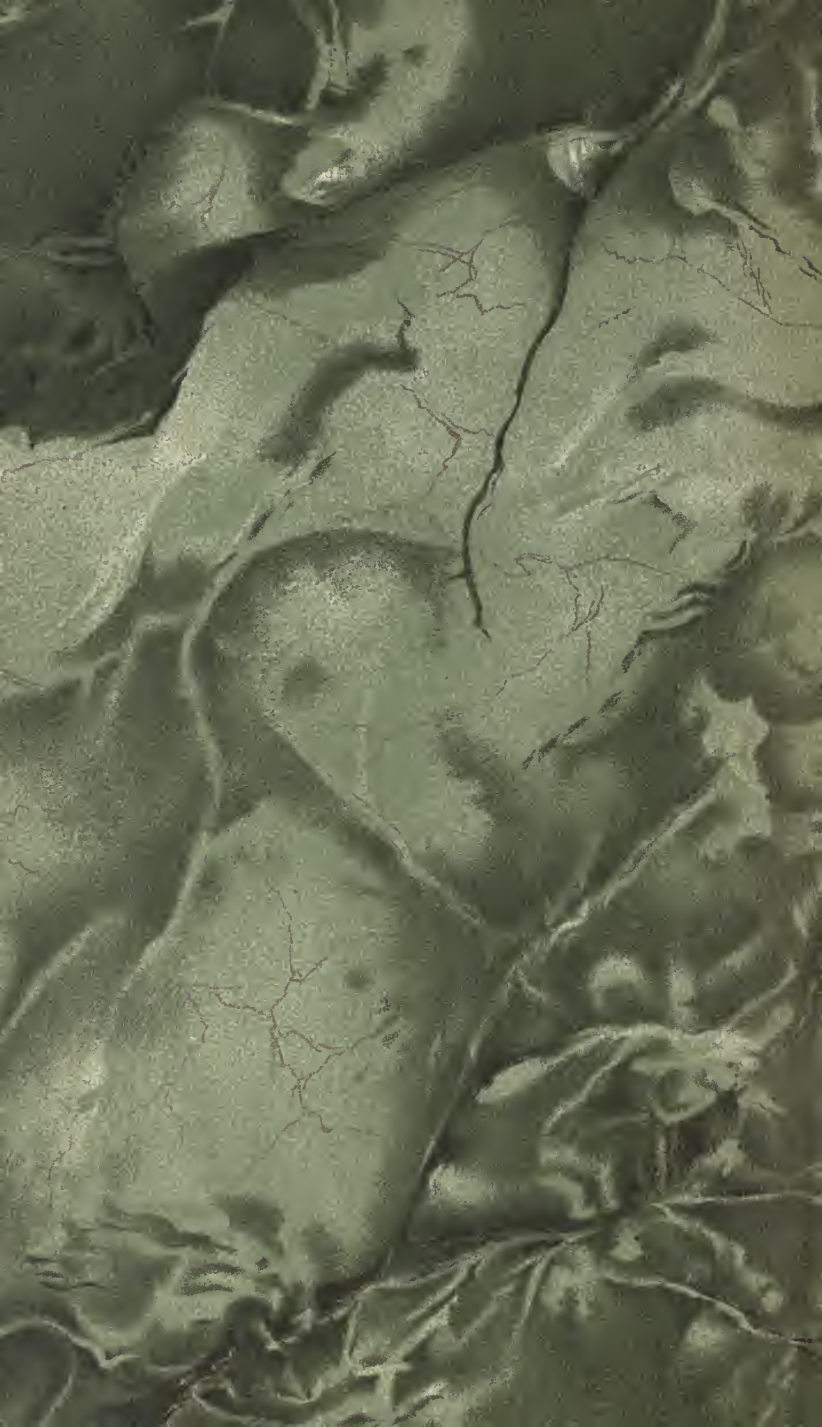

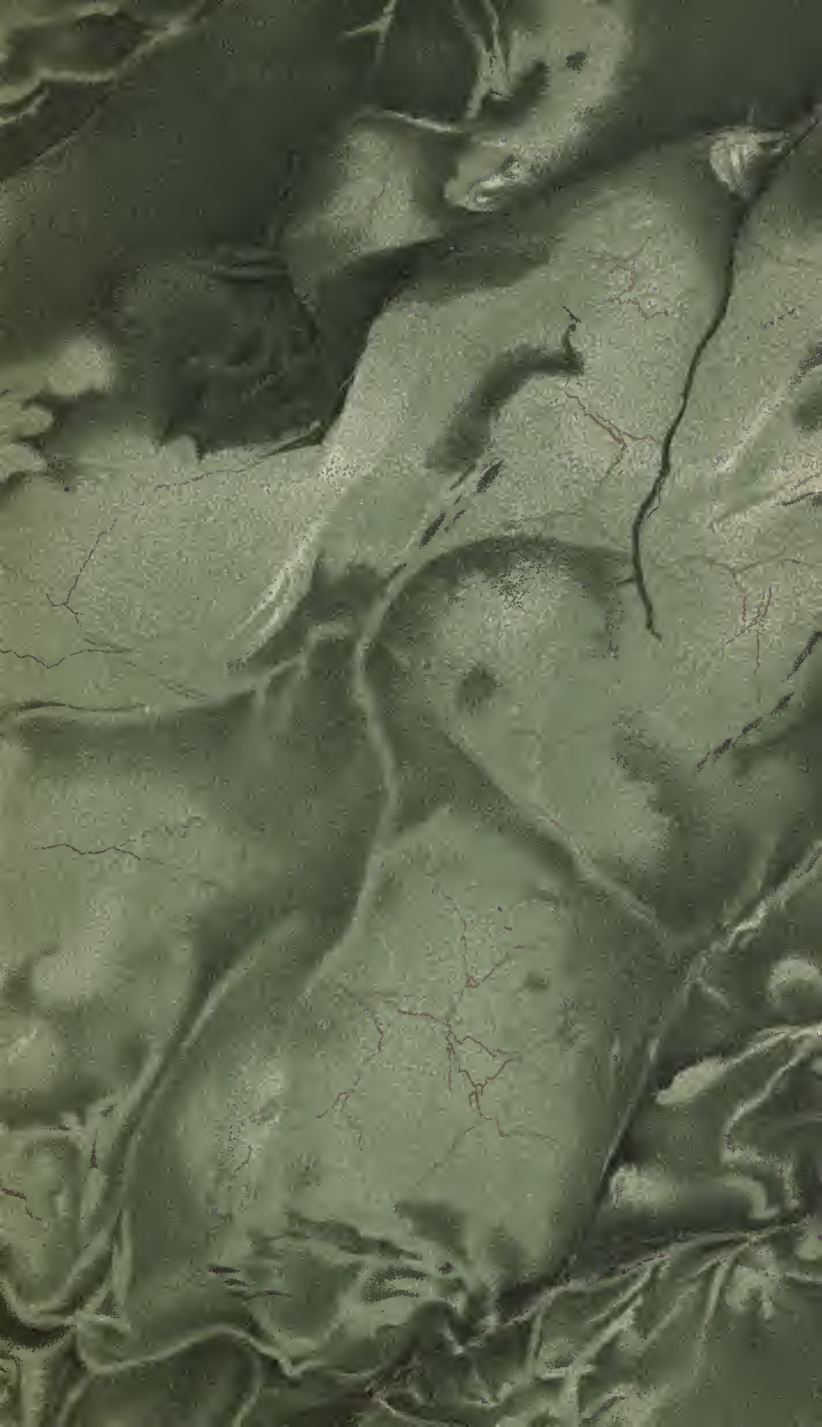

American Medical Associat.
" Council on Pharmacy & Chemistry

ANNUAL REPRINT OF THE REPORTS

OF THE

COUNCIL ON PHARMACY AND CHEMISTRY

OF THE

AMERICAN MEDICAL ASSOCIATION

FOR 1914

WITH THE

COMMENTS THAT HAVE APPEARED
IN THE JOURNAL

Press of
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1915

PREFACE

The reports of the Council on Pharmacy and Chemistry of the American Medical Association have appeared from time to time in THE JOURNAL. The more strictly scientific parts of the reports, however, both from lack of space and because of their technical nature, have been abstracted or entirely omitted from the reports thus published. Believing that these scientific investigations should be available to scientists in general, especially to chemists, pharmacologists and others interested in medicine, the Council has authorized the preparation of this volume, containing the complete reports of the Council adopted prior to Jan. 1, 1914, as well as the comments which have appeared at the time of publication.

In previous years by far the greater portion of the Council's investigations have not been published for two reasons. First, it was thought that many of the products found ineligible did not justify reports because they were of interest to few physicians; and, second, it was desirable that the manufacturers should be given an opportunity to modify or improve the preparations found ineligible and thus make them acceptable to inclusion in N. N. R.; therefore, publication of reports dealing with rejected articles was postponed so far as possible. The Council having been in existence for nearly ten years, manufacturers have had ample time to adapt themselves to new conditions, and one of the reasons for delayed publicity no longer holds good. So far as the other reason is concerned, inquiries which come to the Council and to THE JOURNAL indicate that physicians do, for various reasons, seek information in regard to many proprietary products regarding which no report has been published. The Council, therefore, has decided to make public, even when no detailed reports are prepared, a brief outline of the reasons which led to the rejection of articles, and has authorized the publication of the abstracts which appear at the end of the present volume, under the heading "Abstracts of Council Action."

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Reports of the Council on Pharmacy and Chemistry

SAL HEPATICA

Report of the Council on Pharmacy and Chemistry

(From The Journal A. M. A., Feb. 7, 1914, p. 472)

Sal Hepatica, marketed by the Bristol-Myers Co. of New York, has been refused recognition by the Council, because its composition is secret; because it is advertised indirectly to the public for the treatment of diseases; because exaggerated and unwarranted claims are made for its therapeutic qualities; and because the name fails to indicate its chief constituents but does suggest its use in liver disorders.

The Council has authorized the publication of the report of its referee, because it is an important illustration of the ways in which physicians are being made parties to the introduction to the public of a patent medicine, whose indiscriminate use must often have resulted in harm, direct or indirect.

W. A. Puckner, Secretary.

The report of the referee follows:

Sal Hepatica is a saline laxative sold by the Bristol-Myers Company of New York. No information seems to be given regarding its composition except such as is contained in the following vague and uninforming phrases:

"Effervescent saline combination, hepatic stimulant, laxative and an eliminant of irritating toxins."

"Sal Hepatica is a saline combination containing the alterative and laxative properties similar to the natural 'Bitter Waters' of Europe with the addition of sodium phosphate."

". . . more palatable and efficient than sodium phosphate alone or other salines."

A circular around the bottle contains the following:

"We invite the physicians' careful consideration of the merits of Sal Hepatica in the treatment of Rheumatism and Gout, in Constipation and Auto-intoxication, and to its highly important property of cleansing the entire alimentary tract, thereby eliminating and preventing the absorption of irritating toxins and relieving the conditions arising from indiscretion in eating and drinking."

In the same circular, its promiscuous use is invited in these terms:

"Owing to its palatability, Sal Hepatica is particularly well adapted to the requirements of childhood or the feeble and delicate."

Further suggesting its use in the treatment of that popular, if somewhat vague ailment, "biliousness," we read:

"It is especially valuable where there is intestinal sluggishness arising from functional derangements of the liver or portal circulation. . . ."

As further suggestive of its all-around "goodness," are the claims:

"It increases the appetite and promotes digestion by stimulating the flow of gastric juice."

"In rheumatism and gout Sal Hepatica furnishes the physician with an ideal eliminant, usually affording prompt relief."

The label on the Sal Hepatica bottle suggests — both to physicians and the public—its use in the following diseases and conditions:

"Derangements of the stomach and liver."
"Affections of the kidneys."
"Bilious attacks."
" 'Summer complaints,' colic and alcoholic excesses."
"Headache, dizziness, heartburn and seasickness."
"Acute indigestion."
"Gastric, hepatic and renal disorders."
"Especially beneficial in rheumatism and gout."

From these quotations it is evident that Sal Hepatica is in conflict with:

Rule 1, in that its composition is not disclosed, although statements are made which are likely to give a false impression as to what it is;

Rule 4, in that the statements on the label and in the circular around the bottle advertise it to the public and thus make the physician who recommends it an advance agent for the nostrum:

Rule 6, in that exaggerated and unwarranted claims are made for its therapeutic qualities, and,

Rule 8, in that its name fails to indicate its chief constituents, but does suggest its use in liver disorders.

The absurd claims made for this preparation are such as to put it in the "patent medicine" class. Even the most credulous members of the medical profession certainly can take no stock in the claim that a preparation can be an "eliminant" of uric acid, a hepatic stimulant, a remedy for gout, rheumatism, liver disease, indigestion, etc. Why then should such a preparation be tolerated?

In its conflict with Rule 4 Sal Hepatica belongs to that class of nostrums which have been so successfully exploited by manufacturers through the unwitting efforts of thoughtless and careless physicians. The Bristol-Myers Company has been most liberal in distributing free samples, evidently with the assurance that physicians would do the rest. Thus, at the present time, the profession is being supplied with a package containing one regular 25-cent bottle and five single-dose vials bearing the name Sal Hepatica. If only a small percentage of the physicians who receive these samples distribute them, the increase in Sal Hepatica consumers may be imagined. How successful this scheme of the Bristol Myers Company has been is only too evident. Sal Hepatica is one of the best-selling laxatives in department stores and drug stores to-day.

While the evils of indiscriminate purgation are now generally recognized, the referee wishes to quote and to indorse the pertinent comments on this subject by THE JOURNAL:[1]

"The abuse of saline cathartics by the public is an evil deserving of serious attention. Rightly or wrongly, the laity fear constipation and naturally take what they are taught to believe is the cheapest and simplest course for its relief, self-drugging by means of saline cathartics or the extensively advertised purgative mineral waters. This habit is responsible for much of the distressing spastic constipation that exists, and its accompanying neurasthenia. The advertisement and sale to the laity of such a nostrum as "Sal Hepatica" can only increase these evil results and the physician who aids and abets the evil by using the preparation should reflect whether he is thereby not only encouraging a fraud on the public but also, what is even worse, helping to impair the public health."

It is recommended that this report be authorized for publication in order that physicians may know the extent to which they have been made to act as advance agents for "patent medicines." It is hoped its publication may suggest to those who in thoughtlessness have recommended Sal Hepatica, that they go to their materia medica and renew acquaintance with the host of simple and efficient laxative salts which are available — magnesium sulphate, sodium sulphate, sodium phosphate and the palatable effervescing preparations of these which the Pharmacopeia provides — effervescent magnesium sulphate (Magnesii Sulphas Effervescens, U. S. P.), effervescent sodium phosphate (Sodii Phosphas Effervescens, U. S. P.).

1. THE JOURNAL A. M. A., March 26, 1910, p. 1071.

PAM-ALA, ANOTHER WORTHLESS QUININ SUBSTITUTE

Report of the Council on Pharmacy and Chemistry

(*From The Journal A. M. A., Feb. 28, 1914, p. 715*)

The following report of a referee on Pam-ala, an asserted malaria specific, was adopted by the Council and its publication authorized. W. A. PUCKNER, Secretary.

Soon after publication of the Council's report on Sinkina, an alleged malaria specific proved worthless, the referee's attention was called to Pam-ala, which is sold under very similar claims.

According to the advertisements which have been appearing in Southern medical journals, Pam-ala is "A new and effective remedy for MALARIA."

The label discribes Pam-ala as "An Effective Vegetable Remedy For MALARIA. Guaranteed free of any Quinine, or other harmful [*sic*] drugs." It is said to be indicated in "Malarial Intermittent and Remittent Fevers, especially curative in Chronic Malaria and Malarial Cachexia and all conditions even where Quinine fails." One tablespoonful three times a day is said to be the "Curative Dose," while one tablespoonful three times a week is stated to be a "Prophylactic Dose." The label further claims that Pam-ala "Surpasses Quinine in its action and has none of its Disadvantages." Assertions that Pam-ala is superior to quinin are followed by the usual "guarantee" claim: "Guaranteed by the Pam-Ala Co. under the Drugs Act, June, 1906, Ser. No. 2909 A." Finally, the label says that it is "Endorsed by Medical Authorities Throughout the world."

As regards the composition, a circular says that "PAM-ALA is a purely vegetable remedy for the cure, without Quinine, of all forms of Malaria." "'PAM-ALA' is derived from a plant of the genus Umbelliferae, a native of the mountainous regions of Mexico and northern parts of South America. Its medicinal properties have not been known to anyone but the native Indians, who for years past have used it as a specific in all forms of fever and malarial diseases so prevalent in tropical countries. The seeds are more active as a therapeutic agent than the dried-up plant; hence their collection for medicinal purposes requires special skill in the selection of the same so as to be able to extract all the possible medicinal properties from them, viz: its active principle. An oil may be abstracted from the seeds which is of a yellow color with an intense characteristic odor."

