elevation and depression of the probe.

Taken together these instruments present two great disadvantages. They are certainly of no value in operations on the vaginal walls as the instrument completely covers the vaginal mucous surface. As an instrument for the introduction of remedies to the fundus they are certainly inferior to the common bivalve specula now in use. Again owing to their large size, their introduction in cases of vaginitis and vaginismus is very painful, and in virgins often

impossible. Here we gain a practical hint that the pain caused in a great measure is due to the friction of the instrument on the sensitive or inflamed mucous surface. These objections make them almost useless instruments to the general practitioner.

Of the valvular form, we have the bivalve, trivalve and quadrivalve. The one in general use is the bivalve of M. Cusco. It is light, compact, rather easy of introduction, and generally will show the cervix very well.

All valvular specula, however, present several serious disadvantages. In removing them it is difficult to prevent prolapse of the vaginal walls, which are thereby caught and painfully pinched. Again in retroversion, it is often difficult to engage the cervix, and in many cases, they must be removed and reintroduced before the desired end is accomplished. They present the same objections that the cylindrical do, in exposing too small a field and usually not admitting of probing the uterus. The external opening being small allows only a limited motion of instruments when they are introduced. It is true they do not cause so much pain on their introduction as the cylindrical, but even on this score they are not entirely free from objections.

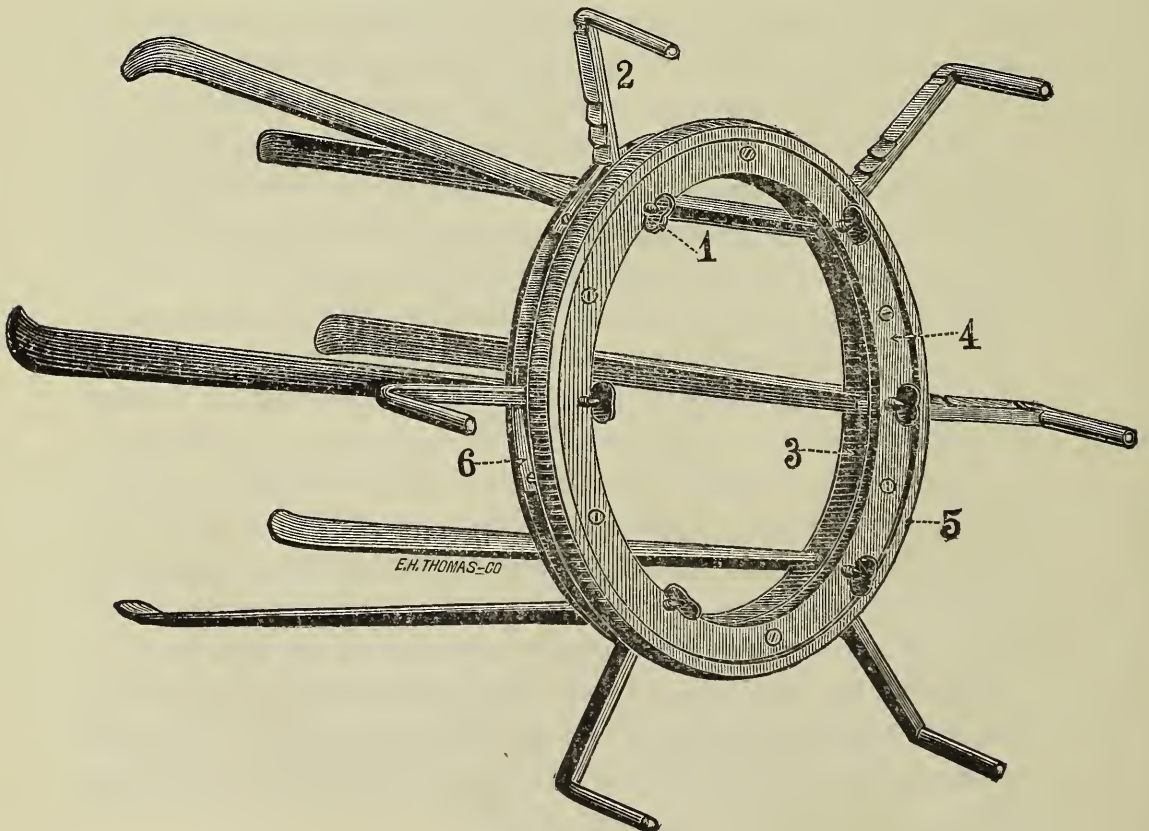
None of the foregoing instruments being of any use in operating on the vaginal walls, the Sims' Duckbill speculum was brought out for this purpose, and as an operating instrument, it surpasses any of its predecessors, operations for fistula being executed with considerable accuracy.

But to render an operation successful, a skilled assistant is required to hold the "depressor," while the operator douches the part and applies the stitches. To be convinced of the inefficiency of this instrument, one only needs to look over the list of improvements made on it. Of these Mott's, Hunter's, and Thomas's are most prominent, but on account of their difficulty of application, and failure to render the vaginal walls tense (a prime requisite in operations for fistula), they are not entirely satisfactory to the profession.

Herein are furnished engravings of the Vagino-Rectal-Ring Speculum, showing it closed and expanded. For this instrument is claimed entire freedom from every objection enumerated in the foregoing pages.

It will be seen that this speculum is composed of a ring and six branches. The ring is made up of three separate rings, two of which are firmly united with screws, and on this combination the third is super-imposed. In the rim of the external ring and between the opposing surfaces of the two internal rings, are six notches or slits, through which the shoulders of the branches emerge. These notches are so formed that they admit of the action of the thumb-screws (1) in elevating the extremities of the blades, at any angle from zero to 45° , after the parallel motion has been secured. Mounted on the rim of the external ring, and situated on the corresponding side of each notch is a steel spring (6) designed to catch on the ratchets cut in the shoulders of the branches. Thus by a rotary movement in which the external revolves upon the two internal rings the springs are applied against the ratchets where they become firmly attached. The ratchets being cut in the shoulder for the greater part of its extent, allows any amount of distention that the operator may desire.

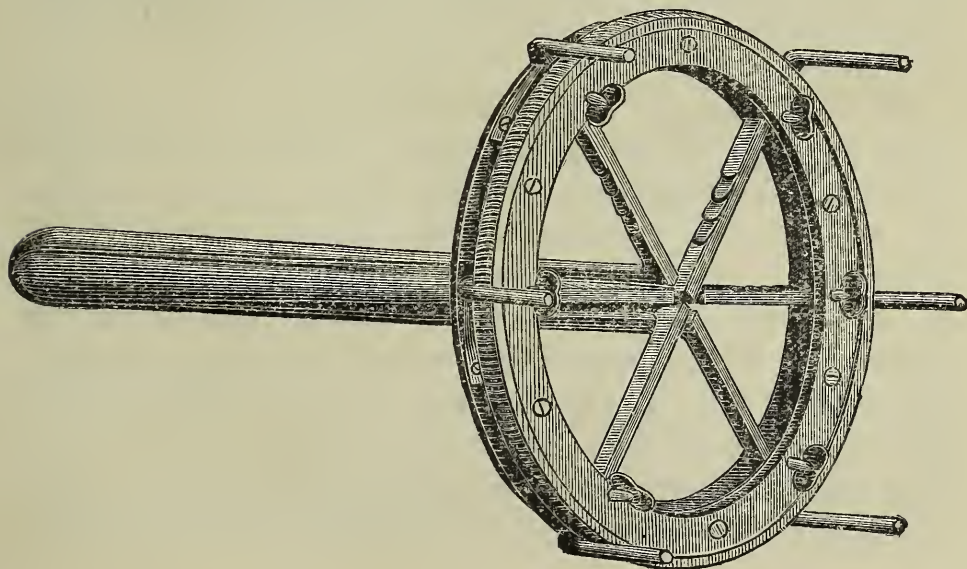
The remaining parts of the instrument to be described



are the branches. They are simple in construction, each being composed of a blade, shoulder and handle. The blade is three and one-half inches long and is placed at right angles with the shoulder and of course in the same relative position with the ring. The shoulders, six in number, pass through the notches in the ring before described. The outer extremity of each shoulder is bent at right angles, the bent portion forming the handle. On the shoulder are the ratchets before described. There are three shorter branches with each instrument, which are admirably adapted to operations for fistula high up in the vagina.

The advantages that this instrument embodies are obvious to all. It is the only speculum in use having a parallel and leverage motion. By this parallel motion the outlet or the vagina can be distended to three times the extent gained by the Cusco speculum, giving the operator more room to use his instruments. It thus facilitates the introduction and use of the probe. Its introduction is painless. When the instrument is closed, the blades approximate each other and form a cylinder of less than one-half inch in diameter. No matter what the condition of the vaginal mucous membrane may be, the introduction of so small a cylinder can hardly excite pain. In this particular it obviates the leading objection to Ferguson's and the same objection which is often urged against Cusco's speculum. See cut.

On removal, the tonicity of the vaginal walls simply presses



the blades together, rendering impossible the prolapsus of any portion of the vaginal mucous membrane between the blades, as is frequently the case in using the valvular forms of specula.

The leverage motion being exerted in every or any direction and to any extent the operator may desire, produces distention of all or any portion of the upper part of the vagina, exposing an extensive field to observation. The cervix can thus be well-shown, no matter what position the uterus may be in.

But its especial use is in operations for fistula. In this it is far superior to any of its predecessors. It embodies the first essential to successful operation as laid down by Dr. Sims, viz: "A method by which the vagina may be distended and explored." The following is the mode of procedure:

The instrument is introduced closed. The blades are then expanded by the parallel motion produced by grasping the handles and separating them in every direction to the extent desired.

If the leverage motion is required it is produced by turning the thumb-screw, which being applied against the angle formed by the shoulder and blade carries this angle forward and of course the extremity of the blade outward to the desired degree. It is to be remembered that each blade can be acted upon by either the parallel or leverage power independently of the others; or any of them can be entirely removed.

After the location of the fistula is discovered, the blade which covers it should be removed. A slight prolapsus of the vaginal wall around the fistula occurs, and the operator can proceed with his work without the use of an assistant to hold the "retractor." Should the opening be high up in the vagina, one of the short bladed branches can be inserted in the place of the one removed to hold up the vaginal wall between the vulva and fistula, which would otherwise prolapse and obstruct the sight of the operator.

In addition to its use in gynæcology it will be found a useful instrument in examining and treating the rectum in its

various diseased conditions. In the radical cure for internal hæmorrhoids, it will be found to be the best instrument in use to dilate the rectum.

Thus this instrument commends itself to the profession, as one of widely diversified utility. Especially will it meet a want long felt by the general practitioner, for an instrument which can be used in the treatment of every disease he may encounter where the use of such an instrument is practicable ; as well as saving him the amount of money necessary to equip himself with a full "kit" of the usual instruments now used in the treatment of diseases for which this instrument is recommended.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

The Treatment of Epithelioma of the Cervix Uteri. By
J. MARION SIMS, M.D., LL.D.

Epithelioma of the cervix uteri was first described by Gooch and Clarke as cauliflower excrescence. We know very little of its early stages, because it presents no characteristic symptoms till it is well advanced. It never occurs under the 20th year ; is rarely seen before 30 ; is frequently observed between 30 and 40 ; but is more commonly met with from 40 to 50 years of age. It occurs so frequently about the time of change of life that many women look forward to the climacteric period with dread. It is more frequent in the married than the single. Its first symptom is often a discharge of blood after coitus, or after using the vaginal syringe. Again menstruation may become profuse, and sometimes a serous leucorrhœa may call the attention of the patient to the fact that something is wrong. The disease may gradually advance to a serious state, while the patient presents all the outward signs of vigorous health. As it is not at first attended with pain, the patient may think that the irregular or profuse menstruation and the serous discharge are only the symptoms of change of life. And she may not be aroused to a sense of danger till some of her

family or friends see that she is falling off in flesh, and becoming cachectic in appearance, or dropsical.

Then she is forced to seek medical advice, when, alas ! it is often too late to stay the ravages of a relentless malady. We have been taught that epithelioma of the cervix uteri is always necessarily fatal. Thirty years ago, the actual cautery, as practised by the French school, was supposed to be the only reliable means of staying its progress.

When Chassaignac introduced the *écraseur* into surgery, it was resorted to for the purpose of removing epithelioma of the cervix when it was sufficiently pedunculated to be surrounded by the chain or wire loop. In several instances, the *écraseur* drew in the neighboring tissue, and made artificial openings into the bladder, or the peritoneal cavity. A remarkable example of the latter accident occurred in my own practice in the Woman's Hospital in 1860, when the peritoneal cavity was opened. Fortunately, the patient recovered from the immediate effects of the operation, but died eight or ten months afterward of cancer.

After the *écraseur* came the electro-cautery introduced by Middledorff, of Breslau. It was immediately adopted by Dr. Noeggerath, of New York, and Dr. Byrne, of Brooklyn. One of Dr. Noeggerath's earliest operations with it was on a patient of Dr. Nott's and mine, in the autumn of 1868. The epitheliomatous cervix was successfully removed, and the patient had a good recovery and a respite for two or three years. Then the disease recurred and ended fatally.

The experience of Dr. Byrne with the electro-cautery in this department of surgery is perhaps more extensive than that of any other surgeon, whether in Europe or America, and his success has been remarkable.

Dr. Routh* and Dr. Wynn Williams† have each made

* On a new Mode of Treating Epithelial Cancer of the Cervix Uteri and its Cavity. By C. H. F. Routh, M.D., Physician to Samaritan Free Hospital, etc. Vol. VIII., Transactions of the Obstetrical Society of London, 1867.

† Cases of Cancer of the Womb successfully Treated by Bromine. By A. Wynn Williams, M.D., Physician to the Samaritan Free Hospital, etc. Vol. XII., Transactions of the Obstetrical Society of London, 1871.

valuable contributions on the use of bromine as a caustic in uterine cancer.

The bromine treatment was first brought prominently before the profession by Dr. Routh, in 1866, and many cases have been reported as having been cured by it.

Twenty years ago, I performed some operations for epithelioma of the cervix uteri; but with such poor results that I abandoned the operation, till the experience of Routh and Wynn Williams in London, and of Byrne and Noeggerath in New York, encouraged me to undertake again the treatment of these hopeless cases. And in 1868 I began to investigate the subject anew. I discovered that the electro-cautery often burnt the anterior wall of the vagina, and the urethra unnecessarily, and that it was followed sometimes by unexpected hæmorrhage. I now recall an instance in which Dr. Byrne kindly amputated, for one of my patients, the cervix which was the seat of epithelioma. The cervix was pulled forward by hook, the platinum wire was passed snugly around it just at the junction of the vagina and cervix; the battery was put to work; the wire cut partially through the tissues; the cervix was then pulled forward a little more, and the heated wire was drawn slowly through the cervix, amputating it neatly and cleanly, leaving a cup-shaped base covered with a grayish-looking eschar. I was well satisfied with the operation. But at 2 o'clock next morning, about twelve hours after the operation, I was hastily summoned to my patient, who was completely exhausted by a sudden arterial hæmorrhage that came on while she was asleep. I fortunately arrived in time to arrest the bleeding with the iron-cotton tampon. On other occasions I have seen the electro-cautery followed by immediate hæmorrhage which could only be restrained by forcibly tamponing the vagina with styptic cotton. And many times I have seen the battery fail to work just when it was most needed. Take it all in all, I have been so unfortunate in my experiments with the electro-cautery that I have for some time abandoned it altogether. About this I have no regrets, as I have gotten rid of a troublesome, expensive, filthy, and unreliable apparatus, and substituted for it a method which gives less

trouble, is more efficient in execution, and more certain in results. It has been claimed by the advocates of the electro-cautery that it was less liable to be followed by septic poisoning and peritonitis than other methods of operating ; but experience has not established this claim as being well founded.

The success of all operations for cancer, whether of the cervix uteri, of the mamma, or elsewhere, depends upon the thoroughness with which the operation is executed. Many operations fail because the diseased structure is not wholly extirpated. Complete extirpation is the appropriate method of operation. By the *écraseur* or the electro-cautery extirpation is impossible in the majority of epitheliomatous growths of the cervix uteri. They simply amputate the infra-vaginal portion of the disease, leaving the base or radicles of the cancer deeply implanted in the cervix, from which it readily shoots up again. My plan of operating is that of extirpation, and not that of a merely superficial amputation.

In 1869, '70, and '71, I was in the habit of extirpating the cervix uteri for epithelioma, and of then closing up the conically excavated cervix with silver sutures, leaving a central opening for drainage.* In a week, the wire sutures were removed, and the patient sent home. However, the result was anything but satisfactory, for the disease would invariably burst forth in a few weeks, to run its course as rapidly to a fatal termination as if nothing had been done to arrest its progress.