At the close of the circular the following unenlightening formula appears:

Each fluid ounce contains:
Ext. Fld. Pam-ala ..... 10 per cent.
Alcohol ..... 15 per cent.
Ol. Aurant Syr. Sacchari aqua ad. q. s.....100 per cent.

In addition to being a cure for malaria, Pam-ala is claimed to have a "favorable influence upon the broncho-pneumonia of measles . . .," "will avert an attack of acute catarrh," and "abort acute tonsilitis."

The testimonials are of the usual character. Most of them seem to have been given some four years ago by physicians in Italy, Cuba, Porto Rico, Guatemala, etc., and therefore cannot readily be looked into. Two are of more recent date and come from physicians in this country. They furnish good illustrations of the manner in which proprietary concerns make use of opinions hastily formed and thoughtlessly put in writing. One testimonial was given in July, 1912:

"I take pleasure in testifying to the seemingly marvelous and gratifying effect of Pam-ala in 2 cases of malaria. . . ."

On Jan. 2, 1914, its writer, in reply to an inquiry whether in the light of continued experience, his first estimate of Pam-ala had been confirmed, wrote:

". . . Since then I tried Pam-ala on a number of cases without any results whatever; in fact my patients seemed to get worse until I resorted to the usual treatment of malaria, mercurial laxative followed with quinin. I was too hasty in stating that Pam-ala cured malaria. I now know and have known since August, 1912, that Pam-ala will not cure malaria. . . ."

The writer of the second testimonial is reported to have written that he tried Pam-ala "on a most pronounced case of malarial spleen with the most excellent results" and that he "also tried Pam-ala on a case of Malarial Cystitis and Hematuria, with entire satisfaction." In reply to inquiry this physician admits that he was "very favorably impressed with the preparation at the time." He states that at that time he was also trying out Sinkina and that after six months he "discontinued the use of both as the results did not warrant further investigation." He concludes:

"With due allowance for the fact that certain cases will for a time improve on any kind of treatment, new or old, I see no reason for supplanting or even augmenting, the recognized treatment for malarial conditions, with either Pam-ala or Sinkina."

Incidentally it should be mentioned that this physician also noted the general similarity of Sinkina and Pam-ala. He observes:

"The physical appearance and properties of the two preparations seem to be identical, the advertising matter and literature are surprisingly alike and the only marked difference seems to be that one remedy is purported to be prepared from a 'new' South American plant and the other from an equally fresh discovered addition to Asiatic flora."

WHAT IS PAM-ALA?

From a comparison of the statements regarding the composition which are made for Sinkina and for Pam-ala, as well as from the physical characteristics of the preparation, particularly the odor and taste, it seems evident that the essential constituent is oil of cumin. Although definite proof that oil of cumin forms the essential constituent of Pam-ala would have shown the worthlessness of this nostrum for the reason that the clinical investigation of Sinkina proved the worthlessness of oil of cumin, it did not seem worth while to the referee that this be demonstrated by chemical analysis. It seemed to him that in such cases as these, the secrecy with which the identity of the preparation is surrounded, as well as the extravagant and highly improbable claims, should be sufficient to condemn it.

HYPEROL

Report of the Council on Pharmacy and Chemistry

(From The Journal A. M. A., April 18, 1914, p. 1271)

The Purdue Frederick Company, exploiters of Gray's Glycerine Tonic, have recently been advertising to the medical profession a nostrum called Hyperol. The following report to the Council, by the referee, was adopted and its publication authorized. W. A. PUCKNER, Secretary.

According to the label, Hyperol is "A Utero-Ovarian Corrective and Tonic." The circular accompanying the trade package states that it is:

"Indicated in all functional diseases of women such as: Amenorrhea, Dysmenorrhea, Menorrhagia, Metrorrhagia, Subinvolution, and in all conditions requiring a utero-ovarian corrective and tonic."

From another circular we learn that:

"Hyperol is a combination of Hydrastine, Aloin, Iron, Apiol and Ergotin. Its components to a certain extent will indicate its action, but the therapeutic effects of each ingredient seems to be augmented to an unusual degree by use in this particular combination. The proportions of each have been determined by extensive clinical experimentation, and the formula seems to be exactly balanced to produce the best therapeutic effects in all derangements of the utero-ovarian functions."

This "formula" is not very enlightening and a physician who wrote for further details was told that Hyperol contained:

Hydrastin	1/40 gr.
Aloin	1/12 gr.
Iron salts	3 gr.
Apiol (Special)	3 m
Ergotin	1 gr.
And excipients.	

If this is correct, then, so far as its active ingredients are concerned, Hyperol is but a mixture of well-known drugs, having contradictory properties. According to the claims in the circular quoted above, it is useful both in amenorrhea and in menorrhagia. The mixture is as unscientific as it is unnecessary. It cannot be adapted to any individual case; when ergot is indicated, apiol would naturally be contraindicated; if aloes is appropriate, hydrastis may defeat the object sought. It is unnecessary because no intelligent physician would prescribe such a combination of drugs in any given case. The claims are exaggerated, improbable and foolish. Hyperol conflicts with the following rules of the Council:

Rule 4, in that statements on the label and in the circular enclosed with the trade package advertise it to the public in the treatment of diseases.

Rule 6, in that exaggerated and unwarranted claims are made for its therapeutic qualities.

Rule 8, in that the name of this pharmaceutical mixture fails to disclose the potent constituents.

Rule 10, in that it is unscientific.

It is recommended that publication of this report be authorized to call attention to the unscientific character of such complex mixtures.

EDITOR'S NOTE: Hyperol is advertised in *American Medicine* and the *St. Paul Medical Journal.*

VALENTINE'S MEAT JUICE

Report of the Council on Pharmacy and Chemistry

(From The Journal A. M. A., May 2, 1914, p. 1419)

Some time ago[1] the Council authorized publication of a report dealing with the composition and claims made for a number of the more generally advertised meat and beef juices. Among these was Valentine's Meat Juice. This it was shown was sold under an incorrect name, the claims for its composition were not truthfully stated and its exploiters made false and misleading claims in regard to its food value. As Valentine's Meat Juice is still widely advertised the referee in charge of this class of products deemed a reexamination of the product advisable. This was made and on it was based the following report which has been submitted to the Council, adopted, and its publication authorized.

W. A. PUCKNER, Secretary.

Your referee has had examined recently purchased specimens of Valentine's Meat Juice (Valentine's Meat Juice Company, Richmond, Va.). The examination shows that it has virtually the same composition as that given in the report of the Council "Meat and Beef Juices" published in THE JOURNAL, Nov. 20, 1909. It contains practically no coagulable protein material, one of the products characteristic of a meat juice. It is essentially a diluted meat extract.

The following statement found in former circulars now seems to have been eliminated:

"The two-ounce oval bottle, adopted for the Meat Juice contains the concentrated juice of four pounds of the best beef, exclusive of fat; or the condensed essence of one and a half pints of pure liquid juice which is obtained from the flesh of beef."

An endeavor is still made, however, to convey the idea that the product contains coagulable protein, as shown by the following:

"Boiling water changes the character of the preparation."

"The use of boiling water with the Meat-Juice changes the character of the Preparation."

The proprietors undoubtedly know that the product does not contain any coagulable material and that the statements just quoted are plain misrepresentations.

The advertising circular contains a large number of "Testimonials of the Medical Profession." As all are undated, one cannot tell how old these testimonials are. One physician recommends it highly for hypodermic use; another says, "I have kept cases on it and it alone for days, without attempting to give any other food, and the results have been entirely satisfactory." According to another, it is "most invaluable in typhoid fever and also in diphtheria."

1. THE JOURNAL A. M. A., Nov. 20, 1909.

Valentine's Meat Juice conflicts with the following rules of the Council:

Rule 1, in that its composition is not correctly given;

Rule 6, in that unwarranted therapeutic claims are made, the profession being led to believe that the product is highly nutritious and is valuable in the treatment of pneumonia, diphtheria and typhoid fever;

Rule 8, in that the name is objectionable, for while sold as a meat juice, in reality it has the character of a meat extract.

Valentine's Meat Juice is a fraud on the public, and in view of its continued exploitation under false claims, the referee recommends that the Council reiterate its former condemnation and authorize the publication of this report.

EDITOR'S NOTE.—The difference between meat extracts and meat juices was fully discussed in the previous report of the Council. Meat "juices" are made by the cold expression of meat with subsequent evaporation, in such a way that the nutritious coagulable proteins remain in solution. In making meat "extracts," heat is used which almost completely removes the coagulable proteins and thus renders it practically devoid of nutrient qualities.

A list of some of the medical journals that carry advertisements of Valentine's Meat Juice, follows:

Pediatrics
Old Dominion Journal of Medicine & Surgery
Medical World
Virginia Medical Semi-Monthly
Medical Times
American Medicine

BROMIDIA

Report of the Council on Pharmacy and Chemistry

(From The Journal A. M. A., May 16, 1914, p. 1573)

The following report was submitted to the Council by a member of its Committee on Therapeutics, with the recommendation that publication be authorized. This recommendation was adopted.

W. A. PUCKNER, Secretary.

Bromidia (Battle & Co., St. Louis) at once suggests bromids; yet Bromidia is essentially a chloral rather than a bromid preparation. This nostrum illustrates the need of the provision in the Council's Rule 8 under which recognition is refused pharmaceutical mixtures whose names do not indicate their most potent ingredients. While the chloral content of Bromidia has been given considerable publicity, yet the preparation is used both by physicians and by the public without due consideration of its potent ingredient. This fact is attested not only by the fatal results which have

followed its use but also by the many reports of habit formation. As long ago as in 1887 a fatal case of poisoning was reported[1] to the medical society of the District of Columbia due to an overdose taken by a Bromidia addict. The physician who reported this case also gave his experience with another patient who had the Bromidia habit. In the discussion of the paper a number of cases were reported by others present in which Bromidia had been taken without a physician's advice and with more or less grave symptoms of poisoning.

In the report of a death of one who had been a slave to Bromidia it was said:[2] "When the body was found, there were eleven one-ounce Bromidia bottles about the room or on his person. Nine were entirely empty and the other two were about half full. None of these bottles indicated that they had been purchased on a physician's prescription, only the druggist's label marked 'Bromidia' being on them."

Dr. Horatio C. Wood, Jr., gave[3] a striking illustration of how preparations like Bromidia come to be used even by physicians without consideration of their constituents:

"Within an hour after his father, a Brooklyn physician, had given him a dose of bromid, H.G.P., a prodigal son, died yesterday at his father's home in Brooklyn. Two years ago, when he appeared to have sown his wild oats, the father made him superintendent of his country place, near Grants Mills, Delaware County. A week ago the son left his place, and at 1 o'clock yesterday morning appeared at his father's Brooklyn home. He was nervous, and at 9 a. m. begged for a sedative.

"'I prescribed the usual quantity of bromidia,' the young man's father told a reporter. 'He was weak and had suffered from weak heart and kidney trouble for some time.'

"An hour later the father found the son dying and administered restoratives, but to no avail."

A circular, "The Advantages of Bromidia," makes it plain how physicians come to use a preparation like Bromidia without consideration of its potent constituent. In this circular the presence of chloral is at first frankly admitted, then it is suggested that in the combination the evil effects of chloral are completely eliminated and in the end the impression is left that Bromidia is practically innocuous. Thus at the beginning while arguing that Bromidia is better than extemporaneous preparations the chloral content is plainly acknowledged:

"In the untoward effects so frequently attending the use of extemporaneously prepared mixtures of chloral and the bromides, may be found the reason for BROMIDIA's preference when the need for a hypnotic agent arises. Were it not for the well known disadvantages of these drugs which become still more marked with their continued use, there could be no special need for such a preparation as BROMIDIA (Battle), for the therapeutic powers of chloral and the bromides are among the most positive facts in medicine."

1. THE JOURNAL A. M. A., July 9, 1887, p. 55.
2. THE JOURNAL A. M. A., April 21, 1906, p. 1220.
3. THE JOURNAL A. M. A., April 21, 1906, p. 1220.

Again:

"It was to meet the growing professional demand for a combination of chloral and the bromides with their evil effects eliminated, that led to the manufacture of BROMIDIA (Battle)."

Then, suggesting the indiscriminate use of Bromidia—as an entity as Dr. Wood suggests—the claim is made that:

". . . its constituents have been chosen with a view of enabling Bromidia to meet every requirement for an agent of its class."

"Owing to the exceptional purity of its component parts and its freedom from untoward effects when continued over long periods, this product will be found of the highest utility in epilepsy."

". . . its action is that of chloral and the bromides minus their evil effects."

Finally Bromidia becomes a simple bromid preparation. Thus an advertisement reads:

"Bromidia's (Battle) Marked Sedative and Antispasmodic Qualities eminently fit it for the treatment of Maniacal Excitement, Epilepsy, Spasmodic Asthma, Convulsive Seizures of Reflex Origin, Sexual Neuroses, and other disorders attendant upon nervous irritability.

"Through its exhibition, the fullest therapeutic power of the bromides may be secured with a minimum of their evil effects; a feature of the greatest service when the necessity for continued treatment becomes necessary."

In addition to the general invitation to use Bromidia in epilepsy and various nervous disorders, a circular also recommends its use in typhoid, a recommendation, which, if followed, may turn the scale in favor of a fatal result. The circular states:

"As a soothing agent in the extreme restlessness and irritability of typhoid fever and other infectious diseases, BROMIDIA (Battle) is a therapeutic weapon of definite service. Relief of the headache of typhoid may also be secured through the use of BROMIDIA (Battle). By means of its administration for the above purposes, the patient's strength is conserved and as a result he is much better prepared to stand the force of the infection."

Particularly vicious is the recommendation that it be given to children. Thus, in a pamphlet entitled "Effective Drugs Effectively Combined":

"Another point of advantage to be found in bromidia is the ease with which it is borne by children. Owing to this tolerance, it is of distinct service in a considerable list of disorders of childhood. Thus, of course, employed with care and an understanding of its potency, bromidia has a field of usefulness in chorea, laryngismus stridulus, and whooping-cough. In other nervous disorders of childhood—those attending acute infections, for instance—bromidia is a definitely indicated therapeutic aid, owing to the soothing influence exerted by even a moderate dose and the absence of untoward effects. More specifically, the correcting influence of bromidia in the night-terrors of children may be mentioned."

Formerly advertisements asserted that each fluidram of Bromidia contained:

"Chloral hydrate	15 grains
"Potassium bromid	15 grains
"Extract of Cannabis indica	⅛ grain
"Extract of henbane	⅛ grain"

This formula also appears on the label of a sample package sent through the mails during 1914. A recent circular contains a somewhat different formula. Instead of "1/8 gr. each of gen. Imp. Ext. Cannabis Ind. and Hyoscyam." as was formerly claimed, each fluidram of Bromidia is now said, not to "contain" but to "represent," not the extracts but the far less potent drugs "Cannabis indica 1/8 grain, Hyoscyamus 1/8 grain," thus:

"Chloral hydrate	15 grains
"Pot. brom.	15 grains
"Cannabis indica	⅛ grain
"Hyoscyamus	⅛ grain"

Furnishing still greater variety, the labels on a recently purchased bottle of Bromidia, where under the Food and Drugs Act the presence of narcotic drugs must be declared, read:

"Alcohol 10 per cent., Chloral Hydrate, 91 grs. per ounce. Cannabis indica indeterminate in finished product."

"In the manufacture of BROMIDIA to each drachm of fluid used are added 15 grains of pure chloral hydrate and purified brom. pot., and ⅛ grain each of gen. imp. ext. cannabis ind. and hyosciam."

These various statements as to the composition of Bromidia leave one very much "in the air." As chloral and potassium bromid are easily determined and since lying on the labels of widely exploited proprietaries has become somewhat risky recently, it is probable that the statements on the trade package are to be depended on and that each fluidram of Bromidia contains something like 12 grains each of chloral and potassium bromid and not 15 grains as the medical profession has been and is being told.

Pharmacists who have attempted to put up a nonproprietary preparation similar to or, more correctly, having the alleged composition of Bromidia have found it practically impossible to do so. The reason is that extract of cannabis indica is almost insoluble in a menstruum such as that found in Bromidia. The National Formulary, first edition, listed Mistura Chlorali et Potassii Bromidi Composita of which it was said: "Each fluidram contains 15 grains each of Chloral and of Bromid of Potassium, and 1/8 grain each of Extract of Indian Cannabis and Extract of Hyoscyamus." In this the pharmacists attempted to incorporate the cannabis indica by using the tincture of the drug and suspending it by the addition of tincture of soap bark. In the present edition of the National Formulary, the preparation is made by triturating the extract of cannabis indica with pumice stone and then filtering the finished product. This gives an "elegant" preparation—but one from which the cannabis indica is filtered out! A sad commentary on

the National Formulary. It should not be supposed, however, that the manufacturers of Bromidia have solved the problem that has baffled the pharmacists; not at all. Bromidia probably contains no more cannabis indica than does its National Formulary prototype. The statement on the present trade packages, that the amount of cannabis indica in Bromidia is "indeterminate," is but a tardy acknowledgment of the fact that the stuff has not, and never had, the amount of cannabis indica claimed for it for so many years.

The "indications" named on the Bromidia labels are, in common with nostrums of this type, but suggestions for self-drugging. They will appeal to the layman who has purchased, either by prescription or otherwise, an "original package" of Bromidia and who may imagine he suffers from "nervousness," "sleeplessness," "headache" or "neuralgia."

But while the manufacturers in their advertising matter have on the whole not disguised the presence of chloral so much as they have attempted to make it appear that the chloral has been robbed of its dangers—for all hypnotics if used thoughtlessly are dangerous—after all the name has created the false impression that Bromidia is a bromid preparation. It is because of this false impression carried by its name, that Bromidia came to be used indiscriminately by the profession and in the course of time still more indiscriminately and recklessly by the public. Bromidia is a vicious chloral preparation masquerading under a misleading name. That physicians have been impressed by the claims of its harmlessness and by the mystery connected with the formula is not a credit to the intelligence of our profession. There is no doubt but that physicians are responsible for the use and abuse of this chloral preparation by the public.

There is no scientific or rational excuse for a ready-made preparation of this sort. When chloral or a bromid is indicated the proper dose of each of these, if they are to be combined, should be determined for each patient. Potassium bromid and chloral hydrate both are readily soluble in water, syrup or elixirs and it is a simple matter to prescribe the required dose of chloral and of bromid dissolved in some aromatic water like cinnamon-water (Aqua Cinnamomi), in some syrup like syrup of orange (Syrupus Aurantii) or in an elixir like the aromatic elixir (Elixir Aromaticum) or adjuvant elixir (Elixir Adjuvans). If this mixture is prescribed thus the physician is alive, alike to the dangers and the limitations of the drugs; if it is prescribed under a misleading proprietary name, the physician endangers his patient, stultifies his profession and tends to perpetuate the great American fraud.

EDITOR'S NOTE.—A list of some of the medical journals that advertise Bromidia:

Texas Medical News
Nashville Journal of Medicine & Surgery
Medical Brief
Annals of Surgery
Charlotte Medical Journal
Medical Sentinel
Memphis Medical Monthly
Laryngoscope
Medical World
Medical Review of Reviews
Louisville Monthly Journal
Indianapolis Medical Journal
Monthly Cyclopedia & Medical Bulletin
Journal of Nervous & Mental Diseases
Maryland Medical Journal
Merck's Archives
Iowa Medical Journal
Medical Standard
Southern Practitioner
New Orleans Medical & Surgical Journal
Therapeutic Gazette
Medical Herald
Medical Times
Texas Medical Journal
Wisconsin Medical Recorder
International Journal of Surgery
Vermont Medical Monthly
Atlanta Journal-Record of Medicine
St. Paul Medical Journal
Hospital Bulletin of the University of Maryland
Denver Medical Times
Buffalo Medical Journal
Medical Review
Ellingwood's Therapeutist
Eclectic Medical Journal
Massachusetts Medical Journal

THIOCOL AND SYRUP THIOCOL, ROCHE

Report of the Council on Pharmacy and Chemistry

Thiocol and Syrup Thiocol, Roche, were deleted from New and Nonofficial Remedies because, under the name Sirolin, the latter was exploited to the public (THE JOURNAL A. M. A., June 21, 1913, p. 1974). The Hoffmann-LaRoche Chemical Works having discontinued this exploitation, the Council voted to readmit Thiocol to New and Nonofficial Remedies, and authorized the publication of the first report that appears below. As explained in the second report, the Hoffmann-LaRoche Company objected to the description of Thiocol prepared for New and Nonofficial Remedies, 1915, and requested that their product be omitted unless a more favorable description was provided, and the Council, since it was unable to modify the description, voted for the deletion of Thiocol from New and Nonofficial Remedies.

W. A. PUCKNER, Secretary.

Report on the Readmission of Thiocol and Syrup Thiocol, Roche, to N. N. R.

(From The Journal A. M. A., May 23, 1914, p. 1637)

Seven years ago the Council accepted Thiocol for inclusion with New and Nonofficial Remedies (THE JOURNAL, Dec. 22, 1906, p. 2093) and later also a preparation of it, Syrup

Thiocol, Roche (THE JOURNAL, Dec. 3, 1910, p. 1980). About a year ago the Council learned that a preparation called Sirolin, containing Thiocol as its effective component, and practically the same as Syrup Thiocol, Roche, was being advertised to the public both in this country and abroad under grossly exaggerated claims. The Council directed that the matter be brought to the attention of the American agent for Thiocol preparations, the Hoffmann-LaRoche Chemical Works. This was done.

The agent's reply contained no promise that advertising in the lay press would be discontinued. As the Council holds that the advertising of medicinal products to the public is vicious in that it tends to encourage self-medication and the establishment of false security on the part of the public, the Council voted that Thiocol and Syrup Thiocol, Roche, be omitted from New and Nonofficial Remedies (THE JOURNAL, June 21, 1913, p. 1974).

Recently the following was received from the Hoffmann-LaRoche Chemical Works, New York:

"All popular propaganda for Sirolin has been abandoned in Germany, Russia, Great Britain and the United States and there never has been any popular propaganda of Sirolin in France. We can at the same time state that there will not in future be any popular advertising or popular propaganda of any sort in behalf of Sirolin in the United States, Germany, Russia, Great Britain or France."

In view of the foregoing letter the Council has voted that Thiocol and Syrup Thiocol, Roche, be readmitted to New and Nonofficial Remedies.

Report on the Deletion of Thiocol and Syrup Thiocol, Roche, from N. N. R.

For New and Nonofficial Remedies, 1915, the following statement of the actions and uses of Thiocol was adopted:

ACTIONS AND USES.—Thiocol is a sulphonic acid derivative of guaiacol in which the guaiacol is so firmly bound to the sulphonic radical as to make it very improbable that it will exercise any guaiacol or creosote action in the system. Experimental evidence shows that it is devoid of antiseptic action. Thirty grams per day of guaiacol sulphonic acid have been given without producing any symptoms, which is a sufficient indication of its lack of activity. Guaiacol is not split off from the compound in the animal system and it passes the organism unchanged (Fraenkel).

Thiocol is said to be non-irritating to the mucous membrane of the digestive tract, readily absorbed, and is claimed to promote appetite and improve nutrition.

It is claimed that it is useful in pulmonary tuberculosis, acute and chronic bronchitis, pneumonia, whooping-cough, emphysema of the lungs, etc., as a means of lessening expectoration, diminishing night sweats and improving nutrition.

These claims are the same as those made for guaiacol and probably can be realized only as guaiacol is split off from the compound, which occurs to a slight extent if at all.

The Hoffmann-LaRoche Chemical Works objected to this and requested a more favorable statement. The Council felt that it had given a fair summary of the manufacturers' claims and did not feel justified in modifying its own estimate of the preparations. At the request of the manufacturers, therefore, the Council voted to omit Thiocol and Syrup Thiocol, Roche, from New and Nonofficial Remedies.

LIQUID PETROLATUM OR "RUSSIAN MINERAL OIL"

Report of the Council on Pharmacy and Chemistry

(From The Journal A. M. A., May 30, 1914, p. 1740)

The following report was submitted to the Council by a referee and its publication authorized by the Council.

W. A. Puckner, Secretary.

Petroleum has been in use as a medicine from time immemorial. It was known to Herodotus 400 years before Christ and is mentioned by Plutarch, Dioscorides, Pliny and other early writers. It was extensively used by the Arabians and evidently played an important part in the practice of medicine in India, being known to the Bengalese as Muthe Katel. The raw product was the substance used in earlier times and differed much in character and composition, as obtained from different sources.

As an internal remedy it was early employed in chronic pulmonary affections, in obstinate skin diseases, in rheumatism, and for the expelling of tapeworms. It was extensively used for these several purposes in France under the name of "Oleum Gabianum" and in North America as "Seneka oil."

The internal use of the refined product may be traced to a patent granted to Robert A. Chesebrough of New York, in June, 1872, for the manufacture of a "new and useful product from petroleum, named vaseline." This name was originally applied only to a semisolid preparation, but later a liquid product known as liquid vaseline was marketed and for a

time exploited as a cure for coughs, colds, consumption and a number of other diseases and conditions.

The liquid petrolatum has since become known under a variety of names, proprietary and otherwise, in addition to being used as a substitute or an adulterant for other, more costly, fats and oils. Some of the names applied to the product are:

Adepsine oil
Amilee
Atoleine
Atolin
Blandine
Crysmalin
Deeline
Glyco
Glycoline
Glymol
Heavy petroleum oil
Liquid Albolene
Liquid Cosmoline
Liquid Fossiline
Liquid Geoline
Liquid Paraffin
Liquid Petrolatum
Liquid Saxoline
Liquid Vaseline
Mineral Glycerin
Mineral Oil
Neutralol
Olo
Paraffin Oil
Paroline
Petralol
Petro
Petrolax
Petrolia
Petronol
Petrosio
Rock Oil
Russian liquid petrolatum
Russian mineral oil
Russian paraffin oil
Russol
Saxol
Terraline
Terralbolia
Usoline
Water-white mineral oil
White paraffin oil.

A preparation similar to that official in the Pharmacopeia of the United States as liquid petrolatum has been included in many, if not all, of the foreign pharmacopeias, the official titles under which this preparation is recognized being as follows:

Petrolatum Liquidum, U. S. Pharmacopeia; Paraffinum Liquidum, pharmacopeias of Great Britain, Germany, the Netherlands, Japan, Belgium, Austria, Denmark, Switzerland, Sweden, Servia, Italy, Hungary and Russia; Oleum Paraffinae, Spanish Pharmacopeia; Vaselinum Liquidum, French Pharmacopeia, and Oleum Vaselini (as a synonym) pharmacopeias of Denmark and Russia.

The requirements of the several pharmacopeias differ somewhat and the specific gravity as given is as follows:

U. S. P. VIII, 1905	0.870	to	0.940	at 25°
Ph. Brit. IV, 1895	0.885	to	0.890	at 15.5°
B. P. C. II, 1911, usually	0.875	or	lower	at 15°
Ph. Germ. V, 1910, at least	0.885			at 15°
Ph. Ross. VI, 1910	0.880	to	0.885	at 15°
Ph. Hung. III, 1909	0.88	to	0.89	at 15°
Ph. Ital. III, 1909	0.875	to	0.890	at 15°
Ph. Fr. V, 1908, about	0.875			at 15°
Ph. Serb. II, 1908, about	0.880			at 15°
Ph. Svec. IX, 1908	0.88	to	0.90	at 15°
Ph. Helv. IV, 1907	0.880	to	0.885	at 15°
Ph. Dan. VII, 1907, at least	0.880			at 15°
Ph. Austr. VIII, 1906, at least	0.880			at 15°
Ph. Belg. III, 1906, not below	0.880			at 15°
Ph. Japon. III, 1906	0.875	to	0.945	at 15°
Ph. Ndl. IV, 1905, not below	0.860			at 15°
Ph. Hisp. VII, 1905	0.840			at 15°

For pharmaceutical purposes, liquid petrolatum may be divided into two grades, the lighter or more limpid oil, used extensively as a vehicle for oil sprays, and the heavier, more viscid oil generally recognized in European pharmacopeias and used as an ingredient of ointments and more recently as a remedy in the treatment of intestinal stasis.

Under petrolatum liquidum the U. S. P. recognizes a mixture of hydrocarbons, chiefly of the methane series, which occurs as a colorless or very slightly yellowish, oily, transparent liquid without odor or taste and having a specific gravity of about 0.870 to 0.940 at 25 C. For the U. S. P. IX, it is proposed to change this requirement somewhat so as to have it apply to a transparent liquid free from fluorescence, without odor or taste and having a specific gravity of from 0.845 to 0.940 at 25 C.

Such a requirement would include all of the available paraffin oils irrespective of origin. The now commonly available commercial liquid petrolatum, used for pharmaceutical purposes, is practically colorless and all of the better grades are free from odor or taste. The specific gravity varies from 0.855 to 0.895. The lighter oils, having a specific gravity of from 0.860 to 0.870, are usually preferred in the making of oil sprays or solutions of substances to be used as local applications. The product having a specific gravity above 0.875 evidently contains a considerable amount of dissolved solid paraffin which separates out at temperatures at or below 0 C., but readily dissolves again at temperatures above 10 C.

There is considerable difference in the chemical composition of the paraffin oils obtained from various sources. The American oil consists largely of hydrocarbons of the methane series, while the Russian oil contains naphthenes or hydrocarbons of the benzene series, having the empirical composition of ethylene, (C_nH_{2n}) which may be considered as hydrogenated aromatic hydrocarbons, though they behave with reagents very much in the same way as do the hydrocarbons of the methane series.

Mineral oils with a naphthene base are best suited for making white petrolatum, and at the present time the production of the colorless water-white liquid petrolatum appears to be confined largely or almost exclusively to the crude product of the Baku district of Russia, though it is asserted that it is now also made from the Hanover (Germany) crude oil and that some is being produced by "cracking" the white solid paraffin.

It is also said that the American oil can be made water white but that it is not being so produced at present for economic reasons; the yellowish oil, free from fluorescence, having a very wide sale, both as a lubricant and as a substitute for lard oil and other of the more costly lubricating oils.

From a pharmaceutical point of view it would appear important to note the physical characteristics of the oil and to insist on absence of color, absence of odor and taste, absence of acid and of alkali and a specific gravity in harmony with the purposes for which the oil is to be used.

During the past year or two liquid petrolatum has attracted considerable attention as a remedy in the treatment of intestinal stasis or chronic constipation, the practice of using it having been developed largely through its recommendation by Sir W. Arbuthnot Lane and his associates. This use of liquid petrolatum and of petrolatum products generally is by no means novel. N. A. Randolph[1] of Philadelphia, was among the first to suggest its use for this purpose in an article published in 1885. Randolph also appears to have been the first to experiment with petrolatum and to determine its non-absorbability from the intestinal tract. In an article[2] in 1884 he concludes that "pure petrolatum while entirely unirritating to the digestive tract is valueless as a foodstuff."

The experiments recorded by Randolph were evidently prompted by the fact that vaseline and a number of imitation products then on the market were being sold as substitutes for lard and butter, and opinions regarding the food value of petroleum products appear to have differed very materially. Following the experiments of Randolph, Robert Hutchison in 1899 made a series of experiments to demonstrate that petroleum, petrolatum, paraffin and related products were absolutely unassailable by any of the digestive fluids, despite the "large vogue that had of late years been given to various petroleum emulsions, chiefly by ingenious and unterrified advertising." He came to practically the same conclusions arrived at by Randolph fifteen years earlier and pointed out that "liquid paraffin in one sense may be regarded as an artificial intestinal mucus and might in that way have some value on certain forms of constipation."

William Duffield Robinson[3] reports on the use of a perfectly refined colorless and odorless petrolatum, supposedly

1. Randolph, N. A.: Therap. Gaz., ix, 732.
2. Randolph, N. A.: Proc. Acad. Nat. Sc., Philadelphia, 1884, p. 281.
3. Robinson: William Duffield: Med. News, 1900, lxxvii, 56.

of American origin. He was able to show that all of the product passed unchanged through the intestinal tract and could be regained from the feces. In his conclusions he expressed the belief that the effect of the administration of these petroleum products is far more than as a simple intestinal lubricant. In over fifty selected cases in which nutrition, digestion and body-weight were impaired, and the purest oil administered in 1- or 2-dram doses each day for a period of from four to six months, there was in every instance an improvement of weight, health and feeling of well-being. The administration of refined paraffin oil gave no discomfort in any instance, even in cases in which nearly a pint was given in a few hours.

William Ewart[4] suggests liquid paraffin as a safe agent for the local treatment of the lesions in typhoid fever. He says in part: "Mineral oil, such as petrolatum or paraffin, is neither absorbed nor dissolved; therefore, after all absorbable ingestions are taken up by the lacteals, it will still remain in the bowel. In this way pure liquid paraffin is valuable, precisely because it is inert; moreover, it might some day, perhaps, be made the vehicle for effective topical remedies."