Empiricism often lends valuable aid to the progress of medicine. A remarkable example of this sort was seen in New York many years ago. A noted empiric came to New York in 1854 and advertised to cure cancer. People flocked to him from all parts of the country in great numbers. Of course, the greater number of cases were not cured at all, but I must do him the justice to say that he succeeded in giving relief to many. He taught the profession this truth, which we would not accept from such a source, that better

* The first operation I ever performed in this way was in 1859.

and more permanent results followed the use of caustics, and a consequent sloughing, than followed the use of the knife with healing by the first intention. This we certainly did not know in America till it was demonstrated by Mr. Gilbert, who gloried in being a charlatan, believing honestly in his remedy and method of treatment.

Maisonneuve, who has long stood foremost among French surgeons, has always advocated the caustic sloughing plan of treating cancer, as furnishing better results than the knife possibly could. And Dr. Newton, of New York, claims greater success in open treatment of cancer by the saturated solution of sulphate of zinc than has ever been obtained by the cutting process alone. I am satisfied that the plan by caustics produces better results than any other.

My plan of operating for epithelioma of the cervix is not to amputate, but, as before said, to exsect the whole of the diseased tissue, following it up to the body of the uterus if necessary, and when all is done that can be done by knife and scissors, then caustic strong enough to produce a slough is to be applied to the part from which the cancerous tissue has been exsected, and allowed to remain there till the slough is ready to come away.

I can better illustrate my method by clinical examples.

In October, 1873, Mrs. M., aged 35, mother of four children, was sent to me by her physician from a neighboring town with epithelioma of the cervix uteri. She had been losing blood for several months and had a profuse serous leucorrhœa. She had no pain whatever and was the picture of good health.

On examination, I found the upper part of the vagina filled with a round knobby tumor, springing from and involving the anterior lip of the os tincæ. It was about the size of a Sicily orange, and bled easily on slight pressure. The uterus was movable, and the vaginal membrane was not infiltrated. The tumor grew from and was a continuation of the anterior portion of the cervix uteri.

Guided by former experience, I determined to exsect the tumor as far as I could find any diseased structure. And so, after breaking down the tumor and removing it with scissors, I continued the operation by exsecting with knife

and tenaculum the anterior half of the cervix quite up to the os internum.

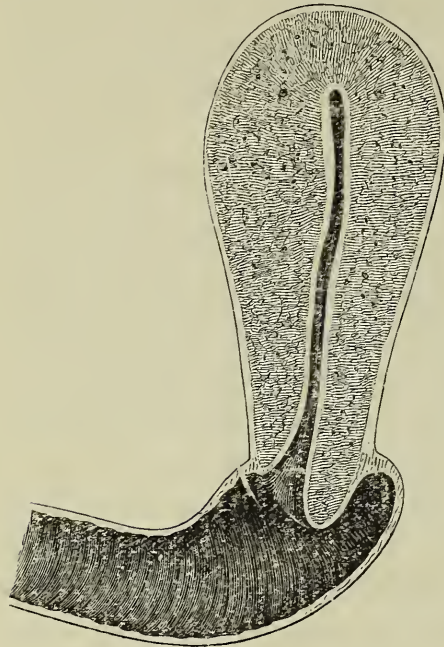


FIG. 1.

With the appropriate after-treatment, the excavated cervical canal filled up with healthy granulations in a fortnight, and in another week Mrs. M. returned home with the injunction to report to her family physician every two months, to see if there should be any recurrence of the disease. When she left me, the os uteri presented the appearance represented by Fig. 1. The anterior lip had been destroyed by the operation, and the cervix anteriorly and the vagina formed a continuous line, while the posterior lip projected normally into the vagina.

Twelve months after this operation, her physician sent Mrs. M. to me again, with a recurrent epithelioma. It presented precisely the same symptoms and the same appearance as the first tumor did. But it was a little larger and grew wholly from the posterior portion of the cervix uteri, filling up the vagina to a greater extent than the first one did. Fig. 2 represents the appearance and relative size of the tumor. It seemed to be a prolongation of the posterior lip of the os tincæ, as the first tumor was the prolongation of the anterior.

The operation by the wire loop, whether by electricity or by the *écraseur*, would have amputated the mass at the dotted line *a*. But I did not stop at this point: I cut as far up the cervix as I could find any diseased structure to remove, which was quite up to the os internum, as shown by dotted line *b*. In three weeks she returned home, seemingly perfectly cured.

The vagina is often shortened by these operations, but in this case the vagina retained its normal size, and at its fundus we could see, instead of the cervix uteri, only a small puckered sulcus which marked the opening of the uterine canal.

Mrs. M. returned home with the injunction to report herself every two months to her physician for examination.

Exemption from suffering and the prolongation of life can only be purchased, under these circumstances, by constant vigilance. It is, therefore, necessary to watch all such cases

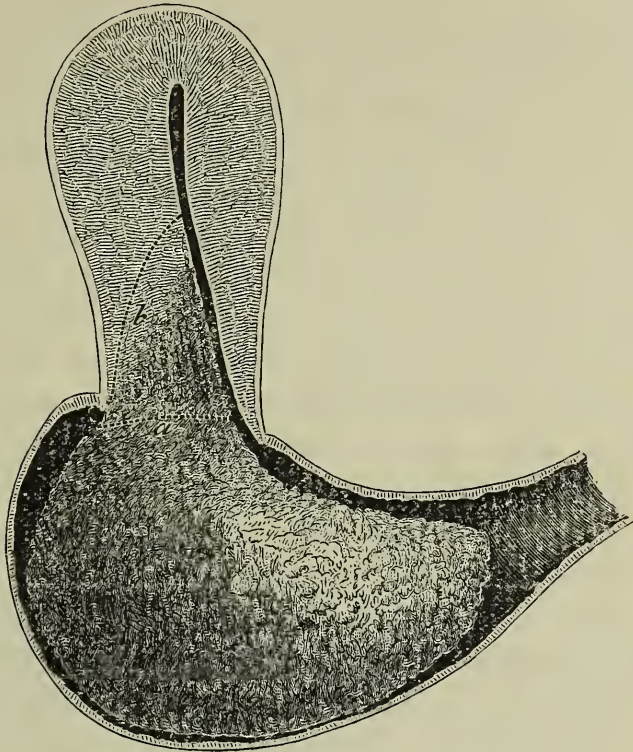


FIG. 2.

as this from time to time, and whenever a rounded knobby tumefaction appears at the orifice of the uterine canal, or a fungous granulation is seen to spring up, not larger than a pea, we should lose no time in repeating the operation. In case of a mere pearly knob with purple base, it is necessary to incise it, and excise every trace of disease, whether by knife, scissors, or curette, and follow this up with appropriate caustic treatment.

In the last five years Mrs. M. has been obliged to return to New York as many times to have granulations removed. In one instance it was necessary to incise largely the puckered vaginal opening of the uterine canal, and remove by curette granulations amounting in bulk to the size of an English walnut.

Notwithstanding all this, Mrs. M.'s general health continues perfect. She has no pain ; there is no emaciation, no

cachexia, no loss of appetite, and no evidence of constitutional poisoning.

But for these operations, there is every probability, nay, certainty, that she would not have survived the first invasion of the disease more than twelve or eighteen months. For eighteen months is about the ordinary duration of this disease. Prof. Fordyce Barker has seen one case that lasted for twelve years, and I have seen one of ten years' duration, and another of six. But in these there were never at any time great hæmorrhages, nor profuse serous discharges. Instead of large masses of granular matter to break down and slough off, leaving large sinuses to distil a septic, ichorous fluid to be absorbed, and to poison the blood, I noticed a small indurated irregular fissure with knobby granulations that gave issue to sero-pus in small quantities, occasionally mixed with blood, all of which found an easy outlet from the vagina. Instead of the ulceration extending up into the body of the uterus, it gradually and slowly encroached on the walls of the vagina. Cicatrization seemed slowly to follow ulceration, till the uterus was gradually drawn down from its position, high up in the pelvis, by the vagina which gradually shortened, till it had almost entirely disappeared, and the fissure marking the place of the uterine outlet was not more than an inch from the ostium vaginæ. When large fungoid tumors break down and slough, and when this sloughing extends up into the body of the uterus, then the system becomes rapidly poisoned by the absorption of septic matter, and the patient dies generally in a dropsical state. Again death may come by some intercurrent disease, such as peritonitis, pneumonia, etc. Matthews Duncan* truly says: "The chief causes of death in cancer are peritonitis, uræmia, septicæmia, pyæmia, and complications from diseases of veins or important viscera."

In my method of operating for epithelioma of the cervix,

* Clinical Lecture on Cancer of the Body of the Uterus. By J. Matthews Duncan, M.D., LL.D., etc. *Medical Times and Gazette*, April 12th, 1879, p. 391.

we need the speculum (Sims'), a proper knife, medium-sized scissors slightly curved on the flat, a dozen or more sponge probangs, tenacula, volsella, lock forceps for seizing arteries and styptic cotton-wool.

Hæmorrhage has always been the great bugbear of uterine surgery. Until the introduction of the *écraseur* by Chassaignac, nothing was more common than the use of Gooch's canula and ligature for the removal of a simple uterine polypus. And the experience of Robert Lee, (and others of his day,) proves with what unfortunate results. For patients often died of septicæmia from the absorption of septic matter before the sloughing tumor could be separated from the living tissue. Such accidents never happen now-a-days, because those who fear hæmorrhage use the *écraseur*, or the electro-cautery, and those who do not, remove the polypus with scissors, and arrest the bleeding, if there be any, with styptic cotton-wool.

With proper precautions, and with appropriate means of arresting hæmorrhage, there can be no such thing as hæmorrhage to any serious extent in any of these operations for epithelioma. If the tumor have any degree of solidity, there is no danger of hæmorrhage at all. If it be soft and easily scooped away with the curette, the bleeding may be profuse.

But when it is soft and ready to break down, the *écraseur* and cautery are equally inapplicable, and we have no alternative but in the curette, whether the bleeding be profuse or not. But there is never any danger if we have prepared ourselves to control the hæmorrhage, it matters not how furious it may be.

Let us suppose a case ready for operation.

The patient, properly prepared and etherized, is to be placed on a table in the left lateral semiprone position; the Sims speculum applied, the tumor is to be seized with volsella, pulled forward, and held firmly. We then begin with the curette to break down and draw out the cancerous masses as fast as possible. But if fortunately the tumor holds well together, then we take the scissors and begin to

cut loose the tumor from the cervix uteri anteriorly and laterally. When the tumor is rather firm and requires the knife or scissors for its removal, the bleeding is not severe, and constant sponging by the assistant keeps the vagina tolerably clear of blood. If an artery should be cut, we clasp it with a pair of spring forceps ; the bleeding ceases instantly, and we proceed with the operation, the forceps hanging from the vagina, and still holding the artery. Sometimes we may have two spring forceps in use at one time, and now and then three. But this is very seldom. And when the forceps are removed we usually find that they have succeeded in controlling the hæmorrhage entirely. Let us suppose that we have removed all that it is possible to remove with scissors. We might think the operation finished, but it is not so. With sponge probangs we clean out the conical cavity made with scissors, and we pass the index finger into it, and if we find any indurated structure, whether the size of a grain of wheat, or much larger, it must be removed.

Just as long as we can detect any of this indurated tissue by the touch, just so long must we continue to excise it, till the walls of the uterus are entirely freed from it, and have the soft elastic feeling characteristic of the natural structure. We remove this indurated tissue piecemeal, some pieces being not larger than a barleycorn, while others may be as large as the little finger nail. This is by no means difficult. While the patient lies in the left lateral semiprone position, the uterus is drawn down almost to the ostium vaginæ by a tenaculum or forceps ; the left index-finger is passed into the uterus ; the sense of touch immediately detects the horny, gristly, abnormal tissue, which is hooked up by a tenaculum, raised up to view, and cut out with a knife. My uterotome answers this purpose admirably. Any narrow-bladed knife with a long handle will do just as well.

This process is to be continued till every portion of gritty-feeling tissue is removed.

When we are perfectly satisfied that all diseased tissue is removed, which is known by the touch, we then, with

scissors or knife, trim the edges of the cavernous opening made by the operation all around whereby the vagina becomes continuous with what remains of the supra-vaginal cervix uteri. But the cervix, properly speaking, infra-vaginal portion, will be found to have been wholly removed with the diseased mass.

The lock forceps, if there are any in use, are to be removed, the parts to be sponged as dry as possible, and quickly filled with styptic cotton-wool, rendered styptic either by the solution of persulphate of iron, or a saturated solution of alum. If iron is to be the styptic, then we take liq. ferri subsulphatis, 1 part, water 2 parts. Mix, and saturate the cotton-wool, and squeeze it almost dry, and then fill the conical cavity made in the uterus by the operation with it. Pack it in tightly and cover it over with other layers of the cotton-wool styptic tightly packed, till the upper third of the vagina is securely tamponed. This is to be held *in situ* by plain cotton-wool wet in carbolized water, packed in till the whole vagina is tightly tamponed.

The patient must not be removed from the table to the bed as long as there is any oozing of blood. We must be sure that it is completely arrested. If we are in any doubt about it, a portion or even the whole of the tampon must be removed, and be reapplied anew, taking care to do the tamponing in a more thorough manner.

If we choose alum as the styptic, then prepare a carbolized solution (1 to 40) and saturate it with pulverized alum (1 to 12). Wet the cotton-wool in this solution, squeeze it nearly dry, and put it in a stoppered bottle and it is ready for use.

The operation over, the patient is put to bed. It is often, almost always, necessary to administer an anodyne, and the catheter must be used as required. In a few hours, perhaps four or five, it may be necessary to remove with the tampon screw a few pieces of the cotton-wool from the lower part of the vagina to take the pressure from the neck of the bladder, and even to relieve pain in the back.

We may remove more of the tampon on the following day. But that portion of the tampon that fills the upper

part of the vagina, and especially that in the neck of the uterus, is not to be disturbed till the fourth or fifth day. When this is wholly removed, then the conical excavation of the cervix, the real seat of the epitheliomatous growth, is to be filled with cotton-wool wet in a solution of chloride of zinc. Chloride of zinc is soluble in its weight of distilled water. But I usually make the solution thus

℞ Zinci chloridi, ʒ v.
Aq. distillat, ʒ i.
M. ft. sol.

Saturate cotton-wool in this solution, then squeeze it dry and it is ready for use. Bits of cotton-wool thus prepared with chloride of zinc, the size of an almond, are to be snugly packed into the cervix till it is filled up to the level of the vagina. Then the upper part of the vagina is to be tamponed tightly with cotton-wool saturated with a solution of bicarb. soda.

The chloride of zinc produces intense pain, and it is always necessary to give morphia hypodermically and in sufficient quantities to relieve it.

If the zinc cotton-wool is too wet, the superabundant fluid runs down the vagina and inflames it. It is, therefore, necessary to squeeze it very dry before stuffing it into the cervix.

The cotton-wool wet with a solution of bicarbonate of soda is intended to protect the walls of the vagina against the irritating qualities of the zinc. But it does not seem to do much good. I have tried the albumen of egg, tannin, and other protectives that have been recommended to me for this purpose, but with no better results.

It is very desirable to find something that will neutralize the chloride of zinc, and protect the walls of the vagina against its irritating qualities. The chloride produces no permanent mischief, but it is attended with suffering, and it irritates the urethra, thus producing frequent micturition.

The cotton-wool that retains the chloride *in situ* may be removed in part the next day, and wholly in a day or two more. But the zinc wool in the cervix is not to be interfered with till the fourth or fifth day after the operation.

For this purpose it is better to place the patient on the table in the left lateral semi-prone position, and to use a Sims speculum of small size. For the vagina will be found to be so puckered up by the action of the chloride of zinc that a large, or even an ordinary speculum could not be introduced without giving great pain.

When the parts are well exposed, we may or may not remove the zinc cotton-wool from the neck of the uterus. If it is in the least adherent, it is better to leave it for another day, and then it will be removed with facility and without danger of hæmorrhage.

When the zinc-wool is all removed, we will find the hollow cone that it occupied smoothly covered over with a cup-shaped slough which may be taken away, sometimes in one entire piece. Again it may break and come away in two pieces. It is usually from one to two millimetres thick, say about a sixteenth of an inch. It is opaque, tough, pliable, smooth, and of a dull pearly-grayish color. It leaves a cavity filled with healthy-looking granulations, which under the daily use of carbolized warm vaginal injections heals up in ten or fifteen days.

It will be seen that the treatment proper after the operation occupies about ten days, and that cicatrization then requires about a fortnight more. The operation divides itself into two stages, that of extirpating the whole of the diseased tissue, and that of filling up the hollow cone made in the cervix by this operation, and of tamponing the vagina to retain the cervical dressing in its place. The only object of the tampon is to arrest hæmorrhage. If the seat of operation could be cleared of blood and made sufficiently dry, we might resort to the caustic at once, but that is seldom possible. And so it is necessary to use the iron or alum styptic to arrest all oozing of blood. Once the styptic dressing is made, it will take four or five days to get it away. And we must be careful not to hasten it, for fear of provoking a bleeding which would be the means of procrastinating still further the application of the caustic.

For removing the tampon, pass the left index finger into the vagina, and then pass the tampon screw by the

ferred with him in regard to the feasibility of operation. I therefore, proposed to remove the tumor, and explained to Mrs. E. fully all the steps of the operation, telling her there was not the least danger of her dying under the operation, as she feared she might.

With the assistance of Drs. Harry Sims, Nicoll, Metcalfe, Jr., and W. T. Walker, the operation was performed in May, 1874.

The patient properly prepared, etherized, and placed in the left lateral semiprone position, the Sims speculum, large size, was introduced; the tumor was then grasped with volsella, drawn forward a little, held firmly, and the superficial friable portion of the tumor was quickly broken down and drawn out with the curette, and then the more resisting fibrous portion of it was cut away with scissors down to a level with the os tinæ. It was now seen that the posterior lip was not at all involved, and that the tumor grew from the anterior inner portion of the cervix. Its attachments extended along the anterior and inner face of the cervix

quite to the os internum. The radicles, so to speak, of the tumor were neatly dissected from this portion of the cervix, leaving what seemed to be perfectly normal cervical tissue.

The case was then treated according to the rules already laid down for the management of such cases. That is, the bleeding was arrested by styptic cotton-wool (iron), which remained *in situ* five days. When it was removed, its place was filled with chloride of zinc wool, which remain-

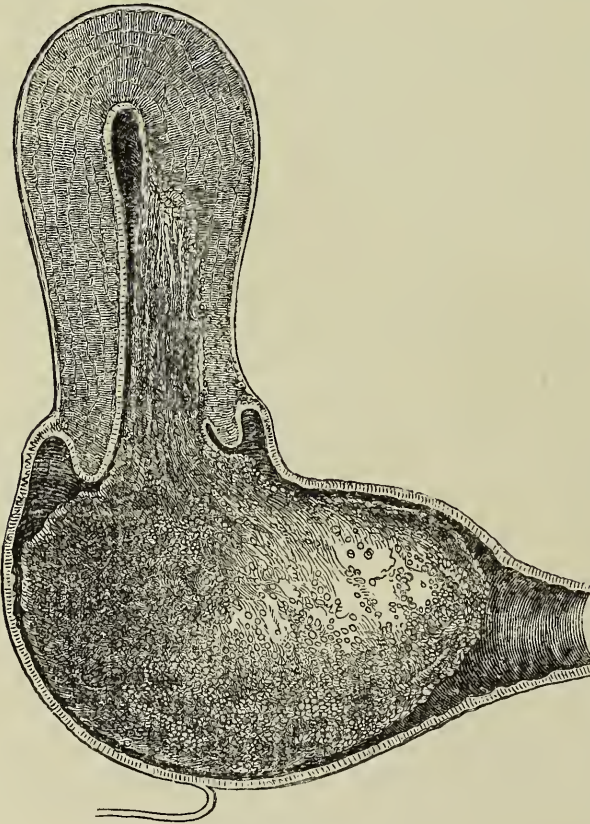


FIG. 3

ed five days longer. When this was removed, the parts were left to cicatrize under carbolized warm-water injections, administered three times a day.

Mrs. E. has come regularly every two or three months for inspection. Five years have now passed away, and on examining the cervix uteri it would be impossible to say that it had ever been the seat of disease or of operation. By referring to Fig. 3, we see by what a slender pedicle it was attached. This was thoroughly exsected. If it had been simply amputated, perhaps the result would not have been so satisfactory.

Epithelioma sometimes attacks the walls of the vagina, leaving the cervix uteri intact. I have seen several instances of this sort.

In June, 1876, Mrs. A. came to see me, saying her physician told her she had some serious disease that needed immediate attention. She was about 45 years old, the mother of grown-up children, and had generally enjoyed good health. In the last few months, she had suffered from pain and hæmorrhage during coitus, and was now rapidly declining from a wasting discharge, loss of appetite, and mental anxiety. She had the cachectic appearance so characteristic of malignant disease, and her *morale* was very bad.

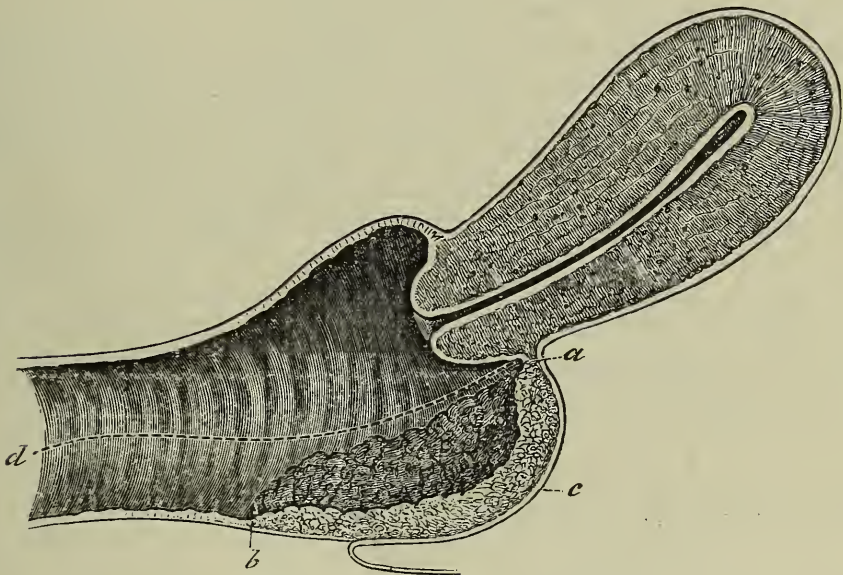


FIG. 4.

The whole posterior wall of the vagina, below the cervix uteri, was thickly studded with epitheliomatous granulations for the space of two and one-half inches square. They came down to within an inch and a half of the perineum, and extended laterally for about two-fifths of the circumference of the vagina.

I was just on the eve of leaving home for Europe, and

turned the case over to my son Dr. Harry Sims. When the patient was placed in the left lateral semiprone position and the vagina widely dilated by atmospheric pressure admitted by the Sims speculum, the posterior wall of the vagina, from the cervix uteri *a* to the point *b* (Fig. 4), an inch and a half from the perineum, was seen to be thickly covered with epitheliomatous vegetations, extending laterally as already described. (The diagram fails to illustrate the extent of the disease laterally.) Under the influence of ether these were all curetted till the vagina presented the appearance of healthy structure denuded of its epithelial covering.

It was interesting to notice the tympanitic sound made by the curette as it was strongly scraped along the diseased surface, showing how near it was to the intestinal canal. Notwithstanding the thinness of the membrane which at *c* separated us from the peritoneal cavity, the operation was finished precisely as it would have been, if there had been an inch of solid tissue intervening.

The removal of the epithelial growth was followed by the styptic cotton-wool (iron), and when it came away on the fourth day, the chloride of zinc was applied, precisely as we would have done it in the cervix uteri.

It remained four or five days, and when it was removed, a nice cup-shaped slough, nearly half the size of the palm of the hand, came away, leaving a smooth, healthy-looking surface which granulated and healed over in a fortnight, under the daily use of carbolized vaginal injections.

It might be supposed that there is danger of the slough extending through the posterior cul-de-sac into the peritoneal cavity, when the chloride of zinc is used in this way. But Nature guards against this seeming danger by throwing out fibrinous deposits that protect the peritoneal cavity. And it might also be supposed that there is danger of peritonitis from such treatment, but there seems to be little or none. For I have frequently applied the chloride against the posterior cul-de-sac, and always with impunity.

The sloughing and cicatrization in this case necessarily shortened the posterior wall of the vagina. Instead of the posterior wall having the capacious dimensions shown by *a c b*, Fig. 4, it presented that shown by the dotted line *a d*.

Instead of a grand curve presenting itself when the patient was placed in the left lateral semi-prone position, with the speculum introduced so as to allow full atmospheric pressure, we now saw only the short, straight posterior wall as represented by the dotted line in the figure. Some six

or eight months after operation, two little suspicious-looking nodules presented themselves on the walls of the vagina on the right side, at the line of union of the anterior and posterior walls, which Dr. Harry Sims removed with the curette, treating them with the chloride of zinc in the usual way. After this he put his patient on the use of arsenic (Fowler's solution), as so strongly recommended by Drs. Washington L. Atlee and Lewis A. Sayre, and with the happiest effect. For Mrs. A. had had no return of the disease when I last heard from her; she had no longer any cachectic appearance; and she had gained flesh and strength, and considered herself a well woman.

How long this may last I cannot say. But she returns every three or four months to report herself. The timely and judicious operation by Dr. Harry Sims has certainly been the means of prolonging a valuable life. From the effects of the arsenic in this case and some others in which I have used it, I am disposed to attach great importance to its alterative action in carcinoma.

As it can do no harm if administered in such a way and in such doses as not to interfere with the healthy performance of the digestive functions, I would strongly advise its use after the local disease has been eradicated by surgical treatment.

(To be Concluded in the July Number.)

ABSTRACT DEPARTMENT.

“Qui e nuce nucleum esse vult, frangit nucem.”

CONTRIBUTED BY PROF. EDWARD MILLER, M.D., LOUISVILLE, KY.

The Treatment of Stricture of the Urethra. By W. F. TEEVAN, B.A., F.R.C.S.

Operations for stricture are not justifiable until other means have had a fair trial. But they are demanded when ;

1. The stricture is non-dilatable and resists all means to dilate it.
2. It may be dilatable but rapidly contracts again, so that the frequent passage of a bougie becomes an intolerable nuisance to the patient.
3. The introduction of any instrument is followed by urethral fever, which prostrates the patient and interrupts the treatment.
4. A patient may

have only a short time to devote to his treatment, long enough for an operation, but not for a course of gradual dilatation. Renal disease, if secondary to the stricture renders the operation all the more imperative. If, on the contrary, it be not connected with the local condition, the urgency must be great to justify the operation. Successful operations have however been performed on patients suffering from diabetes and Bright's disease. All operations on passable strictures may be arranged under one or the other of the following heads. 1. *Incision*, which includes internal, external and subcutaneous urethrotomy and also scarification. 2. *Laceration*, which embraces the so-called immediate treatment, splitting, rupture, divulsion and over-distension when carried beyond true dilatation. The strictured urethra is shrunken and atrophied. If the contraction be cut or torn through and the edges of the wound kept apart, nature fills up the gap with a strip of new tissue happily called by the American surgeons the "cicatricial splice," and this splice should resemble as much as possible the normal tissue. The cicatrix from a laceration contracts more than that following a clean cut. If a stricture be divided with a knife, a soft supple cicatrix will be obtained, oval in shape and having its long axis parallel to that of the urethra. If the stricture be lacerated, an irregular cicatrix will be formed, oblique to the axis of the urethra, which when it contracts forms the worst of all strictures—the traumatic. When a surgeon cuts a stricture he knows the length, depth and extent of his incision and he can select the proper place for the operation, when he tears open a stricture he works in the dark. Moreover the mortality attending the lacerating operation is much greater than that of the cutting operation. The practice of making many little nicks in a stricture or scarification has been abandoned, as "a stricture must be either cut through or torn through," (Otis). External urethrotomy is only required for certain exceptional cases complicated by perineal abscess and fistula. The subcutaneous operation has a very limited field of usefulness. Internal urethrotomy therefore remains as the stock operation for stricture.—*The Lancet*.

The Expression of the Face and the External Appearance as an Aid to Diagnosis and Treatment. By T. WHIPHAM, M.D., F.R.C.P.

There is a tendency at the present time to disregard the older methods of diagnosis, which, in the absence of our recently invented mechanical aids, were the mainstays of the physicians of a by-gone age. Two or three of the more prominent features in the case were, for the most part, the guide of our predecessors in their diagnosis and treatment, such as the expression of the face, the position of the patient, or the pulse. Dr. Whipham does not wish to discard the mechanical aids we are so fortunate as to possess, but to remind us that the methods employed by the older physicians are just as valuable as ever they were and ought to receive due consideration in the investigation of disease. Our modern appliances amplify older methods of diagnosis, the ear is rendered more capable of discrimination by means of the stethoscope; the touch in examining the pulse is supplemented by the sphygmograph, and the thermometer accurately measures variations of temperature, formerly roughly estimated by the hand. We should not be so far wanting in good sense as to despise any of these appliances but we should not rely upon them too much and should consider them only as accessories to our art; as aids to, and not substitutes for, the special senses; and should recognize the fact that more information may frequently be gained in one moment by the eye or the touch than could be obtained after much toil by scientific instruments. It has often been truly said that any physician who relies solely upon external manifestations draws conclusions from insufficient data, and is liable to err. But he who neglects such prominent landmarks is equally liable to wander from the path which leads to correct diagnosis. Furthermore a due appreciation of the external manifestations of disease may relieve the patient already exhausted by his malady, from a prolonged examination as to the state of his internal organs. Dr. Whipham illustrates his meaning by detailing several cases. A girl of twenty-three was admitted into the ward with high temperature (101° F.), quick pulse,

coated tongue, constipation, a sharp but somewhat anxious expression of the face and with an eruption of herpes on the lips. There had been an unusual number of cases of enteric fever in the ward, which usually commenced with constipation, and although there were no physical signs of pulmonary disease about the patient, the diagnosis lay between enteric fever and pneumonia. The German physicians state that herpes labialis never accompanies enteric fever, and this symptom, together with the high temperature, rapid breathing, etc., led to the presumption of pneumonia, verified two days later by the occurrence of dulness or percussion and tubular breathing on the right side. These cases demonstrated the truth of Dr. Whipple's remark "that not only can we obtain by general inspection, a certain insight into the nature of this malady but we gain by it, perhaps, quite as much assistance in our treatment of the case.—*The Lancet*.

Calomel Fumigation. By WILLIAM S. BYRNE, A.B., M.B.,
M. Ch.

Dr. Byrne calls attention to a little apparatus invented by Mr. Kane which has been used with much success in cases of syphilitic and other ulcerations about the throat and mouth, where the local use of mercury seemed desirable. The apparatus consists of a glass tube about nine inches long, three-fourths of an inch in diameter, tapering to a point at one end, with a bulb blown on one side about three inches from the tapering end, for holding the calomel. A cork is placed in the other end, through which passes a tube of the right size to be connected with the rubber tube of a Richardson's spray apparatus. When the calomel is heated by a spirit lamp or by a piece of sponge, soaked in alcohol and hung under the bulb by a piece of wire attached to the tube, the mercury is vaporized and by working the balls of the spray apparatus, the fumes can be directed to any part to which the tubes are pointed. The part so sprayed is covered with a white coat from the vapor. Dr. Byrne has used this method of fumigation in his hospital frequently during the past six months, once or twice a week,

according to the nature of the case, and in no instance has salivation occurred. It is from its satisfactory use in his hospital that Dr. Byrne has been induced to mention this apparatus. He narrates several cases treated in this manner. A girl of sixteen was admitted suffering from extensive ulceration of the hard and soft palate, tonsils and pharynx. There was no history of specific disease and she had been treated for twelve months by various physicians without benefit. She was pale and anæmic and had been unable to swallow solid food for some months. She was fumigated twice a week, cod-liver oil was given internally, and she was discharged cured in two months. Another case, a man of twenty-nine, with ulcerated sore throat due to syphilis, was not less successful. He was very hoarse, spoke with difficulty and pain and was unable to eat solid food. There were large patches of ulceration on the right aryteno-epiglottidean fold, on the epiglottis and on both tonsils. He was fumigated every week and given iodide of potassium internally. He declared himself better after the first fumigation and was discharged cured seven weeks after the commencement of the treatment.—*The Lancet*.

CLINICAL RECORDS.

“Ex principiis, nascitur probabilitas: ex factis, vero veritas.”

A Medical Clinic in Bellevue Hospital. By ALFRED L. LOOMIS, M.D., Professor of Pathology and Practice of Medicine in the Medical Department of the University of the City of New York. Reported for this JOURNAL.

GENTLEMEN :—You saw this patient last week. He tells us that two weeks ago last Thursday he was taken with pains all over him, that he had some swelling of his joints, pain in the chest, especially on the right side, and could not take a full breath because of this pain. Two weeks ago last Thursday he vomited and had a distinct chill ; after the chill he began to cough—had not coughed before. The cough was accompanied by a sticky expectoration of whitish-yellow color. He has never spit blood nor has he

had any blood colored expectoration. For the past ten years he has had at different times attacks of rheumatism which would begin in his "big toe," first, one great toe joint would be affected, then the other. Within the past few years his hands, elbows and knees have been affected.

This man entered the hospital one week ago last Saturday. At the time of his admission his temperature was $101\frac{1}{2}^{\circ}$ F.