A. D. Schmidt[5] quotes Stubenrath as having given liquid paraffin in the treatment of chronic constipation, and he himself gave as much as 20 gm. of liquid paraffin to adults without observing any injurious effect whatever. He says, "As a result of the administration of liquid paraffin, the feces are softened considerably and are found under the microscope to contain numerous minute globules of paraffin." He was, however, unable to recover from the feces the entire quantity of paraffin administered and believes that a certain portion of it, probably the fractions with a low boiling-point, are absorbed or possibly oxidized in the organism.

Maurice Vejux Tyrode[6] also refers to the use of liquid petroleum in the treatment of constipation.

Sir W. Arbuthnot Lane in his recommendations of liquid petrolatum calls it an ideal remedy for stasis, but cautions against the use of the lighter oil as extensively prescribed in this country as a vehicle for sprays in nose and throat work.

Paraffin oil is not absorbed from the alimentary tract and so far as known exerts no deleterious influence. It is usu-

4. Ewart, William: Brit. Med. Jour., 1902, ii, 1505.
5. Schmidt, A. D.: München. med. Wchnschr., 1905, lii, 1970.
6. Tyrode, Maurice Vejux: Boston Med. and Surg. Jour., 1910, clxii, 673.

ally given in quantities of from 10 to 20 c.c. half an hour or an hour before meals or in larger doses, from 30 to 50 c.c., at one time on retiring. From available evidence it appears that comparatively huge doses may be administered without the production of any untoward results. According to many observers, liquid paraffin should not be given with or after meals because of the inhibiting influence that it may have on the digestion of food. It is not soluble in water or the ordinary solvents and therefore cannot be diluted. The denser oils are preferably slightly warmed or drunk with warm water so as to obviate the disagreeable slimy sensation that persists when taken cold.

Volatile oils may be used in moderate amounts to give a distinctive taste to the otherwise rather insipidly tasteless paraffin oil. Among the more desirable oils to be used for this purpose would be oil of peppermint, oil of cinnamon, oil of betula or methyl salicylate and oil of cloves. From 2 to 10 drops of any of these oils can be added to a pint of the oil. When larger doses of the oil are to be given at one time, it would, of course, be advisable to use a comparatively smaller quantity of the volatile oil as a flavor.[7]

From the foregoing it would appear that apart from the Pharmacopeia of the United States, practically all other known pharmacopeias describe a water-white mineral oil under the title "Paraffinum Liquidum" or "Liquid Paraffin" as a colorless, odorless, tasteless, non-fluorescent, oily liquid, free from acids, alkalies and organic impurities. As explained before, the specific gravity of the preparation as recognized in other countries and as offered on the American market at the present time varies considerably, and there appears to be some difference of opinion as to the exact nature of the product that is preferable for use for different purposes. This matter requires further investigation.

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7. In addition to the articles referred to in the preceding footnotes, the following are of interest in connection with this subject:

Editorial, Therap. Gaz., 1885, ix, 353.
Junker, F. A.: Med. Record, London, 1885, xiii, 506.
Editorial, Med. News, 1886, xlviii, 105.
Dunbar: Deutsch. med Wchnschr., 1896, xxii, 33.
Stubenrath, Franz Casimir: München. med. Wchnschr., 1897, xliv, 639.
London Letter, Med. News, 1899, lxxiv, 504.
Hutchison, Robert: Brit. Med. Jour., 1899, i, 724.
Schlesinger, E. G.: Boston Med. and Surg. Jour., 1913, clxix, 14.
Lane, W. Arbuthnot: Brit. Med. Jour., 1913, ii, 1126; Proc. Roy. Soc. Med., 1913, vi, 49; Surg. Gynec. and Obst., 1913, xvi, No. 6.
Jordan, Alfred C.: Practitioner, London, February, 1913.
Chrysospathes, J. G.: Zentralbl. f. Chir., 1913, No. 45; abstr., THE JOURNAL A. M. A., Dec. 13, 1913, p. 2201.

Since the definition of liquid petrolatum in the U. S. Pharmacopeia permits the use of fluorescent products of widely varying specific gravities, it is recommended that physicians who desire the water-white non-fluorescent (Russian) mineral oil should use the term "Petrolatum Liquidum, Grave," or "Paraffinum Liquidum, B. P.," if the heavy product recommended by Lane is desired, and "Petrolatum Liquidum, Leve" if the light varieties are required. It is further recommended that under the foregoing names, manufacturers and pharmacists be requested to dispense the products, in accordance with the following descriptions:

Petrolatum Liquidum, Grave.—Heavy (Russian) Liquid Petrolatum.—Paraffinum Liquidum, B. P., liquid paraffin.—A transparent, colorless, tasteless, non-fluorescent, oily liquid, odorless when cold but giving off a faint petroleum odor on heating. This preparation should correspond to the requirements of the British Pharmacopeia for liquid paraffin and have a specific gravity of about 0.885 to 0.890 at 15 C. It is insoluble in water or alcohol but soluble in boiling absolute alcohol and readily soluble in ether, chloroform, carbon disulphid, petroleum benzin, benzene and fixed and volatile oils. It serves as a solvent for volatile oils and related substances like camphor, menthol and thymol.

This is the type of preparation used by Sir W. Arbuthnot Lane, and his associates for internal administration. It is also used as a basis for ointments and salves and as a local application to wounds, ulcers and in certain forms of skin diseases in which a simple protective is desired.

Petrolatum Liquidum, Leve.—Light (Russian) Liquid Petrolatum.—A transparent, colorless, tasteless, non-fluorescent, oily liquid, odorless when cold, but giving off a faint petroleum odor on heating. In other respects this preparation should correspond to the pharmacopeial tests for liquid petrolatum and have a specific gravity of about 0.860 to 0.875 at 15 C. Like the heavy variety of liquid petrolatum, it is insoluble in water and alcohol, but soluble in boiling absolute alcohol and rapidly soluble in ether, chloroform, carbon disulphid, petroleum benzin, benzene and fixed and volatile oils. It serves as a solvent for volatile oils and related substances like camphor, menthol and thymol.

This is a type of preparation extensively used as a vehicle for the oily sprays in nose and throat work. It is

also being used as one of the constituents in the now popular paraffin oil cold cream and has been used to some extent for internal administration in the treatment of chronic stasis. Being more limpid than the preparation preferred by Lane, it is more readily taken, though greater care must be exercised in securing a sample devoid of the lighter fractions of petroleum distillates.

GLYCO-HEROIN, SMITH

Report of the Council on Pharmacy and Chemistry

(From The Journal A. M. A., June 6, 1914, p. 1826)

The following report was submitted to the Council by a referee and publication authorized.

W. A. PUCKNER, Secretary.

Glyco-Heroin, Smith (Martin H. Smith Co., New York) is marketed in a showy "patent-medicine" type of package, the label on which announces the presence of ½ grain of heroin to the fluidounce and admits the presence of 3.5 per cent. alcohol, an active ingredient that is not discussed in any way in the literature sent out by the manufacturer.

The composition of Glyco-Heroin, Smith, is given as follows: "Each teaspoonful represents: Heroin 1/16 grain, White Pine Bark 3½ grains, Ammonium Hypophosphite 3 grains, Balsam Tolu ¼ grain, Hyoscyamus 1 grain, Glycerin Q. S." The alcohol is not mentioned in the formula.

The advertising matter says of the merits of the formula:

"Despite the fact that heroin, which is universally recognized as an invaluable respiratory sedative, is a conspicuous element of Glyco-Heroin, Smith, the other constituents, henbane, ammonia hypophosphite, balsam tolu and white pine bark are factors of no less importance; indeed, it is through the concerted action of its several ingredients that the preparation proves so notably beneficial in the class of affections in which it is indicated. The constantly increasing popularity of the preparation in the treatment of respiratory affections is the best adducible evidence of its value in such disorders."

The absurdity of this assertion will be appreciated on comparing the nature, quantities and activities of the several ingredients. Thus, while heroin, a potent habit-forming drug, is present in unusually large proportions, tolu, an innocuous or comparatively harmless product, is said to be represented by ¼ grain, a relatively small quantity, hardly sufficient to impart even a distinctive taste or flavor. Ammonium hypophosphite, in the amount said to be present, may be considered

to be practically useless, while the dose of hyoscyamus, an additional narcotic, is fairly large. The white pine bark present is probably as active as would be a corresponding amount of white pine shavings or of turpentine sufficient to give the preparation a slight odor. The vehicle, glycerin, is claimed to be "notably advantageous," but not a word occurs in the discussion by the manufacturer in regard to the presence of alcohol, which is certainly quite as active medicinally as the balsam of tolu and contributes fully as much to the flavor or taste of the preparation as does the white pine bark.

In prominent type on the outer label of the trade package we are told that the preparation is intended for the treatment of "COUGH, ASTHMA, PHTHISIS, PNEUMONIA, BRONCHITIS, LARYNGITIS, WHOOPING-COUGH AND KINDRED AFFECTIONS." In much smaller type: "Glyco-Heroin (Smith) is distinctly a product designed expressly for the use of physicians." The circular included with the trade package, however, bears statements which would tend to encourage self-drugging by the layman, and in view of the manner in which the preparation is exploited are undoubtedly intended to do so. For instance:

"*Bronchitis.*—In the acute form of bronchitis, Glyco-Heroin (Smith) acts most happily. It tends to diminish the congestion and inflammation of the lining of the air passages, relieves the pain and institutes repair. . . .

"*Phthisis.*—In the treatment of the cough of phthisis, Glyco-Heroin (Smith) is used with the most gratifying results. It checks the night sweats, acts favorably upon the reflexes, increases expectoration and induces refreshing sleep.

"*Asthma.*—The preparation diminishes the intensity of the paroxysms and lengthens the intervals between their recurrence. By the administration of the preparation, asthmatic attacks can frequently be aborted.

"*Pneumonia.*—In the initial stage of pneumonia, the preparation exercises a calming, antipyretic and sedative effect. In the latter stages of the disease, the analgesic and expectorant properties of the produc. are well displayed.

"*Whooping-Cough.*—Administered in doses of from five to ten drops, this preparation affords surprisingly satisfactory results. The cough rapidly loses its spasmodic character and the frequency of the paroxysms is considerably diminished."

How cruelly misleading the literature put out by the manufacturer of this nostrum is, will be apparent from a comparison of the rather large dose of heroin in a teaspoonful of the nostrum and the directions on the package that:

"The adult dose of Glyco-Heroin (Smith) is one teaspoonful repeated every two hours or at longer intervals, as the case may require.
"Children of 10 or more years, from a quarter to a half-teaspoonful.
"Children of 2 years or more, 5 to 10 drops."

A WICKED FALSEHOOD

Included in much of the advertising matter that has been put out is the bare-faced untruth that the preparation does not produce narcotism or habituation. Here is a quotation from an undated circular:

"Glyco-Heroin (Smith) is decidedly preferable to preparations containing codeine or morphine, by reason of the fact that it does not produce narcotism, constipation, gastric disturbance nor habituation, even though its administration be protracted."

That this assertion is not in keeping with facts is evidenced by the recent report of a study on the sale and use of heroin made by the U. S. Department of Agriculture. From the information gathered it appears that the sales of heroin and heroin-containing preparations have increased greatly, particularly in those states which have rigid laws preventing the indiscriminate sale of morphin and cocain. Investigation of the subject establishes the fact that many drug victims who formerly used morphin and cocain, and who under the new laws find it difficult to obtain these substances, have begun using heroin, the sale of which is not as yet carefully restricted under state laws. The drug is said to be fully as dangerous as morphin, and by many is held to be much worse, for the reason that it occasionally kills the victim outright, and its habitual use is far harder to overcome than that of other drugs.

Phillips,[1] in discussing the prevalence of the heroin habit, reports, among others, the case of a physician aged 60 who began to take heroin because he suffered from a chronic cough and thought there was no danger of habit from the use of this drug because he believed the statements of various manufacturing firms who claimed that there was no danger of habit.

In a pamphlet now being distributed to the medical profession, entitled, "Glyco-Heroin (Smith), an exposition of its components together with references to its value in the treatment of Bronchitis, Cough, Cough of Phthisis, Laryngitis, Pneumonia and allied disorders of the Respiratory Tract," the several alleged uses of the nostrum in the treatment of cough, "Regardless of the nature of its underlying cause, . . . whether of recent origin or of long duration," are discussed at length, and eminent practitioners with degrees extending the width of the printed page are quoted in support

1. Phillips, John: Prevalence of the Heroin Habit, THE JOURNAL A. M. A., Dec. 14, 1912, p. 2146.

of the statements made. While it may be permissible for a theoretically trained medical tyro who lays claim to the right of appending the abbreviations M.A., M.D., D.C.L., L.R.C.P. to his name to laud a heterogeneous habit-forming cough-syrup like Glyco-Heroin, Smith, similar testimonials from a man entitled to append Ph.G., M.S., M.D. to his name makes one doubt the value of the training, either scientific, pharmaceutical or medical, that has been given the poor unfortunate who, according to his own statements, indiscriminately doses a female patient of 7 and a male patient of 40 with huge doses of heroin every two, four or six hours.

The danger of contributing to the spread of the heroin habit by the use of preparations of this type is indicated by an editorial in THE JOURNAL of the American Medical Association,[2] which points out that although heroin and its hydrochlorid have been in use but a few years they have already established themselves among the habit-forming drugs and have become sufficiently conspicuous in this respect to awaken the thinking public to the deplorable results for which they may become responsible. Phillips,[1] in the article mentioned above, quotes Petty, who reports that in the last 150 cases of drug habit coming under his care he saw eight cases of heroin addiction. Three of these were initial cases; in one the patient had been cured of the opium habit, but following an operation heroin was prescribed, and the habit followed. The remaining four patients purposely substituted heroin for morphin, to which they had been addicted.

THE GROWTH OF HEROIN ADDICTION

The imminent danger of substituting heroin for either morphin or cocain is shown by the fact, reported by the U. S. Department of Agriculture, that during the early months of 1913 the coroner's office in Philadelphia County, Pa., held inquests on five sudden deaths from heroin poisoning. In each case the victim was a heroin fiend and took an overdose. Drug fiends are apparently able to consume relatively large quantities of morphin or cocain, but any sudden and material increase in the amount of heroin taken is liable to prove fatal. As indicating the wide sale of this substance, it is known that one druggist in Pennsylvania whose store is located in an undesirable section of his city has been buying heroin tablets in 25,000 lots.

2. Facts about Heroin, Current Comment, THE JOURNAL A. M. A., Dec. 21, 1912, p. 2262.

GLYCO-HEROIN, SMITH, A "PATENT MEDICINE"

The popularity of Glyco-Heroin, Smith, as a household nostrum is suggested by the fact that one of the larger department-store type of drug-stores in the city of Philadelphia lists this preparation in its "patent-medicine" catalogue at $1.75 per bottle and sells it freely to all who care to buy. This is due to the fact that Pennsylvania, like many other states, does not include heroin in the prohibited list of habit-forming drugs that can be supplied only on physicians' prescriptions.

To what extent Glyco-Heroin, Smith, is responsible for developing the rapidly growing heroin habit is of course problematic. It is reasonable, however, to suppose that a preparation, each teaspoonful of which contains so large a dose of heroin as does this nostrum, when taken as repeatedly and as indiscriminately as is directed by the manufacturer, would offer possibilities for harm sufficient in number to induce the thinking medical practitioner to avoid its use altogether and at least to suggest to even the most commercial dabbler in the healing art the desirability of carefully considering its potency for harm before endorsing its use in the treatment of "cough and kindred affections."

DIGALEN OMITTED FROM N. N. R.

Report of the Council on Pharmacy and Chemistry

(From The Journal A. M. A., Sept. 5, 1914, p. 881)

Digalen is a proprietary said to contain a soluble form (digitoxinum solubile Cloetta) of digitoxin, the chief active principle of digitalis. This preparation was accepted[1] by the Council in 1909 for inclusion in New and Nonofficial Remedies. The Council had not at that time determined whether Digalen contained "soluble amorphous digitoxin," as claimed, or not. The product was accepted merely as a standardized soluble and fairly stable digitalis preparation.

After the acceptance of Digalen, the therapeutic claims made for it by the manufacturers increased in extravagance. Meanwhile, evidence was brought forward by various independent investigators which tended not only to show that these therapeutic claims were unfounded, but also to discredit the claim that Digalen contained a principle chemically identical with digitoxin. In view of the obscurity of

1. The Journal A. M. A., Sept. 11, 1909, p. 869.

the whole subject of the chemistry of the digitalis principles, the latter claim (that Digalen was a solution of "amorphous digitoxin") had been an academic issue at the time of the acceptance of the product. When, however, the manufacturers of Digalen sought to mislead physicians by increased and unwarranted therapeutic claims, the Council felt that investigation of the whole matter was imperatively demanded to decide whether or not Digalen should be retained in N. N. R.