He gives us a straightforward history of gout of ten years standing. A little more than two weeks ago he developed acute pulmonary symptoms which have continued up to the present time. We will now make a physical examination of his chest, and it is the physical signs that particularly interest us in his case. He presents the ordinary appearance of gouty joints, but it is not for that that I have brought him before you to-day. We notice when he takes a long breath that there is a slight loss of motion on the right side. Vocal fremitus is most marked on the left side; there is some dulness on percussion on the right side. At the time of his admission to the hospital there was bronchial respiration over the right scapula; below the right scapula there was feeble respiration, and at the bottom of the right pleural cavity there was entire loss of respiratory murmur. Bronchial breathing can now be heard over the scapula and down to the lower borders of the eighth rib in the infra-scapular region. The question that presents itself is whether these physical symptoms were due to pleurisy with effusion, or to pneumonic consolidation. The temperature is not the temperature of a pneumonia, and the expectoration has not been the characteristic pneumonic sputum. Still ever since he entered the hospital the respiration has been bronchial in character. The house physician tells us that the temperature was only $96\frac{1}{4}^{\circ}$ F. this morning; that is considerably below normal. The question arises what is the cause of the bronchial respiration?

We can not account for the bronchial respiration on the ground of simple pleuritic thickening. As a rule the respiratory sounds are less intense than normal where there is thickening of the pleura. But you do get bronchial respi-

ration in certain cases of pleurisy. Ordinarily, when the cavity of the pleura is filled with fluid, the lung becomes compressed and the bronchial walls collapse. If there is any condition of the bronchial walls, or of the tissue surrounding the bronchial walls, which prevents them from collapsing, then you will have a bronchial respiration conveyed to the surface of the chest through the fluid ; or if the fluid causes sufficient pressure so that you can have conduction of the sound from the trachea directly through the fluid, you will then get bronchial character to the respiration. But in nearly all cases, I might say in all cases, of pleurisy where you get bronchial respiration it is due to the fact that there are bronchi which are not collapsed, as they ordinarily are by the pressure of fluid. There is a condition of the bronchial tubes existing prior to the effusion which prevents them from collapsing by the pressure of the fluid, and if you carry a sound down into the centre of the fluid it will be conducted through the fluid to the surface. Now, if you have a lung surrounded by fluid, and compressed, and in that lung tissue there is a bronchial tube which is open, which does not collapse, so that the sound is conducted as though it were a speaking tube down into the fluid, you will then have a blowing sound heard upon the surface. But that is not the case here. This man's pleural cavity is not filled with fluid, so that we have to give up that explanation of the bronchial respiration which we find here.

By careful auscultation we are able to distinctly recognize the presence of pleuritic-friction sounds, but their existence is not sufficient to explain the bronchial character of the respiration ; for if there is no other condition than pleuritic thickening the respiratory sounds would be feebler than the normal, whereas they are increased in intensity.

We are, then, compelled to take the position that this patient has, in addition to his pleuritic changes, consolidation of the central upper portion of the right lung. Now, we may have different kinds of pneumonia—croupous, catarrhal, interstitial. The class of subjects in which you are especially liable to have interstitial pneumonia developed are the gouty. Then, in this man, or in any man with a gouty dia-

thesis, if a pleurisy develops, and pleuritic thickenings occur, you should be looking out for the development of interstitial pneumonia. It would be especially likely to develop in that class of cases. It is not a variety of pneumonia that is accompanied by the usual objective signs of pneumonia ; you do not have the high temperature ; the temperature rarely rises higher than in pleurisy ; you do not have the characteristic expectoration, but you do have some expectoration, which is tenacious in character ; you have shortness of breath, as in pleurisy. You rarely have any serous effusion in this class of cases, but you do have a large amount of plastic material ; you do have a rapid development of connective tissue, (thickening of the pleura). You are not very likely to have firm inter-pleural adhesions, but the pleura seems gradually to become thickened, and with the thickening of the pleura there is increase of connective tissue, in the pulmonary tissue interstitial pneumonia, and finally you get a sufficient amount of connective tissue increase to give rise to distinct bronchial respiration. Now, this I imagine to be just the condition existing in this case. He had a pleurisy, he may have had this pleuritic process going on for a long time, we do not know about that ; he has had repeated attacks of gout ; he has gouty joints, and in all probability he has gouty kidneys ; he has undoubtedly increase of connective tissue in all the blood-vessels of the body ; there is arterial fibrosis, or fibroid degeneration of the arterial walls. This fibroid change in gouty subjects goes on in connection with interstitial changes in the kidneys, liver, lungs, etc. Now, let a man who has that sort of history get a pleurisy, he is almost sure to get a fibrous pneumonia, an interstitial pneumonia, in connection with his pleurisy. He is not to recover from his pleurisy as occurs in ordinary cases. His general health may become good, but his recovery is only apparent, he has a crippled lung ; a crippled lung going on from one stage of crippling to another. The connective tissue processes go on, contractions take place with dilatation of bronchi ; you have, properly speaking, fibrous phthisis developed. This is only one of the ways, and one kind of the cases in which this kind of phthisis is likely to be developed.

Now, the point I wish to make specially to-day, in this case, is, that there is bronchial respiration in connection with pleurisy that is not accompanied by effusion, and that can not be accounted for on the ground of pressure of the lung from a fluid effusion and non-collapse of bronchial tubes. But it must be accounted for on the ground of consolidation of the lung tissue, and the history of the case is against any acute process having occurred in the lung to give rise to the consolidation. We are compelled, in this case, to come to the conclusion that with the pleurisy there has been interstitial pneumonia, fibrous pneumonia, and that this is especially likely to be the case because the man has a strongly marked gouty diathesis. And if you will remember these points they will help you somewhat in the prognosis. We are not going to have this bronchial breathing disappear. If this man were to stay in the hospital two months the bronchial breathing would probably increase rather than diminish. It will be a long time before you will be able to make the diagnosis, by physical signs, that there is bronchial dilatation ; it takes a good while for bronchial dilatation to occur in these cases. The prognosis is, that complete recovery will not take place. He may get so that he will not suffer from shortness of breath, but you will find by and by, marked retraction of that side. Remember that the first step in these interstitial changes is, increase of connective tissue ; that diminution in size of the organ involved does not occur till long after the primary changes have occurred. It is the secondary changes, the changes of retraction that are tending the most markedly to cripple this man's lungs and interfere with his comfort, and pave the way to the fatal issue.

DR. J. H. EGAN, in *The Medical Brief*, says : I have treated many cases of rheumatism recently by Fl. Ext. Manaca alone, with the most astonishing results. Its first effect was headache (at once relieved by coffee) followed by rapid amelioration of the symptoms.

PROCEEDINGS OF SOCIETIES.

“Etsi non prosunt singula, juncta juvant.”

Doctor William A. Hammond delivered an interesting address before the Medico-Legal Society at its April meeting upon “General Paralysis of the Insane, with special reference to the case of Abraham Gosling.” Dr. C. S. Wood presided, and before the delivery of the address a large amount of miscellaneous business was transacted. Dr. Hammond said :

“MR. PRESIDENT: In accepting your invitation I was not unmindful of the fact that the Society is composed in great part of gentlemen of the legal profession, and that hence what I might have to say should be devoid, as far as possible, of technical expressions. The matter is one which ought to be understood more in its strictly medical relations by our legal fellow members. The subject is one of the utmost importance, both to the medical and legal professions. It relates to a disease of the brain which is daily becoming more frequent, and which is, apparently more than any other disorder, an outcome of civilization. I speak of a disease which is characterized by a remarkable series of physical and mental symptoms, so decided in character, so readily capable of recognition, that a competent observer could not fail to appreciate them, and yet within the past few weeks a case has occupied the courts of New York in which physicians on one side testified to the existence of the disease in question, and physicians on the other were equally confident that there was no such disease. This is scarcely credible. Some forms of insanity may be of such an obscure nature, and the attendant circumstances may be honestly interpreted so differently, by competent experts, that a divergence of opinion is not only allowable but is to be expected, just as there are laws which are differently interpreted by different courts. But in regard to other cases there is a uniform concurrence of opinion among those learned in the law, and differences are only possible where they result from ignorance or want of attention.

“The disease of which I speak is like one of these laws. It cannot be mistaken for anything else, or fail of recognition, except as the consequence of imperfect knowledge somewhere among those who give their opinions concerning it. There are many names for the disease. By some it is called general paresis, by others general paralysis, again, general paralysis of the insane, and, again, paralytic insanity. For many reasons I think this latter is the best of all the designations proposed and I shall therefore use it. I shall not go into any minute description of the affection. I shall say nothing of its pathology or its treatment. My object is merely to present a picture of it so that one can see for himself what it is like and all determine for themselves whether the case to which I have alluded was an instance of the disease or not. I therefore confine my remarks almost entirely to a consideration of the symptoms and then apply them to the case in point.

“Paralytic insanity is the better name, and its symptoms can be described so that the disease can be recognized when it is seen. Physical symptoms first manifest themselves, the mental symptoms following later on. The former are not always well defined. Usually there is a tremendous motion about the lips, as if the person was about to burst into tears. Tremor of the upper lip is indicative of the presence of paralysis of the muscles, which extends to all the muscles of the body. Impediment of speech follows—the trouble being more with the mechanism of speech than the idea of speech. Presently the mental symptoms come on. The patient does things showing a lack of a sense of the decencies of every-day life. Frequently the mania takes the form of inordinate money spending. Once one of my patients went down town and bought several hundred shovels, another bought all the dogs he could find, still another undertook the task of buying pretty nearly all the jewelry of Tiffany’s, and only stopped when the proprietors, becoming alarmed, refused to sell him any more. This man took the jewelry he purchased home, and bedecking his wife until she glittered with gems from head to foot compelled her to walk up and down before him. Then he drew a

PROCEEDINGS OF SOCIETIES.

“Etsi non prosunt singula, juncta juvant.”

Doctor William A. Hammond delivered an interesting address before the Medico-Legal Society at its April meeting upon “General Paralysis of the Insane, with special reference to the case of Abraham Gosling.” Dr. C. S. Wood presided, and before the delivery of the address a large amount of miscellaneous business was transacted. Dr. Hammond said :

“MR. PRESIDENT: In accepting your invitation I was not unmindful of the fact that the Society is composed in great part of gentlemen of the legal profession, and that hence what I might have to say should be devoid, as far as possible, of technical expressions. The matter is one which ought to be understood more in its strictly medical relations by our legal fellow members. The subject is one of the utmost importance, both to the medical and legal professions. It relates to a disease of the brain which is daily becoming more frequent, and which is, apparently more than any other disorder, an outcome of civilization. I speak of a disease which is characterized by a remarkable series of physical and mental symptoms, so decided in character, so readily capable of recognition, that a competent observer could not fail to appreciate them, and yet within the past few weeks a case has occupied the courts of New York in which physicians on one side testified to the existence of the disease in question, and physicians on the other were equally confident that there was no such disease. This is scarcely credible. Some forms of insanity may be of such an obscure nature, and the attendant circumstances may be honestly interpreted so differently, by competent experts, that a divergence of opinion is not only allowable but is to be expected, just as there are laws which are differently interpreted by different courts. But in regard to other cases there is a uniform concurrence of opinion among those learned in the law, and differences are only possible where they result from ignorance or want of attention.

“The disease of which I speak is like one of these laws. It cannot be mistaken for anything else, or fail of recognition, except as the consequence of imperfect knowledge somewhere among those who give their opinions concerning it. There are many names for the disease. By some it is called general paresis, by others general paralysis, again, general paralysis of the insane, and, again, paralytic insanity. For many reasons I think this latter is the best of all the designations proposed and I shall therefore use it. I shall not go into any minute description of the affection. I shall say nothing of its pathology or its treatment. My object is merely to present a picture of it so that one can see for himself what it is like and all determine for themselves whether the case to which I have alluded was an instance of the disease or not. I therefore confine my remarks almost entirely to a consideration of the symptoms and then apply them to the case in point.

“Paralytic insanity is the better name, and its symptoms can be described so that the disease can be recognized when it is seen. Physical symptoms first manifest themselves, the mental symptoms following later on. The former are not always well defined. Usually there is a tremendous motion about the lips, as if the person was about to burst into tears. Tremor of the upper lip is indicative of the presence of paralysis of the muscles, which extends to all the muscles of the body. Impediment of speech follows—the trouble being more with the mechanism of speech than the idea of speech. Presently the mental symptoms come on. The patient does things showing a lack of a sense of the decencies of every-day life. Frequently the mania takes the form of inordinate money spending. Once one of my patients went down town and bought several hundred shovels, another bought all the dogs he could find, still another undertook the task of buying pretty nearly all the jewelry of Tiffany’s, and only stopped when the proprietors, becoming alarmed, refused to sell him any more. This man took the jewelry he purchased home, and bedecking his wife until she glittered with gems from head to foot compelled her to walk up and down before him. Then he drew a

check for \$5,000 and gave it to his servant who returned with a glass of water which he had called for. When I was sent for, the patient told me that he was going to Europe. He intended to make the voyage over in the *Great Eastern* and would charter the *Scotia* as a tender. He would pay me \$1,000,000 a month and he would have a corps of physicians on the vessel, the members of which should be attired in a uniform of blue velvet with diamond buttons.

“A patient once told me he had purchased all the carpet factories in the world, another owned all the trout streams in the country, and yet another was the most lovely man in the world. All the women were in love with him, and were struck with admiration as he walked along the streets. A man who thought himself very light explained this by claiming that he was filled with angels and would soon ascend into space. After the symptoms which I have described—tremor of the lips and difficulty of speech—there is an exaggerated movement about the face as if the whole mind was in the act of articulation; one of the pupils becomes larger than the other, a sure sign of general paralysis; there is also a drooping of the upper eyelid, the eyeball turns and the patient sometimes sees double. Defective sensibility comes on, such as numbness of the hands and feet, and lack of sensibility, in fact, in all the muscles of the body. Shuffling of the feet is noticeable, and paralysis of the lower limbs often follows. In some cases the symptoms disappear for a time, and to the general observer the person is a well man or woman. This remission sometimes lasts for months. I have had two cases where it lasted eleven months and longer. But the disease returns with increased violence. Then the patient has convulsions and enforces the truth of his delusions by physical violence. Kleptomania is often noticed in these patients. An instance of this morbid impulse is shown in the case of a young man who used to knock down women and take off their slippers. His bureau drawer was found full of slippers. He afterwards died a paretic.

“Now for the application. On February twenty-fifth I went with the counsel for the respondent to the Tombs and

sent in my card to Mr. Gosling, who at first refused to see me as his wife told him he must not speak to strangers. I told the counsel that he would speak as this class of patients delighted in talking. He came out, addressed me without any formality, reminded me that I had put his brother in an asylum, and that he had reduced my bill, (which was not so). I noticed that he was weak on his legs, that his right eyelid hung down, that the right pupil was dilated in comparison with the left. I asked him if he had been in England and he said he must not talk about that, his wife told him not to, but went on to say that he had been in an asylum there, and was going to sue the English Government for false imprisonment, damages \$150,000,000. I doubted it, whereupon he said it was true that he had been in two or three asylums, and that while he was there all the English Governors called on him. They all admired his handsome appearance. He then said he had the finest arm, leg, and foot, and was the best walker in the world, and that he could not be killed, that the attendants in Scotland had tried to kill him but could not. He asked me to strike him, saying I could not hurt him. He said he had the largest clothing business in the world, that he made \$250,000 per month, that he had \$500,000 worth of orders coming from England. I asked him to sing, he said he would not, as his wife told him not to, (his speech was hesitant), but went on and sang from Rigoletto in a cracked, imperfect voice, (his tongue and lips were noticeably tremulous,) and then began to dance. I went to court and gave my testimony in accordance with these facts. If Mr. Abraham Gosling does not die of General Paresis within three years, I will burn my diploma and retire from the medical profession."

DR. HANNAN. "I was called by the defense and examined Mr. Gosling four times. First in the court room, I questioned the appellant on the delusions elicited by Dr. Hammond but found him disinclined to talk. I had a private interview with him three days later, when I again asked him if he had any such delusions as those mentioned by Dr. Hammond, he said all that was nonsense and a joke. I did not find any

marked physical disturbance and he was capable of correcting his delusions. On another occasion I met him on the streets. He was able to walk as well as myself, whom I consider a good walker, in point of fact I could scarcely keep up with him. I went with him to the "Tombs," (New York City Prison) and saw him eat, finding deglutition and appetite perfect, (in general paralysis these are much impaired). On my first visit I found the pupils unequal, but this condition had disappeared the second time I saw him, (in general paralysis this symptom is permanent). There was no tremor of the muscles of the face although tremor of the tongue existed. The right eyelid drooped, but this had been the case since boyhood. He wrote a history of his marriage for me, in a plain, excellent handwriting, in which there were no errors of any kind. There was some hesitancy in speech and difficulty in enunciation, but these had existed for ten years. I considered that he was a great joker."

DR. HAMMOND. "Does it not strike the Doctor that Mr. Gosling's conduct, in joking with the physicians sent to examine him and thus deceiving them, was rather incongruous with the grave situation in which he found himself placed?"

DR. HANNAN. "I admit that, but suppose that his jocular tendencies overcame his prudence. On further examination I found that he recollected many circumstances of far distant date, that he had given very important advice to his counsel on the conduct of his case, that he recollected all the circumstances and dates of his arrest and trial. The following day I found him the same, whereupon I made up my mind that the patient was not suffering from general paralysis, but, if ever insane, must have been a victim of emotional insanity or transitory mania. General paralysis is a progressive disease and would leave, if of the duration of two years, more evidences of its presence than Mr. Gosling now exhibits. His conduct that has been so much commented on of smashing the windows of his hotel because he did not get in immediately on his return from the theatre was not, in my opinion, any evidence of insanity."

DR. HAMMOND. "Don't you think, Doctor, that this

hasty conduct in smashing windows and thus attempting to enter a place where people were bound to let him in if he would wait awhile was *some* evidence of mental deterioration?"

DR. HANNAN. "I think the explanation he himself gave was sufficient to account for it. He said he taken two or three hot Scotch whiskies on an empty stomach and this had excited him. In making up my mind I took into consideration the following facts: That he had raised himself from nothing to the command of eighty thousand dollars in the course of a few years and had overstrained his mind. He might have been for a short time emotionally insane, but at present he showed little if any evidence of that or of any form of paralysis. He was very powerful and could lift two heavy arm chairs by their back rungs. He denied every delusion, said "he might have been off his nut," but was now all right. He sang for me the prison scene from *Il Trovatore* in a very fair voice. It might have been cracked when Drs. Spitzka and Hammond saw him, from over exertion, but was not then."

DR. SPITZKA. "Will Dr. Hannan permit me one question. Has he known or read of a case where as in Gosling the voice indicates paresis of the vocal cords to an experienced observer (Dr. Hammond) on the twenty-fifth of February then on the twenty-eighth, three days later, is perfectly normal (as Dr. Hannan claims to have found it,) while on the twenty-ninth and first it is again in the previous condition as found by myself?"

DR. HANNAN. "I do not think that such serious impairment existed. The delusion (so-called) that by stopping his breath he would not feel anything, I thought was a very good joke, for if we could permanently stop our breath we certainly would not be able to feel. I took into consideration the circumstances of his arrest, that his relations seemed to lay special stress on his marriage to a person of a different faith as an evidence of insanity."

DR. RANNEY. "I cannot claim to be as great an expert as many here. My connection with this case arose from an appointment by the court, and I gave my opinion on what

I had seen myself. In October, 1878, my first relation to the case occurred. I was appointed a Commissioner in Lunacy to investigate the mental condition of Abraham Gosling, and was directed to the Pennsylvania Private Insane Asylum near Pittsburg, where he was then confined, and examined him. I was accompanied on the journey by Gosling's brother, and listened very attentively to his history of the case. I read letters written by Gosling, heard the story of his arrest while abroad, and went to the Asylum convinced that Abraham Gosling was insane. I found him on my arrival at the Asylum engaged in playing billiards. I watched him a few moments, and when he had finished his game, which he played very well, I engaged in conversation with him for two hours, tested his memory, and tried him on the subjects of his so-called delusions but found no evidence of their existence. I said, "this patient is not insane," and the Superintendent of the Asylum being called agreed with me, whereupon Abraham Gosling was released. Eleven months after I sought to be compensated for my services and wrote to him to call on me, which he did. I then examined him again on the same subjects and found him as well as ever. He came to see me every two weeks for some months thereafter, paying me a portion of my bill each time, and always requiring a receipt; when the full amount was paid he asked for a receipt in full. When he returned from England I was sent for by his friends, who were afraid, when I came, to let me see him for fear of exciting him. He had meanwhile gone to *that woman* and was so run down that he had no idea of the subpoena when it was served on him. I saw him when court had just opened. There was no change in his condition. Nothing the matter with his eyes or tongue. In all my examinations I found no change from his condition in October, 1878, and on this I based my opinion. I did not say on the stand that he was *not insane* but that he was not suffering from *general paresis*. During the past week I have seen him frequently and find that his memory is very acute, that he has conducted business properly, and has made out several bills from memory which have proven correct. As to his articu-

lation, his brother says it has always been the same as it is now. If he is a case of a general paresis I should like to know what stage he is in. His phrases in writing are all correct, and if he were kept away from *that woman* he would be all right, whenever he stays with her for any length of time he is totally unable to transact business. I have here an affidavit written by him which is the clearest evidence of his mental condition."

(Dr. Allan McLane Hamilton, the advising physician of Howe & Hummel, attorneys for Abraham Gosling was here called on but was unavoidably absent.)

CLARKE BELL, ESQ. I should like to know from the attorney for the respondent, Ex-Judge Koch, under what circumstances these legal proceedings arose, it being of interest to the legal gentlemen of the Society.

EX-JUDGE KOCH. Abraham Gosling was brought by Jno. White, an attendant of the asylum at Paisley, Scotland, to this country, and was so violent as to require restraint on the voyage. Jno. White was obliged to return leaving him in the custody of his relatives. Soon after he called his mother a —— and struck her, having been hitherto a very dutiful son, and tried to kill his brother. He was brought by a warrant before Judge Otterbourg where he behaved very boisterously and showed little respect for the Judge who was obliged to coax him to be quiet. He was committed for examination as to sanity to the care of the Commissioners of Public Charities and Corrections for five days. After examination by Drs. Hardy and Jackson, the city physicians, the necessary certificates were made out and approved by Judge Donahue of the Supreme Court. Formal application was made to Bloomingdale Asylum for his reception. A writ of *Habeas Corpus* was served on the Warden of the Tombs commanding him to produce Abraham Gosling before the Supreme Court, Part I, Judge Lawrence. I claimed that this appeal could not be regular insomuch as the law provided that an appeal of this kind will only lie "if any person feeling aggrieved should appeal within three days to the *Surrogate's Court, Court of Common Pleas, or Superior Court,*" that the

law made no mention of the *Supreme Court* which consequently had no jurisdiction. Judge Lawrence decided such a law was monstrous and could not have been the intention of the *Legislature*, thus taking on him *legislative* as well as *judicial* functions. I then raised the point that an appeal could not be from the *Supreme Court* to the *Supreme Court* which *Judge Donahue* settled by withdrawing his approval.

DR. GARRISH. I have been the physician of the Gosling family for thirty years and know the full history of the case. The mother has borne twenty-four children, of whom four have been insane, two dying so, one is now in an asylum, and the present a patient. In 1878 he went to Europe and was absent some months, when intelligence reached the family that he was in an insane asylum near Dublin. He was released from there and had gone to the theatre in a Scotch city, where the singing not suiting him, tried to improve it by getting up and singing, which attracted the attention of the audience who hissed. He then became much excited, leaped on the stage, and began to sing. The people still hissed him. Then he smashed the stage furniture. The police brought him to the station-house where he was found to be insane. He was committed to an asylum but no clue to his identity was for a long time obtained. At length he was found to be an American. The United States Consul was sent for, who after three weeks ascertained his identity, and communicated with his friends. He was sent in care of an attendant to New York, and on arrival was very violent. He had been indiscreet toward ladies on the voyage. I pronounced him suffering from *dementia*, and in September, 1878, placed him in an asylum in Pennsylvania. In two months he was released after being examined by Dr. Ranney two hours, a period not sufficient to settle any man's sanity, although insanity could be determined in that time.

DR. SPITZKA. It is not my purpose, nor would this be the proper place to discuss the numerous clinical and pathological features of paralytic insanity. There are certain points in the medical evidence given in this case related to the medico-legal bearings of that disease which eminently

interest this Society, and for whose discussion it constitutes a proper forum. Three physicians testified under oath, that there was no doubt Abraham Gosling was insane and had been, was, and would die, a paretic. Two other physicians testified that whatever might have been Gosling's condition before (a very saving clause, seeing that within two years he had been *thrice* committed to asylums), he was *not* insane at the time of the trial. Now I am not one of those who believe in glossing over gross and palpable defects in our profession because the derelict parties are professional colleagues. Too loud is the cry as to "doctors disagreeing" and too seriously is scientific testimony impaired by competition with unscientific, or insincere so-called experts, to permit me to let this opportunity pass of rebuking the discreditable exhibition which was made on this occasion. I strongly endorse Dr. Hammond's statement that this case of Abraham Gosling was so clear in every respect, and I will add at every time during the past year or two that there was no room for *honest scientific* difference of opinion about it. The symptoms which he detailed I observed also, and I need not repeat them. Their number and character are such that they carry overwhelming proof with them. The idea which one of the gentlemen (Dr. Hannan) has enunciated, that the drooping of the eyelid was a congenital defect, does not deserve any consideration. Every one familiar with the congenital facial asymmetries knows that should one eyelid droop, it will not be accompanied by extreme dilatation of the pupil of that side, obliteration of both facial folds, corrugation of the brows, emotional tremor, tremulous tongue, and that significant soggy expression of countenance with defects of articulation, all of which in this peculiar combination, are not found in any other affection than General Paresis. A true expert could have made the diagnosis in Abraham Gosling's case in half a minute without the aid of any other symptoms. Stress has been laid on the fact that this could not have been a case of a *progressive* form of insanity, because the disease was worse some time ago than it is now. No one could make such a statement who had even the most superficial ideas of

the disease. That, notwithstanding, its remissions the disease is a progressive one essentially, I illustrated at the time of the trial, by the familiar example from the school arithmetic, of a snail which in climbing up a well slips back two feet for every three it climbs, but yet reaches the top. Just as this patient will ultimately reach, notwithstanding his temporary remissions, the goal of the disease, death. Now against this immense array of facts, a physician goes on the stand, admits not having read a single treatise on the disease, except Blandford, a student's text-book, in the face of science, of the unanimous opinion of the hundred treatises published on this subject, in the face of the record of this very patient and to the teeth of the eminent psychologist who had preceded him on the witness stand, swears that there are *no* remissions in general paralysis of the insane. The merest tyro knows better, it was a scientific falsehood and however much the gentleman has before this Society seen fit to elude, the responsibility of having pronounced Abraham Gosling sane, by claiming he merely testified to seeing no reasons for pronouncing him a paretic, yet he knowingly permitted his evidence to be utilized for a purpose which has resulted in a defeat of the objects of Justice. Gentlemen, we all have a deep interest in these matters ; there is no reason why the disrepute into which expert testimony has fallen owing to such exhibitions as the present one, should be *a permanent incubus on the medical profession*, if all of you will unite in condemning patently defective testimony whenever occasion offers. My sole reason for being unsparing in the denunciation of the errors made in this case is devotion to my profession, which has too frequently had occasion to blush for the irresponsible and unwarrantable actions of those who have permitted medical evidence to be perverted to the extent of contradicting the well-established dicta of science. Neither lawyers, nor jurors, nor courts are to be blamed for the disrepute into which medical testimony has fallen, but those in our profession who with the ability to criticize and censure those who have made the profession ridiculous, neglect to do so. It is in our own power to remedy this. The medico-legal

society is just the body before which physicians should deal with these issues. The sense of professional delicacy which would prevent such censure would be a false one. There are limits to etiquette to go beyond which causes a conflict with truth.

DR. RANNEY. I wish to correct a few errors of Dr. Spitzka. I did not testify that there were *no* remissions but that these were very short. I should like to know if he can give me any authorities to the contrary. I know of no case extending beyond or even to a year.

DR. SPITZKA. Dr. Ranney stated just now that in his literature he has yet to read of a remission lasting a year during which the patient could transact business. Now if he will look up a score and more of authorities which I will name him, he will find that such or longer remissions are known to all of them.

DR. RANNEY. One will suffice.

DR. SPITZKA. Bucknill and Tuke, Simon.

DR. HAMMOND. (Interrupting.) Voisin.

DR. SPITZKA. In short every monograph, German, French, English, and American that has appeared in the last decade.

DR. RANNEY. Another error of Dr. Spitzka's I would like to correct. I did not say that I had not read the works mentioned, but that I read only summaries of them.

DR. SPITZKA. It seems Mr. Howe got Abraham Gosling to confess judgment for \$3,100 to him the day after the trial was ended, which is strong evidence as to the mental condition of Abraham Gosling.

DR. HAMMOND. The case of G. L. Fox, the well-known clown, is a good illustration of the remission question. I was called to see him one night at Booth's Theatre, and found that he went through the performance of Humpty Dumpty, which requires no little mental activity, very well, but toward the end he broke down, pelted the audience with stage properties, loaves of bread, etc. I had noticed his shuffling gait when on the stage and found on examination that he had the usual symptoms of general paresis the delusions of grandeur included. I sent him to the Somer-

ville, Massachusetts Asylum. After awhile he was released from there and it was said that he had recovered. He remained thus for about ten months transacting his usual business. When appearing on the stage, he again broke down and turned up in Brooklyn before a Commissioner in Lunacy, a physician testifying that *all* the symptoms of paralysis were due to the use of *Subnitrate of Bismuth* as a cosmetic. He remained in relatively fair health for about eleven months and died unequivocally insane from general paresis, as the newspapers all stated, thus relieving me from some unjust aspersions.

CLARKE BELL, ESQ. Whatever physicians may say of lawyers badgering them I don't think any lawyer ever badgered a physician as these physicians have badgered each other to-night. When Dr. Spitzka gets a little older he will find that this condition of things is chronic. Men do not ascribe personal motives and impugn the character of respectable people, as he seems to have done, because of expert disagreement. The experts, incomprehensible as this was to lawyers, always differed, and thus confused juries. A remedy might be found in not accepting every physician as an expert simply because he was a physician. In conclusion I would remind my young friend Spitzka, that men may differ from him, and yet have honest reasons for doing so.

DR. SPITZKA. I now rise to a question of privilege to correct an impression which Mr. Clarke Bell insists on and which would be as incorrect as some of his other statements are uncalled for. I have not questioned the personal integrity of my two professional colleagues, I have simply endorsed a statement of Dr. Hammond, that there could not have been the slightest *honest, scientific doubt* as to the diagnosis of Abraham Gosling's condition. That is, if the evidence was given with a full knowledge on the part of the witnesses of the teachings of science then it was not honest, but if it was honest it was not scientific but given in ignorance. It will not do to for an expert to claim ignorance as an excuse in so clear a case, of so tangible a disease. There may be honest scientific doubts in cases of other forms of insanity among actual experts, but not in a case

like this. If I had been in the position of Drs. Ranney and Hannan, I should have carefully deliberated the questions arising in a case where one of the most eminent psychological teachers of the country had given such decided testimony, and considered my knowledge and experience very thoroughly, before going on the stand and contradicting my colleagues so glibly.

To put myself straight on the record and to avoid any misinterpretation, I will bluntly state my opinion that the testimony of the two gentlemen was not true, *scientific* testimony.

DR. HAMMOND. I read here in the affidavit the most trifling, utterly unimportant matters, and find numerous misspelt words, great incoherence, and assertions that certain merchants of the Jewish faith let him have goods on trust because he was the honestest commission merchant in New York. He states that on going into business he bought a blotter, and at least three pages are occupied with similar trifling details.

EX-JUDGE KOCH. I must confess I heartily agree with all Dr. Spitzka has said. I never saw such an exhibition on the part of both the medical and legal professions. In his opening Mr Howe stated he would place Mr. Gosling on the stand but he did not call him, whereupon we attempted to summon him in rebuttal, to his having been addicted to intoxicating liquors, and as to his mental condition, which was objected to and the objection sustained by Judge Lawrence, a decision fully in keeping with the rest of the decisions in the trial.

DR. SPITZKA. My friend Ex-Judge Koch, has just called your attention to some remarkable performances on the part of the Court in regard to the matter of jurisdiction. I shall now allude to what I shall consider, unless corrected by my friends of the legal profession, as most remarkable decisions regarding the rules of evidence. That note book containing the history which Dr. Hannan has mentioned was shown to me, aside from the fact that Gosling's handwriting was in those high, narrow characteristics which paretics indulge in when they come to recognize their defects, as some

of them do at certain stages, he had written "warrant" on the first line and three lines below "want" then erased this, and written "warrent." I detected this and called attention to the fact that in a person of good common school education, such inconsistent spelling conjoined with the handwriting, was strong corroborative evidence of the existence of paralytic insanity.

Judge Lawrence, constituting himself an expert on insanity for the moment, coolly informed the jury that this was not a symptom of insanity. When Dr. Hannan was examined Gosling's attorney asked him as follows: "Doctor, is inequality of the pupils a necessary evidence of insanity?" "Is tremulousness of the tongue necessarily a proof of insanity?" "Are delusions a proof of insanity," and so on, receiving each time the desired negative response.