The questions at issue were: (1) the presence in Digalen of "amorphous digitoxin"; (2) the constancy of composition and reliability of action of Digalen, and (3) the claim that it causes less gastric disturbance than digitoxin. No satisfactory proof has yet been offered that Digalen contains "amorphous digitoxin." The mass of evidence tends to show that Digalen is not constant in composition or reliable in action, and that, when given in doses corresponding in therapeutic activity, Digalen causes quite as much gastric disturbance as the official galenical preparations of digitalis.

The outcome of protracted negotiations between the Council and the Hoffmann-La Roche Chemical Works may be summed up as follows: 1. The manufacturers promise to hold in abeyance the claim regarding the presence of "amorphous digitoxin." 2. They refuse to concede the variable composition of Digalen. 3. They reassert the claim that Digalen is superior to other digitalis products with respect to liability to cause gastric irritation and consequent vomiting.

In view of the unsatisfactory character of the reply on the second and third points, the Council voted that Digalen be omitted from N. N. R. and that publication of the report on Digalen which appears below be authorized, as well as of the two reports (A and B) referred to therein.

W. A. PUCKNER, Secretary.

Referee's Report on Digalen

Because of persistent conflict with Rule 6 (unwarranted therapeutic claims) and Rule 1 (composition) it is recommended that Digalen be omitted from New and Nonofficial Remedies; also that a copy of the report be sent to the manufacturers, and that publication of this report and the two previous reports submitted to the Council be authorized.

The nature of the problems involved necessitates a somewhat extended discussion of the subject.

Digalen (liquid) is said to contain 1 part of soluble amorphous digitoxin Cloetta in 1,000 parts of glycerin and 1,600 parts of water with 7.5 per cent. of alcohol. One c.c. is said to contain 0.0003 gm. of the amorphous digitoxin.

Digalen was accepted by the Council[3] and the following footnote was appended to the description in New and Non-official Remedies:

"The Council has not determined whether digalen contains 'soluble amorphous digitoxin' or not, but accepts it simply as a soluble digitalis preparation."

Tablets of Digalen were accepted by the Council as a dosage form of Digalen. Each tablet is said to represent 0.5 c.c. (eight minims) of Digalen (liquid).

One of the principal considerations which led the Council to accept Digalen was that it was regarded as affording a fairly constant and stable preparation of digitalis suitable for intravenous administration. If Digalen is not fairly stable and of fairly constant composition it has no obvious advantage over an active soluble digitalis preparation, such as digitalein.

The evidence now at hand seems to show: 1. Digalen is not of constant composition or activity. 2. The manufacturers, or their agents, continue to make misleading statements. 3. It is merely a solution of certain digitalis principles, probably of digitalein mainly, in impure form.

COMPOSITION

Cloetta[4] prepared a soluble amorphous substance which he called "Digitoxinum solubile Cloetta," but no information concerning the method of preparation has been published.

Cloetta reported the result of an elementary analysis of his product which he compared to the analyses of digitoxin (crystalline) made by Schmiedeberg and by Kiliani, and stated that there could be no doubt concerning the chemical identity of the two substances.

Kiliani[5] characterized as preposterous Cloetta's claim that the active constituent of Digalen is chemically identical with digitoxin and stated that Digalen was merely an impure

3. The Journal A. M. A., Sept. 11, 1909, p. 869.
4. Cloetta: München. med. Wchnschr., 1904, No. 33.
5. Kiliani: München. med. Wchnschr., 1907, p. 886.

digitalein. Kiliani has recently reiterated the statement that the so-called "amorphous digitoxin" is not identical with Digitoxin.[6]

Cloetta's failure to publish his method of preparing Digalen places an additional burden of proof on him (or the manufacturers of Digalen), concerning the identity of the product, and in the face of Kiliani's denial of the correctness of Cloetta's contention we must have strong corroborative evidence of Cloetta's claim before we can accept it as being established.

The difficulties of dealing with the chemistry of digitalis are so well known that they hardly require further mention here, but under the circumstances Cloetta cannot be considered as being wholly unprejudiced, and, while the same might perhaps, be said of Kiliani, such evidence as can be deduced tends strongly to support Kiliani's view, and to disprove the contention of Cloetta.

There is much confusion regarding the names which have been applied to the various principles obtained from digitalis, and while it is undesirable that an established name should be given to a newly discovered principle, one might overlook this if no effort were made to associate the therapeutic actions of the two substances to an extent which the truth did not justify.

While the Council at that time did not challenge the existence of "amorphous digitoxin" and made no attempt to determine the identity with digitoxin of the substance forming the basis of Digalen, the manufacturers of Digalen have sought to show that Digalen and digitoxin were identical so far as their therapeutic actions were concerned, but that Digalen lacked the disadvantages of digitoxin. What was a purely academic question when the acceptance of Digalen was under discussion by the Council becomes a matter of very great practical importance when the manufacturers of Digalen seek to mislead the physician by these claims.

The evidence which lends support to the view that Digalen and digitoxin are wholly dissimilar may be summarized as follows: Digalen differs greatly in its physical properties from digitoxin and in certain of its physiologic actions, as the manufacturers themselves state, Digalen being amorphous, and soluble in water, while digitoxin is crystalline and insoluble in water. The manufacturers state that

6. Kiliani: Am. Jour. Pharm., 1913, lxxxv, 224.

Digalen differs from digitoxin in certain of its physiologic actions, but the two substances do indeed, differ far more than they admit.

Cloetta and the manufacturers of Digalen lay especial stress on the claim that Digalen is cumulative to a far less extent than digitoxin, and that it has far less tendency to cause gastric disturbance than the latter. The first of these claims is true; the second is the very opposite of the truth, as we shall show.

We know nothing of the structure of any of the digitalis principles, and even though one were to admit (purely for the sake of argument) that Digalen and digitoxin were chemical isomers, that fact could not be taken to lend any support to the contention that the two substances were identical, in the face of the established fact that they differ physically and physiologically in nearly every particular, and agree only in that they both cause standstill of the heart in the same way—an action possessed also by so dissimilar a substance as barium.

The manufacturers of Digalen support the claim of the identity of their product with digitoxin by stating that "Digalen is a solution of the most active glucoside of digitalis."[7] Of course, it is very generally admitted that digitoxin is the most active principle of digitalis, though there is some question concerning its glucosidal nature.

Digalen is in fact far less active than digitoxin, as has been shown by a number of independent observers (Worth Hale, 1910; Hatcher and Brody, 1910; Neave, 1907; Miller, 1908; the referee; Weis, 1912).

Worth Hale[8] found Digalen to be about one-third as active as digitoxin, and about as active as commercial digitalein, or slightly more so. Hatcher and Brody[9] found a specimen of dry amorphous digitoxin, which the manufacturers had sent to the Council, to be about one-fourth as active as digitoxin. Neave[10] found Digalen less than half as active as digitoxin in slowing the heart-rate and raising the blood-pressure. Miller[11] used four bottles of Digalen, but he was unable to obtain any digitalis action on frogs or on dogs. The referee found Digalen in the form of the tab-

7. Clinical Suggestions and Reports, December, 1912, p. 24.

8. Hale, Worth: A Comparative Study of Digalen, THE JOURNAL A. M. A., Jan. 1, 1910, p. 35.

9. Hatcher and Brody: Am. Jour. Pharm., 1910, lxxxi, 360.

10. Neave: Scot. Med. and Surg. Jour., 1907, xx, 390.

11. Miller, J. L.: Some Principles of Drug Treatment in Cardiovascular Conditions, THE JOURNAL, A. M. A., Nov. 21, 1908, p. 1745.

lets to be less than one-sixth as active as digitoxin. It should be stated that the specimen used was not very old, and furthermore, that the tablet form affords less opportunity for deterioration than does the liquid; hence we must suppose that this specimen was weak when it was sent out by the manufacturers.

Weis[12] reckoned the activity of Digalen at about one-fifth that of digitoxin when tested on frogs, or about one-fourth when tested on rabbits.

Weis found Digalen, in tablet form, almost identical with digitalein in activity on *Rana temporaria,* on which digitoxin was more active by about 50 per cent. This statement would be misleading to those who are unfamiliar with the peculiarities of the test, were it not explained that the one-hour frog test does not serve to show the relative activities of digitoxin and such soluble substances as digitalein and Digalen.[13]

Weis also compared the physical properties of Digalen and a pseudo-digitoxin prepared by the Keller-Fromme method, and found that they agreed closely as to solubility in water and ether, and in physiologic activity when tested by Fock's and Schmiedeberg's methods, and on rabbits. They were much weaker than digitoxin as shown by all of the biologic tests.

The essential fact which appears from the investigation of Weis is that *Digalen did not behave like digitoxin in any case.*

Hale also found that Digalen gave atypical actions in which the effects on the central nervous system became prominent. The referee can corroborate these observations of Hale's on frogs, but the convulsive symptoms were prominent with some specimens of Digalen on mammals, though not with others, the more recent specimens of the preparation showing the action prominently.

He says:

"With regard to the general action of Digalen on both frogs and mammals, it appears to possess considerably more

12. Weis, E.: Ueber den physiologischen Wirkungen einigen Digitalispräparate, Oesterr. San. Wes., May 30, 1912, Beilage, p. 161.

13. Digitoxin is absorbed very slowly after injection into the frog's lymph-sac, and does not exert its full effect for some hours; hence it appears disproportionately weak when compared in this way with digitalein and other readily absorbable substances of the digitalis group. This will be understood better, perhaps, when one remembers that strophanthin is some fifteen times as active as digitoxin when tested in this way, but, of course, strophanthin is not fifteen times as active as digitoxin when they are used therapeutically.

stimulant action on the central nervous system than other digitalis preparations. In almost every case in the frog experiments the early symptoms of absorption were convulsive movements. At times these were clonic, but more often tonic in character, the legs being extended and remaining in hyperextension for some time. The effect of Digalen on mice was much the same, except that the convulsions were usually clonic in character. In the blood-pressure experiments no convulsions were so clearly present, the animal being anesthetized, but it was noted that struggling was often a sequel of the injection of even small amounts of Digalen and that, to prevent this, small doses of ethyl carbamate were necessary."

The results of all these biologic tests, as well as of the physical tests made by Weis, certainly lend no support to the contention of Cloetta that the potent constituent of Digalen is identical with digitoxin, but, on the contrary, they show conclusively that the two substances differ widely in many essentials, and the continued claim of the manufacturers that the "amorphous digitoxin" said to be contained in Digalen is the same as digitoxin, or that it is the most active glucosid of digitalis, can be considered only as misleading, and therefore in conflict with the rules of the Council.

CONSTANCY OF COMPOSITION AND ACTIVITY

The manufacturers of Digalen continue to claim that it is of constant and uniform activity,[14] and they imply this even when they do not state it in those words; for example, a substance cannot be considered reliable if it is variable in activity. "Digalen is Absolutely *Reliable.* It is *standardized* and consequently *always uniform.* It *does not produce gastric disturbances.*"

That the foregoing is absolutely untrue can be shown abundantly. Hale[15] found Digalen not to be uniformly stable; Weis[12] found very different degrees of activity for Digalen in the liquid and tablet forms, the tablets being but one-third as active as the liquid, and the referee found very great variations in the activity of different specimens of Digalen, one specimen being almost inert. The results obtained by Miller show that Digalen is sometimes very slightly active, or not at all so.

14. Advertisement Brit. Med. Jour., April 26, 1913.
15. Hale: Hyg. Lab. Bull., 74.

The foregoing citations show conclusively that Digalen is not of uniform activity. When *reliability* is claimed for Digalen in contrast to the known variability of digitalis, it must be considered as tantamount to the claim that Digalen is not subject to such variability and it must be held that the manufacturers make misleading statements when they assert that Digalen is absolutely reliable.

The manufacturers claim that Digalen does not produce gastric disturbances (see advertisement cited[15]).

It is quite true that when small doses of Digalen are used therapeutically it fails to produce gastric disturbances because it is of such slight activity, as previously stated, but when it is used in amounts which correspond in activity to such doses of the ordinary galenical preparations of digitalis as commonly cause nausea and vomiting it does cause gastric disturbances quite as readily as the latter.

Among the clinicians who have found that Digalen causes gastric disturbances may be cited: Veiel,[16] Mueller,[17] Eichhorst[18] and Teichmann.[19]

Eggleston and Hatcher[20] compared the emetic and cardiac activity of Digalen and numerous other digitalis bodies and preparations and found that the emetic activity of Digalen was decidedly greater in proportion to its cardiac (or therapeutic) action than was that of digitalis or digitoxin.

In the absence of any evidence to controvert this clinical and experimental evidence, the continued claim that Digalen does not disturb the stomach must be looked on as deliberate misrepresentation.

MISLEADING THERAPEUTIC CLAIMS

The recommendation that Digalen be dismissed from N. N. R. is made with the full appreciation of the fact that the manufacturers of Digalen and their agents have repeatedly stated that they desired to comply with the rules of the Council, and that they have withdrawn several statements to which the Council has taken exception, but the fact remains that despite these reiterations the advertisements of Digalen continue to embody statements which the Council can only consider misleading.

The Council believes that the following advertisements constitute gross therapeutic exaggerations:

16. Veiel: München. med. Wchnschr., 1906, liii, 2140.
17. Mueller: München. med. Wchnschr., 1909, lvi, 904.
18. Eichhorst: Deutsch. med. Wchnschr., 1905, xxxi, 49.
19. Teichmann: Therap. d. Gegenw., 1907, xlviii, 199.
20. Eggleston, Cary and Hatcher, Robert, A.: The Emetic Action of the Digitalis Bodies, THE JOURNAL A. M. A., Feb. 15, 1913, p. 499.

"Digalen a sheet anchor in pneumonia; a strong support to the heart in this deadliest of infectious diseases among adults. The prompt action of Digalen, by intravenous or intramuscular injection makes it possible to save lives which might be otherwise hopelessly lost. The best digitalis preparation which we have at the present time."[21]

"*The* digitalis for children. Because its dosage can be controlled. Endorsed by pediatrists everywhere."[22]

"The myocarditis of Tuberculosis so frequently encountered, especially in the advanced stage of the disease, may be controlled with the aid of Digalen. The standard digitalis preparation."[23]

"Digalen is Absolutely *Reliable.* It is *standardized* and consequently *always uniform.* It *does not produce gastric disturbances.*"[24]

Digalen is not a sheet anchor in pneumonia, for there is no drug deserving such a title. Digalen has no action which other digitalis preparations lack, and cannot save lives otherwise hopelessly lost. The dosage of Digalen cannot be controlled any better than that of other digitalis preparations, since its activity is variable. We cannot control the myocarditis of advanced tuberculosis by this, or any other means.

CLAIMED SUPERIORITY

Various digitalis principles, including digitoxin, digitalin (true) and digitalein, have been known for many years. Therapeutically they have been found wanting and there appears to be no basis for the continued claim that Digalen has any superiority over these several digitalis principles. On the contrary, the evidence is accumulating that Digalen has no advantage in any particular over a solution of digitalein, and misleading claims of the manufacturers and their agents certainly interfere with the formation of that calm and unbiased opinion on the part of the general practitioner, which, when applied to the non-proprietary digitalis principles has caused them to fall into disuse.

Report A on Digalen

In a recent examination of digitalis preparations made by Weis of Vienna in the chemical-pharmaceutical laboratory of the ministry for the interior, to which is entrusted the control of proprietary medicines in Austria[12] samples of digalen were found to be far less active than claimed. In view of this report the Chairman of the Council deemed it of importance that the character of Digalen found on the American market be determined. For this investigation specimens were secured from various parts of the United States.

21. Advertisement in Am. Med., January and February, 1913.
22. Advertisement in Merck's Arch., April, 1913.
23. South. Medical Journal, January to May, 1913, inclusive.
24. Advertisement in Brit. Med. Jour., April 26, 1913.

The following specimens were employed for the purpose:

Specimen No.	Where obtained	Date obtained	Trade number
1	Chicago	10/ 5/12	G 106142
2	Council	5/17/09	G 811250
3	Brooklyn	10/12/12	G 106142
4	Washington, D. C.	10/12/12	G 105012
5	Seattle, Wash.	10/14/12	G 101162
6	New York City	10/11/12	G 105222
7	Brooklyn	10/12/12	G 104172
8	Council	1/ 4/09	G 806220
9	Council	unknown	G 55010
10	New York City	10/11/12	G 104202
11	New Orleans	10/16/12	G 106142
12	Council	1909	Sealed tube dry digalen.

In the investigation of these specimens two methods were used for testing the activity of the preparations, the well-known one-hour frog method, which consists in determining the amount which is required to be injected into the abdominal lymph-sac of a frog to cause systolic standstill at the end of one hour, and the cat method, which has been described by Hatcher and Brody,[9] and which consists in injecting the preparation (diluted with four times its volume of normal salt solution in this case) into the femoral vein, slowly and continuously until toxic symptoms appear, and then with frequent interruptions till death results.

Two specimens of Digalen were used in twelve tests on frogs, and nine specimens of Digalen and one specimen of dry amorphous digitoxin, so called, were used in twenty-seven tests on cats.

The frog tests were abandoned after these twelve experiments were made because of our inability to obtain concordant results.

A much greater degree of concordance was obtained with the tests on cats, but one of the twenty-seven showing great variation with a given specimen.

The results are given in the tables.

TABLE 1.—RESULTS ON FROGS

Spec. No.	Dose (c.c. per gm.)	Result	Comment
10	0.065	semidiastole	
	0.065	"	
	0.075	beating	incomplete absorption
	0.083	"	complete absorption
	0.083	"	incomplete absorption
	0.100	semidiastole	complete absorption
11	0.05	beating	incomplete absorption
	0.05	diastolic ss.	complete absorption
	0.066	" "	
	0.066	beating	incomplete absorption
	0.083	"	" "
	0.083	systolic ss.	complete absorption

TABLE 2.—RESULTS ON CATS

Spec. No.	Dose (c.c. per kg.)	Average
1	1.57	
	1.59	
	1.16	
	1.54	
	1.74	1.52
2	1.57	
	1.74	1.67
3	1.46	
	2.02	
	1.74	1.73
4	1.86	
	2.06	
	1.94	1.95
5	2.00	
	2.03	
	2.06	2.03
6	2.56	
	2.49	
	2.03	2.39
7	2.40 (not fatal)	
	2.50	2.50
8	3.10	
	2.46 (not fatal)	3.10
9	3.32	
	2.66 (not fatal)	3.32

In addition to the foregoing tests with Digalen (liquid) two tests were made with 4 mg. of dry amorphous digitoxin, so called, submitted to the Council in 1909. In the first of these tests the cat required 0.66 mg. amorphous digitoxin, so called, per kilogram of weight and the second required 0.64 mg. per kilogram. These amounts correspond to 2.20 c.c. and 2.14 c.c. per kilogram, respectively.

EXPERIMENTS ON FROGS

The results of the experiments on frogs are remarkable chiefly for their entire want of concordance. This is due in part, or wholly, to the variability in the rate of absorption, for even where the whole of a large dose was found to have been absorbed at the moment when the heart was exposed it might very well follow that the absorption was then just complete and that the full effect of the drug had not yet been exerted on the heart, whereas, when the heart was found to be in systolic standstill from a smaller dose, it might very well be that absorption had been rapid from the start and the heart had been subjected to the full action of the drug for some time when it was exposed.

It is difficult to account for the results on any other hypothesis which is consistent with the view that Digalen contains

only an active principle of the nature of digitoxin. This is especially true in view of the fact that the frogs were found to react to ouabain in a series of six tests with perfect concordance.

The smallest dose of Digalen which was found to cause stoppage of the frog's heart was 0.05 c.c. per gram of frog, but doses exceeding this by 33 and 66 per cent., respectively, failed to cause stoppage, absorption being incomplete in those cases.

With another specimen a dose just twice that mentioned above failed to cause stoppage of the heart within an hour, even though the drug was absorbed completely.

I would distinctly disclaim the argument that these frog experiments prove that Digalen is variable in activity, since absorption was so obviously at fault. Digalen is a very weak preparation and the doses employed correspond to amounts equal to 1.25 to 2.50 c.c. for a frog weighing 25 gm.

All of the frogs tested without exception, and regardless of the degree of absorption, showed clonic convulsions, with the legs later drawn up over the lower part of the body in the manner characteristic of nicotin action.

EXPERIMENTS ON CATS

The results obtained with cats were very much more satisfactory than those obtained with frogs.

A single bottle of Digalen suffices for only two or three tests on cats of average size and in some cases a bottle proved insufficient for even two tests, although a point was made of selecting the smallest adult animal available for the purpose. In most cases the contents of two bottles of each specimen were mixed before using.

Taking the amount required of the weakest specimen as unity, we have the following figures representing the equivalent activity of the several specimens:

G 55010	1.0	G 105012	1.6
G 806220	1.1	G 106142	1.9
G 104172	1.3	G 811250	2.0
G 105222	1.4	G 106142	2.2
G 101162	1.6		

From this table it is seen that the strongest specimen is more than twice as active as the weakest.

The weakest specimens were evidently old, one of these having been supplied to the Council more than three years

ago, but another specimen supplied at about the same time was nearly twice as active, being in this respect almost exactly like two specimens obtained only a few days before the tests were made.

While the variability in activity shown is greater than should be expected in a digitalis preparation, it is still more striking that the several specimens present two essentially different types of action.

All the specimens which are known to be several years old caused death after symptoms which are extremely characteristic of the digitalis bodies, such as ouabain, strophanthus, digitalis, true digitalin, etc., with which the heart becomes irregular and stops before the respiration. This is followed by severe convulsions and death.

In all but two of the experiments in which the specimens had been obtained under conditions which led us to believe that they were of fairly recent manufacture, death was preceded by great respiratory stimulation which came on long before the fatal dose had been injected, and this was followed by a prolonged stage of hyperexcitability with frequent convulsions, after which there would be an apparent improvement requiring further injections, amounting to a considerable proportion of the total fatal dose, to cause death. The picture of the intoxication was quite different, even to the untrained eye.

The amount required of the more active specimens of Digalen, about 1.5 c.c. per kilogram of weight, corresponds fairly closely with the amount required of a solution containing 0.3 mg. of crystalline digitoxin in 1 c.c. of glycerin, alcohol and water in the proportions said to be present in Digalen. In other words, if Digalen consists of a solution of 0.3 mg. of amorphous digitoxin, so called, in each c.c. of the preparation, then the so-called amorphous digitoxin is about equal in activity to crystalline digitoxin when used on cats in the manner described.

It cannot be said with too great emphasis, however, that this is not at all the same as saying that the therapeutic action of Digalen, this so-called amorphous digitoxin, would be the same as an equivalent amount of crystalline digitoxin employed in the course of several days, because there is apparently a summation of action of the several doses of digitoxin to a very much greater extent than occurs with Digalen.

A comparison of the results obtained with the frog and cat methods seem to show that the one-hour frog method of

testing Digalen leads to too low an estimate of activity in many cases with the more recent preparations.

SUMMARY

Various specimens of Digalen, obtained at different times and in different localities, show quantitative differences in activity to the extent that some specimens examined are more than twice as active as others.

Some of the more recent specimens also differ qualitatively from the older ones, in that the more recent ones show a far greater action on the central nervous system, resulting in great increase in respiratory movements and in the production of convulsive movements.

The one-hour frog method has proved unsatisfactory in our hands for testing the more recent specimens of Digalen.

This investigation seems to show that different specimens of Digalen differ not only in quantitative action but also qualitatively, indicating variability in the active constituent. It is recommended that before definite action is taken this report of the Committee on Pharmacology, after adoption by the Council, be submitted to the Hoffmann-LaRoche Chemical Co. for consideration.

Report B on Digalen Tablets

Digalen tablets are said to contain soluble amorphous digitoxin Cloetta, each tablet being said to represent 0.5 c.c. (8 minims) liquid Digalen.

Several samples which had been supplied to physicians were used in these tests, and in addition, two boxes of ten tubes each were purchased from a wholesale druggist.

The tests were made on frogs by the one-hour method and on cats by the method described by Hatcher and Brody.

For the tests on frogs the tablets were extracted several times with alcohol, the extract evaporated on a water-bath and the residue taken up in diluted alcohol, or in a menstruum of alcohol, water and glycerin corresponding to that of liquid Digalen. Since the menstruum had little or no effect on the activity of the drug, it is not necessary to indicate the menstruum used in each case.

In one series four frogs received, respectively, 0.0097, 0.008, 0.007 and 0.006 mg. of the dry amorphous digitoxin per gram of weight. The first was positive (ventricle in systolic standstill in one hour) the second was virtually so and the last two hearts were still beating, indicating a fatal dose of

TABLE 3.—ACTIVITY OF DIGALEN TABLETS TESTED ON CATS

No. of Specimen	Dose mg. per kg.	Comments
?	1.02	
*	1.08	Death not typical of digitalis.
*	0.954	Death typical of digitalis.
G111,041(a)	1.29	Respiratory and cardiac failure; atypical.
(b)	1.05	Results closely like preceding.
(c)	1.81	No characteristic symptoms of any sort. No more of the drug available for the experiment.
*	1.11	Not fatal, required 30 per cent. of a fatal dose of ouabain to cause death.
G108,291(a)	1.63	
(b)	1.53	

* For these tests 10 tablets from each of three tubes 111,041, 108,291, 110,241 and 20 tablets from tubes 106,231 were used.

slightly more than 0.008 mg. per gram. One series of three frogs gave a fatal dose of 0.008 to 0.012 mg. per gram of weight, and a third series gave a fatal dose of 0.0083 mg. or less per gram of weight.

We may say that approximately 0.0085 mg. of this dry amorphous soluble digitoxin was fatal per gram of weight. Specimen No. G.108291 was used for all of the foregoing tests on frogs.

It is interesting to note that this is almost exactly the same dose as that of crystalline digitoxin which Worth Hale[8] found fatal for the frog. It is equally interesting to know that it corresponds very closely with the fatal dose of digitalein as well as crystalline digitoxin for *Rana esculenta,* as determined by Weis,[12] which would seem to indicate that an identical toxicity for the frog would not necessarily indicate an identity of products.

As we had previously found the frog test unsuited in our hands for determining the activity of Digalen we tested a number of specimens of the tablets on cats. The results are given in Table 3. The dose in every case is expressed in milligrams of dry amorphous digitoxin per kilogram of body-weight. For the tests on cats the tablets were simply dissolved in normal saline.

It is obvious that Digalen is not uniform in composition. The smallest fatal dose of liquid Digalen was 1.52 c.c. or 0.45 mg. of the dry amorphous digitoxin, per kilogram. Since 1.81 mg. per kilogram of that contained in the tablets pro-

duced no symptom whatever in the cat, it is evident that this specimen is very weak. In not a single one of the nine experiments recorded above was the activity on cats of the tablets even half that of the more active specimens of the liquid previously reported.

The irregularity of the results obtained with Specimen 111,041 are in sharp contrast to the results obtained about the same time with the liquid Digalen, and also with the other specimens of Digalen tablets, all of which showed close agreement for a given specimen. The discrepancy in this case is explained in part by the fact that respiratory failure was prominent in two of the experiments with this specimen. Its cardiac action was unmistakably weak. In this particular it resembled certain specimens mentioned in the previous report, in which the action on the central nervous system are prominent.

ANGIER'S EMULSION

Report of the Council on Pharmacy and Chemistry

(*From The Journal A. M. A., Sept. 12, 1914, p. 962*)

Angier's Emulsion is essentially a petroleum product. When it was first put on the market commercial interests had been fostering the idea that petroleum products had food-value, and the manufacturers of Angier's Emulsion, making use of the idea, advertised it as a "food-medicine" and an "ideal substitute for cod-liver oil." The impression thus created has been kept alive through persistent advertising in spite of scientific proof to the contrary. To-day many who know that petroleum products have no food-value are still likely unconsciously to class Angier's Emulsion among nutrients. Although the manufacturers now advertise this product as "purely mechanical in its action," they yet show a disposition to profit by the old misapprehension, since, so far from expressly disavowing the old claims as erroneous, they mingle with the new ones vague claims of "tonic and reconstructive merits" apparently designed to sustain, in those who do not take time to consider the evidence carefully, the old faith in the claimed nutritive qualities of the preparation.

While the Council judges a preparation by the claims made for it at present, and not by any past misstatements when these have been thoroughly corrected, the past advertising of Angier's Emulsion so instructively illuminates the scientific worthlessness of proprietary therapeutic claims

in general, and the whole course of its history is so typical that the referee has thought it well to review the subject briefly. The Council has authorized the publication of the following report.

W. A. PUCKNER, Secretary.

Angier's Petroleum Emulsion was brought out in 1881—that is to say, before the food-value of petroleum products had been experimentally disproved. Its advertising history well illustrates the weed-like vitality of a financially profitable therapeutic fallacy. The shifting claims made for this preparation are such good examples of the generally unreliable therapeutic pretensions of proprietary medicines—whether of the "patent medicine" or of the "ethical proprietary" type—that it has been deemed advisable to present a brief review of the conflicting claims made for it at various times.

A PETROLEUM PRODUCT

Angier's Emulsion is described by the manufacturers as containing, in addition to "our specially purified Petroleum," "the combined hypophosphites of lime and soda, chemically pure glycerine, and the necessary emulsifying agents." So far as the hypophosphites are concerned, it is probably unnecessary to remark that the latest researches bring to light no evidence that they influence metabolism in the slightest degree. The Angier Chemical Company apparently accepts this view, for in its advertising stress is laid exclusively on the merits of the emulsion as a petroleum product. It is therefore proper to consider it from this point of view.

The history of the internal use of liquid petrolatum was sketched in a recent Council report.[1] As mentioned at that time, a number of petroleum products were put on the market some thirty years ago as substitutes for lard and butter. Contemporary opinions regarding the food value of such products differed widely.

There never was any scientific evidence to support the view that petroleum and its derivatives are assimilable by the animal organism. In fact, so far as we can learn, there was no scientific investigation of the problem until Randolph's experiments in 1884. These were probably the first to demonstrate the non-absorbability of petroleum and its valuelessness as a foodstuff.

1. Liquid Petrolatum or "Russian Mineral Oil," Propaganda Department, THE JOURNAL A. M. A., May 30, 1914, p. 1740.

In 1899 Robert Hutchison conclusively demonstrated by experiment that petrolatum, paraffin and related products were absolutely unassailable by any of the digestive fluids, and therefore could not possibly have any food value. Various investigators later confirmed these findings.

FIRST ADVERTISED AS A "FOOD-MEDICINE"

Let us now take up the advertising history of this nostrum. In 1895 it was sold under these claims:

". . . a 'Food-Medicine' that is far more than a substitute for cod-liver oil";

". . . a Food-Medicine that is readily assimilated and helps to digest other foods."

In 1897 it was an:

"Ideal Substitute for Cod Liver Oil."

In 1899 it:

". . . conserves heat and energy by furnishing more material for oxidation."

In 1902 it:

". . . supplants tissue waste by tissue reconstruction."

The promoters of Angier's Emulsion thus for some time ignored the status definitely assigned to petroleum products by the experiments of Randolph, Hutchison and others. This was only natural. If petrolatum was absolutely inert in the alimentary canal (and this was now proved beyond controversy) then an emulsion prepared from it most certainly was not a "food-medicine," could not "supplant tissue waste," or "conserve heat and energy." All the credit which previous "unterrified and ingenious advertising" (to quote Hutchison) had accumulated for Angier's Emulsion was bound up with the view that petroleum products were foodstuffs.

LATER ADVERTISED AS NON-ABSORBABLE

The non-absorbability of liquid petrolatum, however, suggested to Robinson, Schmidt, Lane and others, a new therapeutic use for it in the treatment of chronic constipation. This method has rapidly gained popularity and it is not surprising, therefore, that the promoters of Angier's Emulsion changed their claims accordingly, and now began to base their advertising chiefly on the proved properties of petrolatum. In 1910 the emulsion was advertised for the treatment of chronic diarrhea on these grounds:

". . . given by the mouth, it passes to the lowermost portions of the intestines without changing its identity; hence it exerts antiseptic, soothing and demulcent properties upon every inch of the intestinal tract, from the duodenum to the rectum."

The old claims, however, were not discarded altogether, for in 1911 the preparation was recommended for children's diseases as:

". . . an aid to appetite and digestion and a splendid tonic and builder."

Before long the attempt was made to weave together the claims based on opposed and mutually incompatible properties. In 1912 we find Angier's Emulsion recommended because it:

". . . corrects digestive disturbance and promotes normal action of the bowels. At the same time it has a most invigorating tonic influence upon the general health."

In 1914 medical men are advised through the advertising pages of the *British Medical Journal* of the:

". . . tonic and reconstructive merits of Angier's Emulsion."

A pamphlet on "Constipation," which is "Presented to Physicians with Compliments of the Angier Chemical Company" (copyright, 1913; still distributed in 1914) informs physicians that Angier's Emulsion is:

". . . purely mechanical in its action."

Notwithstanding this, we are told later on in the same pamphlet that it:

". . . facilitates, hastens and assists the processes of digestion and assimilation." . . . "is a most efficacious remedy in Pulmonary Tuberculosis because it not only maintains normal nutrition, but also exerts a well-defined specific palliative influence upon the cough and other symptoms of the disease."