Judge Koch asked me about these points, and I ventured to state that questions might be formed in this manner to disapprove the existence of phthisis and the gravest organic affections, for neither hectic fever, cough, nor night sweats, nor any of the other of the rational signs necessarily indicate phthisis, but it was their peculiar combination that had this signification, and so it was with regard to the symptoms of progressive paresis or any other form of insanity. Gosling's attorney objected to this as being not evidence but argumentation. Judge Lawrence actually excluded the statement of a universally accepted fact of medicine on the ground of its being argumentation. I have read the affidavit which Dr. Ranney has brought here and it certainly exhibits gross mental defects. Ex-Judge Hull who also read it a minute ago, said that he could not doubt for a moment that the writer's mind was shattered.

EX-JUDGE KOCH. I may here state that I noticed during the trial Gosling's wife's frequently pulling him down saying, "sit down," and when Mr. Howe asked Gosling to hold up his hand, he hurriedly asked him to put it down, so evident was its tremor.

DR. E. C. HARWOOD. It seems to me a joint examination by all the experts would have settled the insanity of Gosling, which clearly existed.

The society then adjourned.

ORIGINAL CORRESPONDENCE.

“Sit mihi Fas scribere audita.”

Resuscitation from Chloroform Narcosis by Nélaton's Method.

Dr. J. Marion Sims sends the following letter.

YOUNGSTOWN, OHIO, *April 15, 1880.*

DR. J. MARION SIMS.

My Dear Doctor :—I take the liberty, knowing your interest in the subject, of sending you the notes of a case—one of suspension of animation from chloroform and resuscitation by “Nélaton's Method.”

Yesterday afternoon a girl 18 years old, of very stunted growth, presented herself at my office for a strabotomy of the int. recti muscles. I was assisted in the operation by Miss Ida Clarke, M.D., of this city. Upon examination of the heart no organic disease was detected. I selected Squibb's chloroform, an anæsthetic I use but seldom in adults, and administered it on a coarse towel, one layer of which was laid over the mouth and nostrils. After full anæsthesia was obtained the chloroform was withdrawn permanently. I divided one tendon when my patient grew suddenly pale, and Miss C. told me her pulse was failing.

I immediately lowered the head of my operating table, raised the window, dashed some water into the face, when after a few seconds all was well. After a minute, by which time I had divided the tendon of the other eye, the pulse began to flicker, the face became suddenly blanched, she gave a gasp, and the heart and respiration ceased. I sprang on the bed and grasped her by the feet and swung her body over the side of the bed, held her in this position while my assistant tried to establish artificial respiration, and dashed water into her face. (I had no Nit. Amyl). A man assistant came to my rescue and held the patient by the feet, while I assisted in getting artificial respiration established. I pulled out the tongue, the patient gave a gasp and was saved. I continued suspension and pumping air into lungs, etc., which brought her around all right.

Those five minutes were of such agony to me that I shall

never forget them. My appreciation of the state of your own feelings in the case you described some years ago with Nélaton, I think in *Amer. Jour. Med. Sci.*, just where I would like to know, has induced me to write of this case.

I am satisfied that without Nélaton's method foremost in my mind I never would have saved this patient.

I am, Sir, hurriedly and sincerely,

HENRY G. CORNWELL.

NOTE.—Dr. Sims has kindly placed this letter in the hands of the editor, and it is published with the author's consent.—ED.

BONHAM, TEXAS, *April 24, 1880.*

DR. E. S. GAILLARD, New York :

My Dear Doctor :—Having had many cases of uterine trouble, since my establishment in this city, necessitating surgical interposition, some of which have been quite interesting to myself and others of the profession here, I take the liberty of reporting two of the more recent cases that you and other friends in the profession may see that such men as Sims, Thomas, and Emmet have disciples even here, in what is supposed to be the “backwoods” of the American Continent.

Case I.—White, married, age 17 years, first confinement, no abortion, health perfect. Was taken with labor pains on the 2d of February, 1868. Dr. “R.” sent for and immediately commenced the administration of “Fld. Elixir Secale Cornutum,” repeating every few minutes until a quantity had been taken, causing violent contractions of the womb which were succeeded by inertia, and after a long and tedious labor was successful in delivering a *living* male child which was removed, and when the “granny” in breeches attempted a delivery of the placenta, he informed the friends of the patient that the after-birth had grown to the womb, and commenced hauling away upon the umbilical cord until he succeeded in producing complete inversion of the womb, which he declared to the mother of the patient was a “polypus,” and that he had put it back in the womb. There being continued passive hæmorrhage the parents of the patient were advised to have the “polypus” removed, and

for this purpose she was brought to me on the 26th of September, 1878, in an almost exsanguinated condition. On making digital and instrumental examination, diagnosed complete inversion. The bloodless condition precluded any attempt at reposition—was put upon proper treatment until she regained sufficient strength to justify the attempt to replace the organ. After several patient and long continued attempts after Thomas', Emmet's, and other methods, each proving futile, amputation was agreed upon, and on the 22d of October, assisted by Dr. Benj. Dabney of this city, I removed the Fundus Uteri with scissors. Profuse hæmorrhage followed, but was controlled during the day, and in less than one week Mr. Sillard took his wife to his home some fifty or sixty miles, where she made a rapid recovery, is menstruating regularly, and at present writing is in perfect health, weighing, I am told, one hundred and fifty pounds.

Case II.—Mrs. Davis, age 25, married, no abortion. Enjoying good health, sister to Mrs. Sillard of Case I. A perfect blonde; first confinement on 21st of December, attended by one Dr. S., who gave ergot infusion "*ab initio.*" After a long and tedious labor, succeeded in delivering the lady of a fine male child. Like the Dr. in Case I., he pulled upon the umbilical cord, and in his attempt at delivering an adherent placenta, succeeded in turning the uterus inside out, and left the placenta still adhering to the inverted fundus which sloughed off a putrid mass at about three months after accouchement. This case came under my treatment on the 18th of January, 1880. Hæmorrhage checked with Ferri Perr sulph. On the 19th I invited Drs. Penwell, Kennedy and Dabney to see the case. They corroborated my diagnosis of complete inversion of the womb. The patient being in an exhausted condition from so great a drain upon her system, was placed upon the proper recuperative treatment, and at the end of two weeks was able to undergo an attempt at reposition of the inverted uterus; which first attempt, made after Prof. Thomas' method, failed. In the meantime my patient, hearing of the illness of her infant, returned home and nursed the child

day and night for two weeks, at the expiration of which time it died, leaving her in a more enfeebled condition than ever. As soon as she was able to bear removal, her husband placed her upon a mattress, and in a farm wagon, brought her back to me from a distance of forty or fifty miles. Upon arriving she was the picture of death, and I was no little alarmed at seeing the amount of blood she had lost; her clothing, bed and bedding being saturated with it; and it was many days before we could attempt and manipulation that was not succeeded by considerable hæmorrhage.

After two weeks' treatment, an attempt at reposition was resorted to, but like the first proved a failure, and it was only after four or five settings of an hour to an hour and twenty minutes each, that we so far succeeded as to warrant the procedure taught by Prof Emmet, of securing what we had gained by the use of the silver suture.* Since this last procedure the lady has gained strength and flesh with surprising rapidity, there having been no hæmorrhage since our last sitting, which was on the 8th day of April.

At present writing the condition my patient is most flattering, and prospects for a final and complete cure almost certain.

I am under obligations to the consulting physicians above named, and particularly so to my excellent and intelligent friend, Dr. Benj. Dabney, who kindly gave me his valuable assistance in both cases. Yours truly,

J. S. DORSET.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

“Judex damnatur cum nocens absolvitur.”

Venereal Diseases. By E. L. KEYES, M.D. Wood's Library, 2d year, Vol. IV. Wood & Co., New York, 1880.

The importance of the topics treated in this volume, their interest and the numerous problems connected with them, should lead to a very careful and exact examination of every

* Dr. Dorset writes since to say that this operation was unsuccessful, and that the uterus was amputated—patient doing well.—ED.

work on this subject. The present work, impartially examined, creates by its obscure style and, inconclusive reasoning on certain points, a feeling of disappointment. For one who claims "that there is no mind like the English mind," the author uses certain terms of his mother tongue with rather remarkable contempt for their real meaning; of which the following phrase is an example, "the glory of syphilis is its irregularity." What this means it would be rather difficult for even the author to explain, and it certainly upsets the reader's gravity to imagine any particular glory connected with syphilis. Further on a "ganglionic pleiad" is mentioned, though what relation there is between the "sweet influences of the pleiades" and syphilitic ganglia opens a wide range for conjecture. His inconclusive logic appears most strikingly in his recognition of the *galloping form* of syphilis at the siege of Naples in the fifteenth century as an argument for the recent origin of the disease. In his account of the syphilitic neuroses his misuse of terms is most noticeable. He alludes to *mania*, *melancholia*, *dementia*, etc., and *insanity* as if the former terms denoted types of disease distinct from the latter. *Generalized* paralysis is mentioned as one psychosis. *General* paralysis as another. His neuro-symptomatology seems to be of an *a priori* character, rather than derived from actual observation. According to the author general paralysis of syphilitic origin is characterized by hebetude and the absence of delusions of grandeur, a statement as inconsistent with actual observations as could be made. An ordinary dementia is described as if its symptoms were characteristic of syphilitic dementia. No mention is made of the psychoses occurring during the secondary fever of syphilis. The treatment of the general subject of syphilitic neurology is on a par with the psychiatry. In speaking of syphilization the claims of Auzias-Turenne, the originator and to some extent the martyr of this system, are in great measure ignored.

The book, despite these and numerous other patent errors, is a good one, much superior to the average volume of Wood's Library. The publishers have adopted a new binding very pleasant to the eye, but they still allow their

instrument makers to do their wood cutting, thus enabling them to advertise themselves, however, this is fully made up for by the fact that the firm, unlike Messrs. Lea, Blakiston, Appleton and Lippincott, do *not* bind advertisements in their books. K.

TRANSLATIONS.

“ Ubi mel ibi apes.”

(NEW AND REGULAR DEPARTMENT OF THIS JOURNAL. CONTRIBUTED BY
J. G. KIERNAN, M.D., NEW YORK.)

Typhoid Fever in Children. Lecture by Dr. Archambault, from *La Gazette Medicale de Paris*, February, 1880.

Here, gentlemen, is one of those diseases that retain in the child the same character which it presents in the adult, so that I shall be very brief in what I have to say, insisting only on certain differences which are of importance. The anatomical lesions consequent on the disease are the same in the child as in the adult, though less grave. Softening of Peyer's patches is almost the only lesion I have found; ulcerations are generally absent, and when they exist, are less numerous and less extensive than in the adult, from which two consequences result which are of the highest importance in determining prognosis, the extreme rarity of intestinal hemorrhage, and the total absence of intestinal perforation which has never been observed. Visceral congestions are very frequent, and those of the lung and meninges are often so intense as to lead to serious complications. The disease does not present itself uniformly at all ages, but it is, above all, at the age of nine that it becomes most frequent. I have taken note of the age when attacked by the disease of one hundred and sixty-four children with the following results. (It must be recollected we receive only children two years of age and older.)

At twenty-one months,	. . .	One case.
From two to four years	. . .	Nine cases.
“ four to six “	. . .	Seventeen cases.
“ six to eight “	. . .	Twenty “
“ eight to ten “	. . .	Twenty-three cases.
“ ten to twelve years	. . .	Forty-one “
“ twelve to fourteen years	. . .	Fifty-three “

Observers, whose judgment is worthy of consideration, (Rilliet, Barthez and Charceloy) have observed this disease in children not more than six months old, but it is not the less true that before four years the disease is very exceptional. Another peculiarity worthy of note, is the fact that the disease occurs more often in boys than in girls. Of one hundred and eighty-one cases observed in this service, from 1875-1879, we find one hundred and twelve boys and sixty-nine girls. Barthez out of one hundred and eleven cases found eighty to be boys and thirty-one girls. Taupir out of one hundred and twenty-one found eighty-six boys and thirty-five girls. Those, therefore, who claim that the disease is infrequent among young boys are far from the truth. Nothing is more interesting in this disease than its etiology. We shall find that all the epidemics coming under observation have occurred either in the spring or autumn. In our words the evidence of contagion is almost nil. The disease, which is in a general way much less grave in children than among adults, takes most generally among them a very benign form, which was for a long time mistaken for and considered a remittent. The disease begins very insidiously. The child has no appetite and is less energetic, but is not sufficiently ill to be confined to bed. The following morning it finds itself better and wishes to get up, but during the day becomes fatigued; and wishes to lie down. That evening the child is feverish and its face pale, but in the morning becomes flushed; at the end of five or six days it has every evening a temperature of between 102° F. to 104° F. which falls in the morning to $98\frac{1}{2}^{\circ}$ F. so that the child could easily be believed (which is corroborated by the pulse) not to have fever at that time; this constitutes the remittent type already spoken of. At the end of the first week the characteristic symptoms of the disease are recognized which need not be repeated here. This type of typhoid fever has a relatively short duration, and it is not rare, it is even common, to see toward the end of the second week the rise of temperature become minimal in the evening, almost nothing in the morning, after which the fever disappears altogether. It may happen that after being

benign at the onset the disease becomes grave, but it is usual where the disease has this latter character to see a very different onset. There is then observed very often vomiting, in at least half the cases according to Barthez, with whose opinion I agree. This vomiting does not occur frequently, and is not repeated during several days, but it may be otherwise, and then it will lead to embarrassment as to diagnosis and danger to the patient, more especially if it occur in an advanced period of the disease.

It has been observed that this vomiting not unfrequently coincides with the constipation which shows itself at the beginning of the disease, and if the child be old enough to complain of headache, there may result from this conjunction of symptoms much embarrassment as to diagnosis. But the headache is generally of slight intensity, the smaller children do not complain of it, and the larger only mention it when interrogated on this point. The constipation yield, to a mild purgative, to a simple laxative, and is replaced the following morning by a diarrhoea. The latter is as a rule more frequent at the onset than the contrary condition, and becomes oftentimes very abundant and involuntary toward the end of the first week. Pain and gurgling are as a rule almost altogether absent, but you will find in certain children a sensibility almost peritonitic in character, which yield, readily to means that I shall shortly indicate to you. The tongue, lips and teeth are rarely as dry in the child with typhoid, as in the adult, and it may be said, as a rule, that the buccal mucous membrane is less dry, and less diseased. The temperature in the graver types of disease attains by the fourth or fifth day the height of from 104 to $104\frac{9}{10}$ in the evening, without there having been as marked a remission in the morning as in the benign form. The less this remission is marked, the more tendency the thermic curve has to remain stationary in the night temperatures, and the more grave becomes the condition of the patient. It is under such conditions that the congestive complications are most intense. It might readily be anticipated from the extreme impressionability of the nervous system in youth that well marked cerebral symptoms would be found in

most cases, but it is as a rule not markedly the case. Often there is sleep during the day, and a mild delirium during the night. The case is, however, far otherwise in the form called the cerebral form of typhoid that simulates meningitis, but which is rather rare. Among the youngest children there is observed in this case, partial convulsions, strabismus, dilation with inequality of the pupils, a species of coma of a kind that requires full examination of the typhoid fever symptoms. To be differentiated its from coma due to meningitis. If the coma be due to typhoid fever there will be found an elevation of temperature not compatible with meningitis, diarrhœa, elevation in place of flattening of the abdomen, evidences of pulmonary congestion frequently in typhoid, exceptionally in meningitis, and, if the disease be sufficiently advanced, lenticular roseolaceous spots. Added to this the pulse, though frequent is regular, the respiration retains its rhythm, and the coma, though well pronounced, often yields to excitation.

In another form, rarer than the preceding, and very exceptional, symptoms denoting an irritation of the nervous system, are found opisthotonus and contractures of the limbs and hands.

I mention also the forms existing in the adult, because they are more frequent in the child, and can readily be mistaken for meningitis, common in the child but rare in the adult. The pectoral form is more often complained of in the child than it is at other ages, under the influence of a particular condition of the blood, from hypostasis, or from a kind of vaso-motor paralysis, or from all these causes combined it often constitutes a true broncho-pneumonia. Childhood, like old age, is predisposed to bronchitis, and at the end to a phlegmasia of the lung tissue. This phlegmasia shows itself under a form designated as lobular pneumonia or broncho-pneumonia, an affection most marked on one side but which is always bilateral. This is a complication always to be feared, and is very frequent in an dynamic case of typhoid fever. There is a disease which simulates typhoid fever as well in the child as in the adult, but notably less frequently, however, acute general tuberculosis. It

seems sometimes impossible to distinguish one of these diseases from the other; this is chiefly when there exist cephalalgia, the symptoms of pulmonary congestion, and the diarrhœa, which are found when tuberculosis is developed in the three splanchnic cavities. Well even then by a careful analysis of the symptoms an almost correct diagnosis can be arrived at. Often the cephalgia is too intense for a dothinerteritis; the fever, very intense though it be, has not the regular progress of typhoid. You have an example of this in the child which lay in number fifteen whom we at first regarded, above all because of the present epidemic, as attacked with typhoid fever; pretty soon, however, an intense cephalalgia was noticed, of which the child complained spontaneously and it awoke during the night screaming. This symptom alone would have led us to modify our diagnosis and the child dying, the lesions of tuberculosis were found. Last year in the course of a typhoid fever epidemic a child lying in bed number twenty-four presented symptoms of the last mentioned affection, but complained bitterly of its head which it often pressed with its hand, and moreover it had not the usual stupor of typhoid fever. But for taking into account the intensity of the cephalalgia I should not have been led to doubt the correctness or the diagnosis at first made; one morning we found the child plunged in a deep coma, with a relaxed, irregular pulse, and some days after it died with all the symptoms of tubercular meningitis.