Evidently the advertisement is written in the hope that in one paragraph a claim based on the proved properties of petroleum products may be substantiated, while in another a totally different and inconsistent claim may be glibly insinuated in vague phrases designed to lull thought and thus perform the remarkable feat of securing credence for two contradictory statements.

UNWARRANTED AND MISLEADING CLAIMS

Further evidence that Angier's Emulsion is at present exploited both to the medical profession and to the public under claims that are unwarranted and misleading, if not

as palpably untrue as the claims made in the past, is found on the wrapper of a trade package purchased in 1914 and in the circular accompanying it. Note the following:

"Indicated in Diseases of the Throat and Lungs and of the Digestive Apparatus. Useful in General Debility and Wasting Diseases, Especially when due to Faulty Nutrition. The antiseptic properties of the Emulsion particularly adapt it to the treatment of diseases of septic or bacterial origin."

"Angier's Petroleum Emulsion is indicated in affections of the throat, lungs and intestinal tract—both subacute and chronic. In diseases of the digestive apparatus due to catarrhal, ulcerative or tuberculous conditions, its peculiar soothing, healing and aseptic properties make its use especially beneficial. Wasting diseases, particularly when due to faulty nutrition, are greatly benefited by its use, one of the most noticeable effects being a prompt and decided increase in weight."

It is, of course, unnecessary to point out that, since petroleum is non-absorbable, Angier's Emulsion contains no ingredient capable of affecting the respiratory mucous membrane except by local application, for which, indeed, this preparation is evidently not intended.

COMPOSITION AND FORMULAS

According to a circular which was contained in a trade package recently purchased

"Each fluidounce of Angier's Petroleum Emulsion with hypophosphites contains: 33⅓ per cent. of our specially purified Petroleum; 9 grains of the combined hypophosphites of lime and soda, chemically pure glycerin and the necessary emulsifying agents."

As regards the nature of the product referred to under the indefinite term "petroleum" the circular states that Angier's Emulsion is:

". . . prepared with refined petroleum specially purified for the purpose. By a process peculiarly our own the crude petroleum, obtained from special wells is so purified that all taste and odor and all objectionable and irritating properties are removed, while the full medicinal value of the oil is retained. . . ."

The composition assigned to Angier's Emulsion in an advertising pamphlet "The Petroleum Idea," issued in 1907 differs in that it is said to contain "specially purified crude petroleum" and that each fluidounce is said to contain 2.84 grains of benzoate of sodium. While these quotations convey the impression that certain medicinal constituents of the "specially purified" product obtained from "special wells" are "retained," a pamphlet recommending the use of Angier's Emulsion for the treatment of constipation assures us that

it produces the "mechanical effects of the purest petroleum" and that it is "purely mechanical in its action."[2]

LABORATORY REPORT

The statements regarding the identity of the "petroleum" are so unsatisfactory and contradictory (in one place "refined petroleum specially purified for the purpose," in another "specially purified crude petroleum"—in one place "medicinal" and in another "purely mechanical in its action") that the help of the Chemical Laboratory of the Association was invoked to establish the character of the petroleum product and to determine the presence or absence of sodium benzoate, at one time declared by the manufacturers to be present but later omitted from the formula. The Association's chemists reported:

"From a specimen of Angier's Emulsion recently purchased there was separated by the customary methods of analysis, a yellow fluorescent, unsaponifiable, semi-solid residue which has all the properties of ordinary yellow petrolatum of a consistence somewhat softer than the product described in the Pharmacopeia. It was much more dense than the colorless, non-fluorescent liquid petrolatum now in vogue as a laxative. The preparation contained benzoate, both in the form of free benzoic acid and also in the form of a water-soluble salt probably sodium benzoate."

The petroleum product contained in the emulsion was thus shown to be intermediate between the ordinary (solid) and the liquid petrolatum. It also appears that a benzoate is still present, though no longer mentioned in the formula.

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2. As is the custom in the exploitation of proprietary medicines, the preparation which is the firm's main output—the leader—is made to do duty as an advertising medium for auxiliary preparations. Thus the Angier Emulsion booklet advises the use of Angier's Throat Tablets. These tablets are alleged to be composed essentially of elm bark and petroleum, are claimed to "promote appetite and aid digestion," and it is stated that "their healing action on all mucous surfaces makes them decidedly beneficial, not only to the pulmonary tract but on the digestive areas as well." Angier's Throat Tablets were examined in the Association's Laboratory to determine the amount and kind of petroleum present in the tablets. Extraction of the tablets with ether yielded a petroleum product which resembled in every way the product obtained from the emulsion. Slightly less than 12 per cent. of the tablet was composed of the petroleum oil. The part insoluble in ether appeared to consist essentially of elm bark, with gum and sugar.

GLYCO-THYMOLINE

Report of the Council on Pharmacy and Chemistry

(*From The Journal A. M. A., Oct. 10, 1914, p. 1312*)

The Council, having voted that Glyco-Thymoline be refused recognition, authorized publication of the following report.

W. A. PUCKNER, Secretary

Glyco-Thymoline (Kress and Owen Company, New York) is a typical example of a "patent medicine" advertised to the public through the doctors. Bottles of the mixture with the name blown in the glass are issued to physicians for distribution to patients, and the circular which comes around the bottle more or less directly recommends it for use in almost every form of infectious disease.

COMPOSITION AND VARYING FORMULAS

Different formulas for Glyco-Thymoline have appeared. At one time it was said to contain:

"Sodium 24, Boric Acid 4, Benzoin 4, Acid Salicylic 0.33, Eucalyptol 0.33, Thymoline 0.17, Betula Lenta 0.08, Menthol 0.08, Pini Pumilionis 0.17, Glycerin and solvents, q.s."

Another formula, which appeared about the same time, was:

"Benzo-Salicyl. Sod. 33.33, Eucalyptol 0.33, Thymol 0.17, Salicylate of Methyl from Betula Lenta 0.16, Pini Pumilionis 0.17, Glycerin and solvents q.s."

A later formula was like the second except that it included "Menthol, 0.08."

Analysis in the chemical laboratory of the American Medical Association showed that Glyco-Thymoline contained borax but no boric acid; sodium salicylate but no salicylic acid; sodium benzoate, but no benzoin; the compound benzosalicyl. sod. could not be determined, but a mixture of sodium benzoate and sodium salicylate was demonstrable.[1] Later Puckner pointed out[2] that while such a combination as benzosalicylate of sodium is known, it could not possibly be present in Glyco-Thymoline because the alkalinity of this mixture would decompose the compound. As the manufacturers evidently recognize that false formulas can no longer be made plausible, only vague statements as to the composition are now offered.

1. The Formula for Glyco-Thymoline, Pharmacology Department, THE JOURNAL A. M. A., Jan. 9, 1909, p. 147.
2. Puckner, W. A.: Rep. Chem. Lab., A. M. A., 1910, iii, 7.

Two points should be noted in this connection:

1. Glyco-Thymoline conflicts with Rule 1 of the Council on Pharmacy and Chemistry, which declares that no article shall be accepted for inclusion with New and Nonofficial Remedies unless its composition be furnished.

2. No matter which published formula be accepted as correct, it is at best a weak antiseptic. The antiseptic ingredients present cannot act as germicides in the strength in which they are used, or in the alkaline solution on the unique virtues of which the circular lays so much stress ("the one antiseptic solution based on the alkalinity and saline strength of normal blood"). As shown by Verhoeff and Ellis,[3] undiluted Glyco-Thymoline does not kill *Staphylococcus aureus* in four hours. It evidently, they say, "could have but little if any greater therapeutic value than sterile salt solution."

DANGEROUS RECOMMENDATIONS

In Diphtheria: "Case-reports" in the advertising pamphlet describe the treatment of diphtheria with Glyco-Thymoline. It is surely unnecessary to point out that, whatever the possible merits of Glyco-Thymoline or its ingredients, they are utterly irrelevant here. But let a "case-report" be quoted:

"....., M.D., states: 'I have many an interesting story of Glyco-Thymoline. I just finished up a family in which I was treating five cases of diphtheria—two of which presented diphtheritic membrane in nasal cavity. I decided not to use antitoxin in these cases. I used only the regular constitutional treatment and Glyco-Thymoline as a local antiseptic. I believe the Glyco-Thymoline worked wonders. My cases are all now in good health, with no after troubles. I think it an ideal antiseptic for every trouble in nose and throat.'"

Words of denunciation fall flat before the complacent self-revelation of the physician who "decided not to use antitoxin." Surely if any other physicians have been misguided by this example, there must be many another "interesting story of Glyco-Thymoline" to tell—not to speak of other families that have been "finished up."

In Ophthalmia Neonatorum: We gain from the same advertising pamphlet the following information on prophylaxis:

"The treatment in the past has consisted of instillation of silver nitrate, boric acid, salts of mercury, nucleinated salts of silver and mercury, etc. . . ., but these agents have proved to be failures as an

3. Verhoeff, F. H., and Ellis, Edward Keith: The Bactericidal Values of Some Widely Advertised Antiseptics, THE JOURNAL A. M. A., June 29, 1907, p. 2175.

absolute specific. . . . During the past few months experiments have demonstrated the efficacy of a new mode of treatment that is both rapid and thorough, and devoid of danger in its use. This method consists of thorough irrigation of the eyes in fully developed cases of the disease with a solution of Glyco-Thymoline."

At the very best, Glyco-Thymoline is a weak, a very weak antiseptic—not a germicide. To assert, or even to imply, that it is superior to the well-tried and efficacious Credé method of treatment for ophthalmia in the new-born is cruelly wicked.

In Consumption: This from the same pamphlet:

"The indifference of phthisical patients toward the maintenance of sanitary conditions is proverbial.

"That the environment of all such patients should be absolutely aseptic both for the good of the patient and for the welfare of those who are brought into contact with them is a well-established fact."

It is, instead, an ill-established fiction. To talk about maintaining an "absolutely aseptic" environment under any practical conditions of daily life is to talk nonsense; the thing is impossible, even were it desirable. But, not to be distracted from the main issue by subsidiary falsehoods:

"In Glyco-Thymoline we have an antiseptic which, while mild and soothing . . . is still a powerful agent for promoting asepsis, and a potent factor in the maintenance of sanitary environment in the sick room.

"Inhaled from a vaporizer or a fine spray atomizer, it will loosen the mucus in a marvelous manner and in a wonderfully short time, shorten the paroxysms of coughing to a marked degree, at the same time reducing the danger of contagion to a minimum."

And this is the preparation, it will be remembered—this "powerful agent for promoting asepsis"—which, when applied in undiluted strength, was unable to kill *Staphylococcus aureus* in four hours!

It would be a waste of space to cite further evidence to show that the advertising of Glyco-Thymoline is in conflict with Rule 6 of the Council, which provides that no article shall be accepted "concerning which the manufacturer or his agents make unwarranted, exaggerated or misleading statements as to the therapeutic value." It is further in conflict with Rule 4, against indirect advertising by means of the label, package or circular accompanying the package.

CLAIMS TO ORIGINALITY

Hatcher and Wilbert have pointed out that from a therapeutic point of view the composition of Glyco-Thymoline is based on the formula of the widely known "compound solu-

tion of sodium borate," or Dobell's solution. For the phenol in the original, a mixture of antiseptic acids and volatile oils has been substituted.

SUMMARY

Glyco-Thymoline is in conflict with Rules 1 and 4 of the Council on Pharmacy and Chemistry, because of its indefinite composition and the method of advertising it to the public. It is in conflict with Rules 10, 6 and 8, in that it is an unscientific, shot-gun mixture sold under unwarranted therapeutic claims and under a misleading name. Altogether it must be considered an unscientific heterogeneous mixture, in which a few valuable ingredients are hidden by the useless shrubbery which surrounds them.

MAIGNEN ANTISEPTIC POWDER

Report of the Council on Pharmacy and Chemistry

(*From The Journal A. M. A., Nov. 14, 1914, p. 1778*)

The report which appears below was submitted by a referee and after adoption by the Council was sent to the manufacturer for comment, in accordance with the Council's regular procedure in such cases. The manufacturer's comments were transmitted to a second referee, who reported that after a careful consideration of the manufacturer's reply he saw no valid reason for a modification of the report. The referee also reported that a visit to the Maignen Institute further served to convince him of the viciousness of the treatment as given and that the records made by the persons in the employ of the institute were too inadequate to serve as clinical evidence. On the referee's recommendation, the report as originally adopted was reendorsed by the Council and authorized for publication.

W. A. Puckner, Secretary.

Maignen Antiseptic Powder is marketed by the "Maignen Institute for the Study of Bacterial Diseases," Philadelphia. It is claimed to be a mixture of calcium hydroxid, sodium carbonate, aluminum sulphate and boric acid, but no statement as to the amount of the several constituents is furnished. Its action depends on the sodium hydroxid which is formed

when the powder is treated with water, 1 Gm. of the powder as now submitted to the Council yielding 0.32 Gm. of sodium hydroxid (NoOH) and a specimen obtained a year ago yielding 0.28 Gm. Its promiscuous use is recommended both to physicians and to the public with claims which are extravagant, preposterous and even dangerous.

A pamphlet, clearly intended for the laity, entitled "What Is Catarrh?" gives directions for the "sterilization" of the nose, throat, stomach, lungs, eyes, gums, mouth and the genito-urinary tract. The following, taken from this pamphlet, illustrates the absurdity of the claims made for Maignen Antiseptic Powder:

"STERILIZATION OF THE STOMACH

"TAKE of the Maignen Antiseptic Powder half the quantity raised on a dime, scant.

"ADD to a tumbler of water, preferably warm, and stir.

"DRINK SLOWLY.

"THIS IS WHAT MAY HAPPEN:

"1). Belching may be the first indication of the sterilization of the stomach.

"2). The excess of acidity is corrected.

"3). The fermentation is stopped.

"4). The sterilization extends to the Intestinal Tract.

"5). The bowels are regulated without purgation.

"6). The whole metabolic process is improved.

"WHEN AND HOW OFTEN TO DRINK THE ANTISEPTIC SOLUTION.

"a). For Indigestion, whenever distressed, before or after meals.

"b). For Constipation, half an hour before breakfast or last thing at night.

"c). For Gastro-Intestinal troubles, such as Typhoid Fever, Dysentery and Cholera, which are the most serious forms of catarrhal inflammation, take half a tumbler or a whole tumbler of hot water with half the quantity of Powder raised on a dime every hour, and between times a glass of generous [sic] wine.

"REMARKS

"The sterilization recommended here is a plain disinfecting process which does not interfere with medical treatment. It is, on the contrary, of great assistance to it.

"It has been found very effective in breaking up the cigarette habit. It does away with the craving by removing the morbid irritation of the mucous membrane."

Eighty-eight disorders are listed in a pamphlet entitled "Antiseptic Therapeutics" all of which are reported as having been treated with success. The dangerous character of the Maignen "sterilization" propaganda is illustrated by a pamphlet "First Aid to Baby-Sick" and by the recommendation on the trade package:

"To prevent Blood Poisoning, Lockjaw, Hydrophobia and Infectious Diseases."

The legend on the trade package and the advertising matter contained in it are likely to lead the public to place dependence on a weak sodium hydroxid solution as a means of preventing blood-poison, lockjaw, hydrophobia and infectious diseases. The pamphlet "First Aid to Baby-Sick" recommends its use in sore eyes, teething and sore mouth, sore throat, running ears, running nose, sore chest, summer complaint, skin troubles and infection after vaccination; if any trust is put in these claims, they are bound to lead to the sacrifice of many infants through neglect of proper treatment.

Patent No. 1,086,339 has been granted on this powder to P. J. A. Maignen of Philadelphia by the U. S. Patent office on the following specification of claim made in the application:

"1. A process for destroying microorganisms on living tissue, without injuring the latter . . . whereby the growth of such organisms is inhibited and their substance dissolved without deleterious effect upon contiguous healthy tissue."

With brazen assurance this grant has been twisted by the unscrupulous promoters into a government endorsement of the preparation. It, of course, means nothing of the sort, as, no doubt, in accordance with legal routine the patent was granted without any investigation by the patent office to determine the effectiveness of the powder for the purpose claimed.

In view of the dangerous, unwarranted and absurd claims made for Maignen Antiseptic Powder the referee recommends that it be refused recognition, and that the Council declare its agreement with views expressed in the article "Maignen Pulv." published in THE JOURNAL, Feb. 15, 1913, p. 537, particularly the following:

"The germicidal powers of strong alkalies have long been known, but the inconvenience of their application to tissues and mucous membranes has prevented their use. That they will be of service when sufficiently diluted not to irritate the tissues is improbable, for the antiseptic power of such solution is slight and the disinfectant value practically nil."

Because the Maignen Institute has twisted the granting of U. S. Patent No. 1,086,339 into a quasi-endorsement of the claims made for Maignen Antiseptic Powder it is recommended that a copy of this report be sent to the Commissioner of Patents as a protest against the present law, which authorizes the granting of patents on unproved and improbable medical claims.

IODIA

Report of the Council on Pharmacy and Chemistry

(*From The Journal A. M. A., Nov. 21, 1914, p. 1871*)

The following report on Iodia was adopted by the Council and its publication authorized.

W. A. PUCKNER, Secretary.

Iodia is put on the market by Battle and Company, under the claim that it contains potassium iodid in combination with iron phosphate and vegetable "principles." It is extravagantly recommended for use in many and varied conditions. For instance, it is "an unexcelled altero-reconstructive," "almost a specific" in eczema and rheumatism and "a highly efficient form of iodin," which will not produce iodism!

The therapeutic effects of iodids result from a chemical transformation by which molecular iodin is set free in the tissues, thus producing a mild degree of iodism. It follows, then, that a preparation which cannot give rise to the symptoms of iodism cannot be expected to produce the therapeutic effects of the iodids. The claim that Iodia is therapeutically efficient without producing iodism therefore justifies suspicion, to put it mildly.

In view of the exaggerated tone of the advertising, together with the fact that a report from the Chemical Laboratory of the American Medical Association showed marked discrepancies between the formula and the composition of Iodia, it seemed desirable to investigate this product. The report of the laboratory, which is given below, shows conflict with Rule 1 (secrecy of composition) and with Rule 2 (false claims of standardization). A discussion of the claims made for Iodia follows the report.

LABORATORY REPORT

The composition of Iodia is given thus:

"Formula.—Iodia is a combination of active principles obtained from the green roots of Stillingia, Helonias, Saxifraga, Menispermum and aromatics. Each fluid drachm also contains two and one-half grains Iod.-Potas. and one and one-half grains Phos.-Iron."

We are told that:

"Its several ingredients are selected with scrupulous care, and the most exacting methods are constantly employed to insure absolute uniformity and maximum therapeutic potency."

This "formula" is an absurdity: First, the amounts of the "active principles" of the plants named are not given; second, these "principles," with the possible exception of menis-

permum alkaloids, have not been isolated; and, third, ferric phosphate and potassium iodid are incompatible! Incidentally, there are no methods whereby it is possible to secure "absolute uniformity" of a mixture such as Iodia is claimed to be.

Qualitative tests demonstrated the absence of iron and the absence of all but traces of phosphorus compounds (0.015 gm. phosphorus per 100 c.c.). Minute traces of alkaloids, possibly from menispermum, were found (that amount being about 0.004 gm. per hundred c.c. of the preparation). Therapeutically this quantity is entirely negligible. Determinations of iodid demonstrated the presence of only about 60 per cent. of the amount of potassium iodid claimed. The "formula" for Iodia is false and misleading.

It should be noted that the discrepancies here reported between the actual and the claimed composition of Iodia were pointed out more than thirty years ago by A. B. Lyons (Detroit *Lancet*, October, 1882, vi, 157-8), who found that Iodia was deficient in iodid content and practically free from iron.

DANGEROUS RECOMMENDATIONS

One of the Iodia labels reads:

"INDICATIONS.—Syphilitic, scrofulous and cutaneous diseases, dysmenorrhea, menorrhagia, leucorrhea, amenorrhea, impaired vitality, habitual abortion and general uterine debility."

Such recommendations are likely to lead to self-drugging in conditions that are not only dangerous to the individual but also a menace to the community. The preparation thus conflicts with Rule 4 of the Council. After admitting the need of efficient iodid medication in certain stages of syphilis and after exaggerating the frequence and severity of symptoms of iodism, an advertising circular entitled "Practical Therapeutics" asserts:

"Iodia then is the preparation of iodid of potassium to be preferred whenever it requires to be administered in large doses or for prolonged periods of time . . .

"Not only does the association of the iodid of potassium with the vegetable alteratives offer a measure of protection against iodism but the latter exert depurative effects on their own account . . ."

It is generally accepted that in certain stages of syphilis the only hope of success lies in efficient iodin medication. The exploiters of Iodia state that a dose of the nostrum contains 2½ grains of potassium iodid; actually it contains only 1½ grains. To urge physicians and the public to depend on this product for efficient iodid medication constitutes an unwarranted therapeutic exaggeration (Rule 6) which approaches criminality. The reason Iodia does not produce iodism is that, in the doses recommended, the iodin action is extremely feeble.

Likening the human body to a factory and discussing the "break downs" which are likely to occur, a circular entitled "Always Trustworthy" says:

"When administered in proper dosage, Iodia stimulates organic functions, promotes the elimination of waste products, and re-establishes metabolic activity. It increases the solvent properties of the blood, and arrests abnormal tissue metamorphosis. In other words, it lends material assistance to weakened cells and curbs those unduly active. Iodia, obviously, has a wide range of indications. It has been most generally and successfully employed, however, in Syphilitic, Scrofulous and Cutaneous Diseases, Rheumatic and Gouty Ailments, Dysmenorrhea, Menorrhagia, Leucorrhea, Amenorrhea, Impaired Vitality, Habitual Abortion and General Uterine Debility, and wherever a reliable altero-reconstructive is required."

These recommendations show that in addition to the objections already given, this nostrum is an unscientific shotgun mixture. This brings it in conflict with Rule 10 (unscientific articles inimical to the medical profession and the public).

It is recommended that Iodia be refused recognition.

BETUL-OL (Fougera)

Report of the Council on Pharmacy and Chemistry

(An Abstract of this Report Appeared in The Journal A. M. A., Dec. 12, 1914, p. 2148)

The following report was adopted by the Council and its publication authorized. W. A. PUCKNER, Secretary.

Betul-ol, said to be "Manufactured in the New York Laboratories of the Anglo-American Pharmaceutical Co., Limited," is sold by E. Fougera and Co., New York, as an analgesic and antirheumatic. It is a transparent dark green liquid having a strong odor of methyl salicylate.

INDEFINITE FORMULA

In general only vague and meaningless or misleading statements are made as to the composition of Betul-ol, thus:

". . . a menthol-methyl-oleo-salicylate derived from the plant *betula lenta.*"

"Betul-ol is a methyl-oleo-salicylate containing chloro-menthol."

". . . betul-ol (menthol-methyl-oleo-salicylate comp.)."

". . . betul-ol, or chloro-menthol-methyl-salicylate."

"This salicylic liniment is the methyl ester of salicylic acid in combination with menthol."

"A 2 per cent. solution of menthol in a methyl ester of the salicylic radical . . ."

"Betul-ol is a chloro-menthol methyl salicylate liniment."

The following, which appeared to be a definite statement of composition was given on a return-postal card recently sent out:

"Betul-ol is a 2% solution of menthol and 2% of chloral in methyl salicylate."

The untrustworthiness of this formula, however, has been demonstrated by our Chemical Laboratory, which reports:

On heating Betul-ol on the water-bath until the weight became approximately constant a residue of 8.74 per cent. by weight remained. This residue was a dark brown oily liquid and had an acid reaction. It appeared to consist for the most part of free oleic acid. Titration with normal potassium hydroxid and calculation of the results to oleic acid indicated about 92 per cent. of this residue to be oleic acid.

ENCOURAGEMENT TO SELF-MEDICATION

The original packages have the name blown in the bottle, thus serving as an advertisement to the public. They also contain a circular describing the use of Betul-ol in the treatment of rheumatism. Even if the external application of this mixture in uncertain doses were as effective as a proper internal use of salicylates, it would be not only unjustifiable, but almost criminal to encourage self-medication, in view of the serious complications and sequelae of rheumatic fever.

MISLEADING THERAPEUTIC CLAIMS

The advertising matter implies that the methyl salicylate will be absorbed by the skin in sufficient quantity to produce the therapeutic effects of full doses of the salicylates given internally. This is not supported by adequate evidence, and is contrary to ordinary experience.

The statement is made that "cutaneous absorption of drugs gives results somewhat similar to their injection hypodermically, since it is an osmotic passage through the tissues into the blood." If this means that the salicylate is absorbed without change from the skin, it would be literally true, but such absorption is a detriment rather than an advantage, since it is conceded that methyl salicylate acts only after its decomposition into salicylic acid. If on the other hand, it is meant to imply that the results are as rapid as those by hypodermic injection, it is unqualifiedly false. The theory once held, that the synthetic preparations of salicylic acid are more toxic than the so-called natural salicylic acid, has been disproved. Yet the attempt is made to take advantage of this exploded error, since the claim is made that these

alleged toxic actions will be avoided by using the natural salicylate found in Betul-ol.

The attempt is also made to let another long discarded theory do duty to promote the interests of Betul-ol. When chloral was first introduced into therapeutics it was supposed that it acted by being changed into chloroform by the alkalies of the blood. The advertisement for Betul-ol adopts this view and accounts for the ready absorption of the methyl salicylate by the assumption that the chloral which the mixture contains is absorbed and converted into chloroform in the subcutaneous tissues and that this chloroform assists the absorption of the other ingredients. But we now know that chloral is not decomposed in the way supposed and it is very doubtful if an amount of chloral sufficient to influence the absorption of other ingredients could be introduced by the application of Betul-ol to the skin, since the preparation is claimed to contain only 2 per cent. of chloral.

SUMMARY

Betul-ol is in conflict with Rule 1 in that its composition is kept secret; with Rule 4 in that it is exploited indirectly to the public with the likelihood of its doing harm; with Rule 6 in that unwarranted and exaggerated claims are made for its therapeutic qualities; with Rule 8 in that the name of this pharmaceutical mixture does not indicate its potent constituents; and with Rule 10, in that the use of such a complex mixture of indefinite composition is unscientific and a detriment to the public and to rational medicine.

RECOMMENDATION

It is recommended that Betul-ol be refused admission and that this report be published in the annual Council Reports.

ERGOAPIOL AND APERGOLS

Report of the Council on Pharmacy and Chemistry

(An Abstract of this Report Appeared in The Journal A. M. A., Dec. 12, 1914, p. 2149)

The following report on Ergoapiol, exploited by the Martin H. Smith Co., New York, and Apergols, exploited by the H. K. Wampole Co., Philadelphia, has been adopted by the Council and its publication authorized.

W. A. PUCKNER, Secretary.

Ergoapiol is a mixture put up in capsules, each capsule, according to the manufacturer, containing:

Apiol (Special M. H. S.)	5	grains
Ergotin	1	grain
Oil Savin	½	grain
Aloin	⅛	grain

No statement is made in the advertising matter as to the nature of "Apiol (Special M.H.S.)." From the physical appearance and the weight of the contents of the capsules it is evident that each capsule contains, not 5 grains of the chemical substance, apiol, but some liquid preparation, probably of the type of oleoresin of parsley-seed. The formula, therefore, is incomplete and in conflict with Rule 1.

The label on the trade package recommends the use of Ergoapiol for such diseases as "AMENORRHEA, DYSMENORRHEA and OTHER MENSTRUAL DISORDERS"; enclosed with the trade package is a circular lauding the value of Ergoapiol and containing many suggestions which will lead to its indiscriminate use to the danger of the public.

Advertisements recommend Ergoapiol for the routine treatment of a variety of conditions which have little in common except that they involve the female generative organs:

"Ergoapiol is a singularly potent utero-ovarian anodyne, sedative and tonic. It exerts a direct influence on the generative system and proves unusually efficacious in the various anomalies of menstruation arising from constitutional disturbances, atonicity of the reproductive organs, inflammatory conditions of the uterus or its appendages, mental emotions or exposures to inclement weather."

"It is a uterine and ovarian sedative of unsurpassed value and is especially serviceable in the treatment of congestive and inflammatory conditions of these organs."

"Ergoapiol (Smith) proves notably efficacious in amenorrhea, dysmenorrhea, and menorrhagia."

"When the catamenial discharge is absent or inadequate as a result of exposure to inclement weather, fright, grief or other violent mental shocks, the administration of Ergoapiol (Smith) is almost invariably followed by a complete restoration of the function. The action of the preparation is equally satisfactory where the underlying cause is one or another constitutional disturbance."

As now offered for sale, Ergoapiol is therefore in conflict with Rules 4 and 6.

The combination of two or more remedies in a mixture must be considered contrary to scientific medicine unless a distinct reason exists for such combination.

The individual ingredients of Ergoapiol are in common use, but for dissimilar conditions. Take ergot and apiol, for example: where the action of apiol is desired the effects of

ergot would be contra-indicated and it is unlikely that the effects of either aloin or savin are wanted. No one in our present knowledge can possibly predict the action of this mixture in the widely varying conditions in the treatment of which it is advised by the manufacturers.

Although the custom of gynecologists has, at times, sanctioned the giving of such remedies in mixtures, it is accord with modern therapeutics to discourage such shotgun prescriptions. Ergoapiol must therefore be held in conflict with Rule 10.

In view of these considerations it is recommended that Ergoapiol (Smith) be not admitted to New and Nonofficial Remedies on account of conflict with Rules 1, 4, 6 and 10. It is also recommended that for information this report be included with the annual Council Reports.

Apergols is a "Uterine Stimulant" put out by the H. K. Wampole Co., Inc. Apergols—probably an inversion of Ergoapiol—is claimed to have essentially the same composition as Ergoapiol, namely:

Apiol	5 min.
Oil Savin	½ min.
Ergotin	1 gr.
Aloin	⅛ gr.
Aromatics	q.s.

From an examination of the contents of the capsules it is seen that the constituent referred to by the manufacturer as "apiol" is not the definite chemical substance, apiol (see New and Nonofficial Remedies, 1914, p. 35), but instead has the characteristics of oleoresin of parsley-seed, the so-called green apiol.

While the claims made for Apergols are less extensive than those made for Ergoapiol—possibly because the first is content to shine in the reflected light of its prototype—in effect they are the same. It is recommended that Apergols be held in conflict with Rules 4, 6, 8 and 10, and that this decision be published in the annual Council Reports.

HEXAMETHYLENAMIN AS A CURE-ALL

Report of the Council on Pharmacy and Chemistry

(An Abstract of this Report Appeared in The Journal A. M. A., Dec. 12, 1914, p. 2148)

The following report on Cystogen, Cystogen-Aperient and Cystogen-Lithia was submitted to the Council by a referee, and on his recommendation is published as an illustration

of the way in which a drug of established value may be made the basis of an extensive proprietary propaganda.

W. A. PUCKNER, Secretary.

Cystogen is the therapeutically suggestive name applied to hexamethylenamin by the promoters, the Cystogen Chemical Company of St. Louis.

The following claims are made as to the therapeutic properties of Cystogen:

"Cystogen [$C_6H_{12}N_4$] has the property of parting with the powerful antiseptic, formaldehyde, at the temperature of the body. It is eliminated mainly in the urine, which it has the power of changing from an irritant or pus-bearing fluid to an antiseptic sufficiently powerful to destroy *Bacillus Typhosus*. Its prompt action is well seen in a gouty urethritis. It is eliminated also through the gall-bladder and the bile and is found within one hour after administration in the cerebro-spinal fluid and in the saliva, it is likewise an intestinal antiseptic. Thus it bears its disinfectant and antitoxic qualities into well-nigh every important bodily cavity."

Recent investigations show that hexamethylenamin breaks up, yielding formaldehyd, only in the presence of an acid and consequently can produce an antiseptic effect only in the gastric juice and the urine. The foregoing claims, therefore, are false.

As the sale of a simple drug, even with the aid of the most extravagant claims, probably did not offer sufficient opportunity for an extensive proprietary propaganda, the Cystogen Company has put out two other preparations—Cystogen-Lithia and Cystogen-Aperient—and with the aid of these finds it an easy matter to recommend the use of one or the other, or often all three, in an almost endless number of diseases. As the continued patronage of the medical profession cannot be relied on for proprietaries of this sort, the Cystogen Chemical Company takes good care that every Cystogen prescription is likely to spread the Cystogen gospel among the people.

THE CYSTOGEN PRODUCTS

Cystogen.—Cystogen itself is sold in the form of a powder and in tablets. The trade package of the powder states that Cystogen is a "Uri-Solvent" and "Genito-Urinary Germicide." The names "Cystogen" and "Cystogen Chemical Co., St. Louis, Mo.," are blown in the glass. The label on a box of Cystogen tablets, containing twenty-five 5-grain tablets, gave the same information as that found on the label of Cystogen powder, and, perhaps in anticipation that, when the preparation is ordered on a prescription, the druggist would deface

the label by pasting over it one giving the prescriber's directions, on a flap on the inside of the box the following appears:

"5 Grain Tablets of Cystogen. Dose—One 5 Grain Tablet two or four times daily, dissolved in half a glass of water."

The tablets are stamped with a monogram composed of the letters "C.C.C." thus permitting their ready identification by the patient.

Cystogen-Lithia.—The Cystogen-Lithia box is labeled "Cystogen-