In spite of the gravity of the symptoms and the complications of which we have spoken, typhoid fever in the child is by no means as grave as in the adult; it may even be said that recovery is the usual termination of the disease. The duration of the disease is less than in the adult; the diminution of the fever except in exceptional cases, frequently occurs toward the sixteenth to seventeenth day. Of one hundred and eighty cases we lost twenty, but it must be said that many of these could be attributed to another disease. Thus one patient died from meningitis, one from scarlatina, two from croup, one from diphtheria, one from chronic albuminuria, and one from tuberculosis;

there then remain but thirteen cases directly attributable to typhoid fever which is about one death to every fourteen cases, a proportion less than that of general practice, or where the patients are in the best condition for recovery and treated in a regular manner from the onset of the disease.

Treatment. Typhoid fever is one of those diseases of childhood in which that treatment will have most influence on the disease which looks only to moderate the symptoms, to combat the complications, and to contend against the general tendency typhoid fever has to produce a profound debility of the whole system. Before instituting any treatment the truth of the following facts should be fully recognized.

First, that typhoid fever is not a disease that can be arrested or cut short.

Second, that the benign forms tend of themselves to recovery and this will always occur if they are limited to hygienic treatment.

Third, that the grave forms are so by the exaggeration of certain symptoms, and above all by the complications due in general to a adnamic condition and debility.

From these facts result that there is treatment which should be rejected, and that in general all exclusive medication, though good, is insufficient, for the multiple indications there are to fulfil.

Antiphlogistic treatment. No one has dreamed of applying it in all its rigor to children attacked by typhoid fever, but there are certain particular cases requiring, it is believed, local blood-letting. Thus leeches have been placed on the iliac region in cases where the acute pains of which I have spoken exist. Well that is bad practice ; this bleeding adds to the feebleness of the child, is not well borne at this age, and does not allay the pain more surely than embrocations with a liniment composed of glycerine one ounce, extract of belladonna and opium one drachm each, the application of a cataplasm, or if the pain be very intense, the hypodermic injection of one-twentieth of a grain of morphine. Some have applied leeches behind the ears in cases where the cerebral symptoms were pronounced either coma or delirium.

Well in place of the desired amendment an aggravation is often produced, besides, the final result is a very prejudicial enfeeblement of the patient. You ought to make a law for yourselves never take a drop of blood from a child attacked by typhoid fever. The age of the patient and the nature of the disease unite to render this practice dangerous.

Treatment by purgatives. This consists as you know in giving a purgative every day. This exaggerates, slightly though it be, the diarrhœa. Now you know after having seen a number of children attacked by typhoid fever, that diarrhœa toward the end of the disease, constitutes a real danger in enfeebling the patient and rendering alimentation impossible. This diarrhœa originates not only in the alteration of Peyer's patches, but also in the general congestion of the intestinal mucous membrane which constitutes a true enteritis. The frequently repeated purgation favors the development of this alteration of the intestinal mucous membrane in a marked degree.

Tonics are the only remedies that can be applied to all cases and they form the foundation of my treatment of this disease, but they do not answer *all* indications. At the same time that they are employed as the best method of preventing and treating complications, the latter should be directly combated by special means. Our patients receive a vinous lemonade four or five times a day; they also receive at the same time a teaspoonful of a mixture of one ounce of brandy and thirty grains extract of cinchona, followed by sulphate of quinine during the greater part of the the following days; this treatment is given even to the youngest. This I consider the foundation of my treatment, and I shall further consider what is necessary, from indications which present themselves, in the benign or grave form of the disease.

The benign form. Here the tendency is to recovery from the start and will almost always take place provided the children are placed under proper treatment, which chiefly consists of hygienic means. If there be gastric disturbance you can give with advantage three grains of powdered ipecac in a little sugar and water, a dose that may be repeated

two or three times. It can also be given in syrup, fifteen grains of the powder to twelve drachms of syrup, given in teaspoonful doses every ten minutes. I also often prescribe the following mixture :

℞	Infus Senega,	. . .	℥ iv
	Syr. Ipecac,	. . .	℥ i
	Pulv. Ipecac,	. . .	grs 15
Ms. ℥ xi every ten minutes.			

The next morning, or the morning after that, a mild laxative should be given, a saline in preference, if the child will take it ; give two wineglassfuls of Pullna or Hunyadi. Simon uses a purgative lemonade composed of one ounce of citrate of magnesia, a little water, and enough cherry syrup to make it sweet. This purgation, especially indicated when the child does not go to stool, can be repeated once or twice in the disease if the evacuations are not sufficient. The child is also given a vinous lemonade, sugar water and wine, or a teaspoonful of wine of cinchona made of Malaga wine in three or four teaspoonfuls of sugar water ; if it won't take these drinks give it sugar water mixed with cherry or gooseberry syrup. If the child be pale and feeble it should be supported by the cinchona mixture already spoken of. If there be pain in the iliac fossa the abdomen should be covered with flannel several times doubled and steeped in a decoction of althea root or chamomile flowers. If the evening fever be high, a tepid bath should be given in the afternoon, and the next morning a dose of five grains of quinine to a child of eight. During the course of the disease it is well to wash the whole body with some cool demulcent decoction. If there be much diarrhœa the demulcent bath can be omitted, as it sometimes causes intestinal contraction. There should in such cases be given the following :

℞.	Bismuth Subnit.,	. . .	℥ iss
	Tr. Opii,	. . .	℥ iv
	Mucilage Acacia,	. . .	℥ i
Ms. ℥ i every two hours.			

During the progress of the disease from the onset to the close the child ought to have *bouillon* and two or three kinds of gruel. The *grave form*. Here it will be very advanta-

geous as in the preceding form to begin by emetics and purgatives, if there be marked symptoms of gastric disturbance, at the same time vinous drinks and alcoholic mixtures with two drachms of extract of cinchona should be prescribed. We have noticed that there is in some cases vomiting, which is sometimes persistent, in this case it appears to me that cinchona is not well borne and I refrain from its use sustaining the strength by some teaspoonfuls of Malaga or Alicante wine mixed with water; at the same time iced seltzer water is given and a sinapism is applied to the pit of the stomach. If the patient vomits the *bouillon* or gruel I calm the excitability of the gastric mucous membrane by a teaspoonful of sugar water containing four grains of bromide of potassium given a few minutes before the administration of food. A syrup of chloral mixed with coffee, three grains to the teaspoonful, may also be given some time before the administration of nutritious substances. But all care should be used in the use of the latter remedy as its effects are very debilitating. The stomach irritability once calmed yields freely to the tonic treatment which is continued throughout the disease. The fever offers varying indications for treatment dependent on its degree. It is with the desire to reduce it that lukewarm baths and cold applications have been made. In general, according to my experience, lukewarm baths given every day are sufficient both to reduce the temperature and keep it reduced. Like all my colleagues I have used cold applications according to the method of Brand, but I have been obliged to discontinue them, for it appears indisputably, that the dangers of pulmonary complication are thus increased, and in my opinion, I have often thus caused bronchopneumonia. I freely admit that hypostasis and vaso-motor paralysis due to typhoid debility play a principal part in the pulmonary complications, but it must also be admitted that there is an inflammatory element which has a tendency to become increased under the influence of cold water. However, when the temperature remains fixed at about 114° F., conjoined with adynamic symptoms, applications of cold water are indispensable. The use of emunctions are

here also to be recommended. The patient should be sponged with a large sponge steeped in water at the usual temperature with which ordinary vinegar or toilet vinegar should be mixed. After this procedure the temperature always falls and the patient is quieter after this manipulation which should always be repeated two or three times in twenty-four hours.

I have repeated this on several occasions without much trouble when the patient is a child. Another method consists in wrapping the patient in a sheet which has been steeped in cold water and carefully folded. The whole measure consists in this, the patient relieved from all clothing is wrapped in the sheet from head to foot, then covered with warm covering so that only the head is left free. The action of this measure is for from twenty to thirty minutes sedative, after that it is the reverse. At the end of twenty minutes the child should be unpacked and returned to bed. The certain result is a lowering of temperature on the sedation of the various symptoms. This measure seems, to me, destitute of the inconveniences of cold baths. The necessity however for the use of cold water rarely arises, and I add, in the majority of cases all indications can be fully met by the use of lukewarm water. Sulphate of quinine answers three indications in typhoid fever : it strengthens the patient, reduces the intensity of the fever, especially when it shows a tendency to remain stationary, and, it is often useful in reducing the evening temperature when the remittent form (so often present) exists. As a tonic it ought to be given every day in a moderate dose from three to five grains. As an antipyretic it should be given in large doses from five to six grains in a child of eight to ten, and from seven to eight grains beyond that age. This remedy agrees very well with children. I have just seen a child in whom an intermittent fever coming on after a typhoid the quinine cut it short. When quinine is administered as an antipyretic, it should be used during four or five successive days, its action then noted, when it should be stopped to be again used if the temperature should rise, in which case its use can be again commenced.

Diarrhoea in children is often excessive at an advanced period of the disease, and reduces the patient very much. It can be diminished by the use of the following mixture :

℞.	Bismuth, subnit,	. . . . .	3 i.
	Tinct. Opii,	. . . . .	℥iv.
	Aqua,	. . . . .	℥ii.
	MS. 3 i. onme hora.		

Distention of the abdomen does not often occur, but if present may constitute a sort of complication, more especially if pulmonary congestion be present. Pulmonary congestion is the rule, and is easily recognized by its ordinary symptoms. It is more often complained of in the child than in the adult, and constitutes a serious complication. Tonics are very useful in the treatment, but it should also be combated by sinapisms and counter-irritation to the chest. If a sighing respiration should occur vesication should be resorted to, but should not be allowed to remain too long, for fear of its effects on the urinary passage. The indications for the use of vesication are often present in children but certain precautions in its use should always be observed. The blister should always be camphorated, and its surface covered with oiled silk paper, and the blister should be allowed to remain on the child a time proportioned to its age. On a child from one to two years old an hour and a half to two hours is sufficient. If special orders are not given, they will be allowed to remain eight or ten hours, and in such case a wound results, which renders the child very ill and takes a long while to heal. If at the end of one, two, or three hours the blister has only reddened the skin, remove it and apply an oily cataplasm of starch, and in one hour you will have a well marked vesicle. Cataplasmata of this kind are best made by mixing glycerine or sweet oil with water before putting in the starch. In children of from five to six years I order the mother to take off the blister after four or five hours and see if it has taken, when it is to be removed. Use blisters of the smallest size, otherwise a pretty lively fever may result. Every time that it is desirable to remove the blister a wad should

be directly applied to the vesicle and after the serous fluid is evacuated. When cerebral symptoms are complained of, it should be remembered that these occur in two forms, the delirious and the comatose. Against the first, while continuing tonic musk in doses from nine to fifteen grains, should be used. Small doses of opium, small, because the patient is a child, and chloral, in three grain doses, should also be given.

In the comatose form blisters as derivatives to the spinal cord have been used, but from this proceeding I have had no beneficial results. Other physicians have advised the use of blisters applied to the nape of the neck. I would advise you to do nothing of the kind. At this place the blister is very painful and causes much uneasiness to the child. Graves has cited in his clinic many accidents arising from nape of the neck blisters in infants. The children should be watched with the greatest care and have one bed for the day and another for the night, and should during the progress of the disease receive *bouillon* and gruel. Convalescence ought to be regarded from two standpoints, those of alimentation and the evacuations. Food should at first be given three or four times a day in small quantities at a time. If the child does not go to stool, and this frequently happens, provided that constipation does not abruptly replace diarrhoea give it a general washing each day and if these be not sufficient give a very mild laxative. You will almost always notice a slight rise of temperature in the evening when you begin to give solid food, which ought to be begun very gradually, white fish, chicken, veal, etc. The rise of temperature is an indication to make haste slowly. Relapses are not rare but are rarely grave, when they are recognized stop feeding and recommence treatment.

DR. BLOCHE recently brought before the French Therapeutic Society, *petroleum* as a remedy for *acute* and *chronic bronchitis* under the name of *Gabian oil* given it by a chemist to avoid prejudice. Capsules containing three grains pure petroleum had been given to cases of chronic bronchitis in the Beaujon Hospital with the result of diminishing the cough.--*Gazette des Hopitaux*.

CHEMISTRY AND PHARMACY.

“Diruit ædificat, mutat.”—HOR.

OLEOMARGARINE.—As this substance has become a recognized article of commercial value, as its value is sustained by numbers of admitted experts, and as factories on a large scale are now in operation in seven or eight prominent cities in this country, the following article taken from the *Scientific American* is given in full.

HOW IT IS MADE.—The wholesomeness of beef fat has never been questioned. It is unavoidably eaten with beef, however cooked; for the leanest meat has fat inseparably mixed with the muscular fibres. To insure a liberal incorporation of fat with the lean, beef is always over fattened. While the lean flesh is receiving the desired admixture of interstitial fat, the animal is overcharged with it, storing up masses of fat largely in excess of the amount needed. Until recently this extra fat has been converted by rude process into inedible though not necessarily unwholesome tallow, used in soap making, candle making, etc.

About a dozen years ago M. Mége, a French chemist, commissioned by his government to investigate certain questions of domestic economy, was led to study beef fat to see whether a larger portion of it might not be preserved for food. The horned cattle of France exceeded twelve millions in number. It was obvious that if each was made to yield a few pounds more of edible fat an enormous and valuable addition would be made to the national food supply. M. Mége began with a comparative study of beef fat and butter. The essential part of butter, its oil, differs from the suet oil in containing a percentage of butyric compounds which give to butter a part of its flavor, and in lacking the proportion of stearine giving to suet its hardness and rough grain.

Investigating the origin of butter in the animal economy, M. Mége found that cows, deprived of food containing fat, continued to give milk yielding cream. The only source of the fat thus exhibited was the stored-up fat of the cow. Hence

beef fat could be converted into butter-fat. Physiology taught that the change was wrought in the living organism through the withdrawal of the larger part of the stearine by respiratory combustion ; the secretion of the remaining oleomargarine by the milk glands, and its conversion into butyric oleomargarine in the udder under the influence of mammary pepsin.

In making butter by the ordinary method, churning the cream, the finely divided butter-fat is united in masses containing from twelve to fourteen per cent. of water or dilute buttermilk carrying a fractional percentage of cheese. The latter accidental ingredient contributes somewhat to its flavor, and at the same time furnishes a ferment which ultimately spoils the butter by making it rancid. The same may be said of the soluble fats which give to butter its variable aroma. They decompose readily, and furnish the acrid products which make so much of the shop butter more or less unsavory and unwholesome.

To solve the practical problem of converting the surplus fat of beeves into a savory food product, M. Mège sought to imitate the process of natural butter making. 1. To separate from the oily fat of suet the cellular tissue and excess of stearine ; 2. to add to the oil a sufficient proportion of butyric compounds to give the necessary flavor ; 3. to consolidate the butter-fat without grain, and add at the same time, the requisite proportion of water, salt, and coloring matter to make a compound substantially the same as butter churned from cream ; all without adding to the original fat anything dietetically objectionable, and impairing its wholesomeness.

Early each morning the selected fat from the several abattoirs about the city begins to come in to the manufacturing company's factory, at West 48th St., New York. The fat being received within a few hours from the time of killing, must necessarily be fresh. After being weighed the fat is thrown piece by piece into large vats of tepid water ; any pieces showing blood stains being thrown into a special vat for extra washing. After soaking for an hour in the tepid water, the fat is thoroughly washed with

cold water and then covered with fresh cold water and left another hour to soak. It is then assorted. The pieces rich in oil are severed from the rest by a skillful cut, the assorter throwing the finer pieces into an adjoining tank for another washing, and the pieces less rich in oil into tubs to be transferred to the tallow factory. The fat for butter making is now carefully washed a third time, then elevated to the floor above for hashing and melting. The object of hashing is to disintegrate the fat, thoroughly breaking up the tissues, so that the oil will separate therefrom at a low temperature, to prevent the development of the rank, tallowy flavor from the action of a heat, such as was used for tallow melting before Mége's discovery.

The hashing machine is a series of knife blades revolving in an iron cylinder ; the fat being fed in at one end, and, after disintegration, forced out at the other through a perforated iron plate. From the hashers the fat is conveyed to the melting tanks, a series of cauldrons, jacketed and surrounded with water. The water is heated by steam, and in turn beats the fat, which is melted at a temperature of from 122° to 124° Fah. When the fat is thoroughly melted the mechanical stirring is suspended, the particles of membrane settle to the bottom, forming "scrap," and a thin film of white emulsion of water and oil forms on the top. The latter is removed and the clear yellow oil is drawn off into wooden tank cars, which are sent into the "seeding" room to rest while the oil is granulating by the crystallization of the stearine. The melting process occupies from two to three hours, and the granulation fully twelve times as long, the temperature of the room being kept at 85° Fah.

The excess of crystallized stearine is next removed by straining under pressure. The fat is now packed in cloths set in moulds to form packages about the size of a common brick, the packages being placed on galvanized iron plates in presses. When a press is entirely filled the packages are subjected to slowly increasing pressure under which the fluid oil flows out, the stearine cakes being left dry and hard, when they are removed by an adroit flirt of a canvass wrapper.

Two important steps in the butter making process have thus been completed. The thoroughly washed suet has been deprived of the inclosing cellular tissues, and the excess of stearine. We have now a limpid amber-colored oil, perfectly sweet, and substantially the same as the oil of butter. When cooled this oil is slightly yellow, melts in the mouth like butter, and has an agreeable taste. At this stage it furnishes an excellent fat for culinary purposes, and may be kept for a long time without becoming rancid. This makes it much preferable to ordinary butter for naval uses.

To convert butter oil into butter, it is necessary for it to undergo the processes by which fat is converted first into cream and then into butter, in the udder of the cow and in the churn. So much of the daily product of the Company needed for home consumption is forced through pipes to the churning room. In the cow's udder the fat which is to be converted into cream is emulsioned by the action of the mammary pepsin in the milk. To accomplish the same end in the factory the butter oil is churned with milk for about twenty minutes, when the oil is entirely and minutely broken up. At the same time a small quantity of annatto is added, (commonly done in ordinary butter making, to heighten the color of the product.) The churning ended, the mixture is withdrawn from the churn into a tub of pounded ice. The sudden cooling causes the emulsioned oil to solidify without crystallization. After remaining for two or three hours in contact with the ice, the butter-like oil is worked over by hand and the pieces of ice removed. The product has now the appearance of freshly churned butter, but is deficient in the soluble butyric elements which give to butter its delightful flavor. To supply these elements of table-butter the product is churned a second time with nearly an equal weight of milk, during which process it takes up a sufficient quantity to make it to all intents and purposes the same as dairy butter; not so fragrant as the finer grades, but the more attractive to taste and smell than the average butter of the shops.

After the second churning the butter undergoes the same

operations of working over to press out the excess of milk, salting, packing, etc., as are practiced in our dairies; in these, as in the preceding operations, scrupulous cleanliness being a characteristic feature.

The Commercial Manufacturing Company receive an average of 100,000 pounds of fresh caul fat daily, from 40,000 to 50,000 pounds of butter being produced—equivalent to the yield of nearly as many thousand cows. From 20 to 25 pounds of beef oil suitable for butter making is obtainable from each of the 12,000 beeves killed every week for the requirements of New York and the adjoining cities, an annual addition to the food supply of this port of not less than 12,000,000 pounds of pure food, having a commercial value of from 15 to 20 cents a pound. The annual gain to the whole country from Mr. Mége's discovery runs high among the millions.

The following is an

ANALYSIS OF NATURAL AND OLEOMARGARINE BUTTER,
BY DR. H. A. MOTT.

Constituents.	No. 1. Natural Butter.	No. 2. Oleomarga- rine Co. Butter.
Water.....	11'968	11'203
Butter solids.....	88'032	88'797
	<hr/>	<hr/>
	100'000	100'000
Insol. fats.. { Olein.....	} 23'824	} 24'893
{ Palmitin.....		
{ Stearine.....		
{ Arachin.....		
{ Myristin.....		
Sol. fats.... { Butyrn.....	} 7'432	} 1'823
{ Caprion.....		
{ Caproin.....		
{ Caprylin.....		
Casein.....	.191	.621
Salt.....	5'162	5'162
Coloring matter.....	Trace.	Trace.
	<hr/>	<hr/>
	88'032	88.797

The low percentage of the bracketed compounds in artificial butter are both a defect and a merit, inasmuch as they give to butter much of its savor and fragrance and at the same time furnish the elements of its speedy spoiling. Lacking them, oleomargarine does not easily become rancid, and is, therefore, pleasanter and more wholesome when long kept.

Considerable misapprehension exists in the public mind about the merits of this article as a food product, owing

doubtless to its being comparatively new and to the misrepresentations about it. There are two sides to this, as to other questions, thus far only dairymen have been heard from. Producers of butter urge that oleomargarine injures their profits by preventing high prices for butter. But this argues good to customers, whose interests must also be considered.

An important benefit to consumers is that oleomargarine chiefly interferes with the sale of common butter, to which it is far superior, and it is mainly dealers in this butter who raise an outcry against the new product.

The complaints of farmers against oleomargarine are unfounded in fact and kept up only by appeals to unthinking prejudice. Oleomargarine is as much a farm product as beef or butter, and is as wholesome as either. It is as legitimate a product as lard or tallow, which might be as well proscribed as oleomargarine.

The only argument advanced by its opponents is that it is sometimes sold as butter; this practice, has been greatly exaggerated; wholesale dealers sell it for what it is, and most retail dealers do the same. It should of course be sold as oleomargarine, and the influence of the Commercial Manufacturing Company has been steadily exerted to that end. Apparently some of those loudest in the outcry against oleomargarine cannot comprehend that it is better to have it handled openly and above board, than by unscrupulous parties who might adopt the opposite course and encourage retail dealers to sell it as butter.

MISCELLANEOUS.

“Non omnes eadem mirantur ament que.”

OLD AGE.

Mrs. Scott of Tyrone, Pa., has just died in her 92d year.

Mrs. Betsy Mason of Mt. Morris, N. Y., is just rounding a century of life.

Mrs. Susan Fohl of Greenwich, Pa., died lately at the age of 97 years.

Laurel, Del., has lost its centenarian in the person of Grace, a negress, who has just died, aged 115.

Mrs. Gillespie of Morgan County, Ky., is 103 years old, and walks two miles to church every Sunday.

Matilda Stevens lived to be 105 years of age before she made a profession of faith, and was baptized at Paris, Ky., last Sunday.

An old lady, aged 96 of Carmel, N. Y., was the chief mourner, and went to the grave at the funeral of her daughter, aged 76.

Harry Skinner of Powell County, Ky., has thick hair coming on his bald head, and has lately cut several teeth, although he is nearly 90.

Admiral Philip Westphal, the oldest commissioned officer in the British Navy, died recently in the 98th year of his age. He entered the navy in 1794.

Florence Nightingale becomes an orphan by the death of her mother, aged 91. She herself is a great invalid, seldom leaves her room, but is never idle.

A violent fall killed recently the oldest Indian of the Alleghany Reservation, named John Lewis. He died at Salamanca just as he had completed a century of life.

Edwin Jackson of Tom's River, N. J., has just passed his 90th birthday, and has always enjoyed good health. He was for many years a boatman, and has never been in a railroad car.

When 94 years of age Mrs. Clark of Buffalo, found herself covered with bruises and a broken arm from kicks and beatings at the hands of her children. They locked her in a cold room for hours, but they are now in jail on her complaint.

Sim Ingraham of Wynn's Mill, Henry County, Ga., is said to be a century and a quarter old. He is very infirm, and totally blind, but can still make as good a bark collar as a mule ever looked through, and really seems to enjoy the occupation.

Mr. Henry Wood of Northfield, Ohio, is 90 years of age.

He began life as a boatman, enlisted as a fifer in Gen. Wadsworth's command in 1812, and was afterward promoted to Fife Major. Witnessed the public hanging of the Indian Omic, in June, 1812, and lived in Cleveland when the city consisted of four frame buildings.

An Ohio pioneer, James D. Covert, has just died at Mansfield. He went there from New Jersey in 1807. At Chautauqua, N. Y., his team gave out, and he and his family walked the rest of the way, and arrived with but \$3 in money. He worked steadily, and died the richest man in his township, leaving twenty-two children.

MEDICAL NEWS

“Nulla dies sine linea.”

A NEW form of parasitic disease is announced as having appeared among the laborers in the Italian tunnels.

DR. THEOPHILUS STEELE, a New York practitioner, was recently shot by an electrician.

A BILL has been introduced into the N. Y. Legislature requiring all physicians to register with the county clerk and refusing the right to practice to any one not in the possession of a license or diploma. Any non-resident desiring to practice in New York State must first pass an examination as to his qualifications, and pay twenty dollars to the Medical College examining.

DR. EMMA M. NICHOLS was recently appointed a physician to the State Woman's Hospital, Illinois.

DR. E. J. MAYBURY, a prominent physician of Binghamton, died recently.

AN apothecary poisoned a woman in Birmingham, England, by substituting *Ol. Phosp.* for the *Ol. Morrhuæ Phos.* ordered by the physician.

EVERY death has to be registered in Fiji and the native scribes often add, “the medicines were prescribed by the missionaries.”

DR. RUDOLPH BUCKHEIM, Professor of Materia Medica in Giessen, Germany, is dead.

PROF. F. T. MILES has resigned the Chair of Anatomy in the University of Maryland for that of Physiology in the same school.

Dr. C. K. GREGG, of Texas, has been appointed assistant resident physician to the University of Maryland Hospital.

DR. THOS, A. COOKE, a native of Gloucester Co., Va., died recently in New Orleans at the age of seventy.

DR. BENJAMIN GRIGSBY MCPHAIL, of the U. S. A. died March 10, 1880.

DR. BRADFORD, of Marshfield, Missouri, was killed by the late tornado.

THERE are 3,015 insane in the New York City Asylums.

THREE children died in New York City during one week last month from erysipelas after vaccination with matter procured from the N. Y. City Board of Health.

DR. WILLIAM G. MORTON is to deliver the spring course of lectures on Nervous Diseases at the Medical Department of the University of Vermont.

THE Trustees of the Binghamton N. Y. State Insane Asylum have been charged with frauds on the State Government to the extent of \$100,000.

THE daughter of the King of Wurtemberg has just married, with the consent of her father, a physician by the name of Von Kirchbach, whose name she assumes.

SIR THOMAS WATSON recently celebrated his eighty-eighth birthday.

DR. WILLIAM SHARPEY, of "Sharpey and Quain's Anatomy" fame, died a short time ago.

THE bill to regulate the practice of medicine has passed the New York State Senate.

THE French are endeavoring to make *revaccination* compulsory,

DR. H. GRADLE has been elected Professor of Physiology in the Chicago Medical College.

DR. JNO. RUNKEL, an old physician of Gettysburg, Penn., died recently in the ninety-fifth year of his age.

EDISON'S Polyform consists of chloroform, chloral, aconite and camphor.

A BILL to secure the registration of births has passed the New York Assembly.

DR. J. E. ATKINSON, of Baltimore, has been elected a member of the Faculty of the University of Maryland.

DR. J. E. MICHAEL has been elected Professor of Anatomy in the same School.

In a recent New York malpractice suit against Drs. Catlin and Elmendorf for \$100,000 damages, the jury disagreed, standing three for the plaintiff and nine for the defendants.

DR. J. H. BARNES, author of "Syphilis and Syphilitic Affections of the Nervous System," died recently from a nervous affection produced by syphilis contracted by examining a syphilitic puerperal patient.

DR. WILLIAM THOMPSON has been elected Honorary Professor of Ophthalmology in Jefferson Medical College.

A NEW Insane Asylum for colored people, the second in the United States, will soon be opened at Goldsboro, N. C.

A CASE was recently decided in favor of the defendant in an Ohio Court, where suit was brought for damages caused by an autopsy on the body of the plaintiff's husband. The Judge held that there could be no property in a dead body.

DR. A. A. SMITH has been appointed Professor of Therapeutics, Materia Medica and Clinical Medicine in Bellevue Hospital Medical College.

DR. MATTHEW KEMPF, Professor of Surgery in the Kentucky School of Medicine died recently. Dr. A. B. Cook has been appointed to the vacant chair.

DR. W. T. BULL has been elected visiting physician to Roosevelt Hospital.

A PATIENT was recently burnt to death at the New York City Lunatic Asylum, Blackwell's Island.

A PATIENT with delusions of persecution, being allowed by the superintendent of the New York City Asylum for the Insane, Ward's Island, to work unwatched, killed a fellow patient.

A LUDICROUS but at the same time rather unpleasant episode happened at the New York City Insane Asylum, Ward's Island, recently. A patient's mother received notice that he was dead, her intentions as to burial were asked, she procured an undertaker who, in company with a coffin, ice and herself, went to the Asylum, where the sorrowing mother was shown a body said to be her son's, which she indignantly denied, but overborne by remonstrances allowed it to be placed in the coffin and removed to her home. Here the relatives strenuously denied that the body was that of their friend. In consequence of the prolonged remonstrance the matter was investigated, and the supposed dead man was found to be alive. An error as to his name had caused all the trouble which, as the Commissioners of Public Charities and Corrections had to pay \$30 to the undertaker, will lead to serious results for somebody.

THE N. Y. County Medical Society recently admitted a graduate of a Homœopathic College without further examination.

EDITORIAL.

“Nullius addictus jurare in verba magistri.”—HOR.

AMERICAN MEDICAL ASSOCIATION.—When this number of the JOURNAL is issued the Association will be in session. There is a prospect of this being very highly successful, though one must be devotedly attached to medical science in all of its departments to be enthusiastic over a forensic display of it while the thermometer registers a temperature suggestive only of sea-side resorts, the pinnacles of mountains, conjoined with ice *ad libitum* and absolute mental repose.

Many physicians are anxious that the Association should enact a By-Law requiring all Societies in affiliation with it

to elect annually or quarterly a Committee on Medical Ethics whose unavoidable duty it shall be to report to the Society all violations of the code of ethics. It must be admitted by all that such a By-Law would be most beneficial, for at present there are few indeed who would undertake the disagreeable duty of reporting a medical brother for indiscreet behavior. With a Committee there could be no feeling or personal element in the matter ; it would be simply a discharge of duty. Scientific papers *in extenso* will of course be read and published, yet this piece of legislation would be as much welcomed as many of the best papers to be eventually published. The need for it is admitted.

It is to be hoped that there will be a full attendance, for New York physicians are prepared to receive fraternally all who may come.

THE REVIEW DEPARTMENT has been curtailed in this issue to give room for the valuable and lengthy papers presented. The Index also has required space and is much needed. In the next number the Review Department will receive especial attention.

ADDRESS OF ALL COMMUNICATIONS.—The address of all communications intended for this JOURNAL or its editor should hereafter be simply New York. There has been so much confusion and error in regard to the local address heretofore used that this change is deemed best.

All letters, papers, books or manuscript should therefore be simply directed New York. Publishers of books are requested to direct thus the customary notifications of all books sent to the JOURNAL, when their volumes will be called for as each publisher may indicate.

POPULAR PUBLICATIONS.—Many American physicians, adopting the fancy of Richardson of London, are writing medical treatises for popular use, and so numerous have been the recent publications thus issued, that the attention of very many has necessarily been given to this subject. The old aphorism in regard to a little learning being a dangerous thing has been practically disregarded, for almost every one

who runs is now asked to indulge in the study of scientific problems requiring for their elucidation the most erudite preparation. At present nothing more will be done than to direct the attention of the medical public to the subject. Doubtless one or more readers of this JOURNAL will take pleasure in writing something in reference to it. The question is reserved for future discussion in the editorial columns of the JOURNAL.

BOYLE COUNTY MEDICAL SOCIETY (Ky.,) has sent memorial resolutions in regard to the son of Dr. L. A. Sayre, of New York. Received too late for this number, they will appear in the July issue.

IN the April Number of this JOURNAL an error occurred among the news items, which it affords the editor pleasure to correct. The St. Michael's Hospital to which allusion was made, is in Newark, and not in Jersey City, N. J. In alluding to the "squabble," no disrespect was intended towards the senior physician, Dr. James Elliot, who is justly esteemed and respected by all.

MEDICAL ITEMS.—An admirable portrait of Dr. S. D. Gross appears in the *College and Clinical Record* (Pa.) for March.—The greater portion of a pancreas has been passed by the rectum, as is stated by the *Pacific Medical and Surgical Journal*.—Rokitansky donated a similar specimen to the Pathological Museum of Vienna.—The same *Journal* states that diplomas of the University of Naples have been discovered in the possession of those who never studied medicine. The American disgrace has, it seems, its counterpart abroad.—The disposal of sewage is again attracting deserved attention. Now that the earth-closet system has proved a failure, absolute and entire, this matter deserves the attention of all. What is new and reliable in regard to it will be discussed in future issues.—LAST NOT LEAST.—To issue this JOURNAL in the present style requires a large cash outlay. The editor thanks all who have sent such kind letters in regard to the improvements; and he asks every reader who is in arrears to send forward what is due.

26AL 343

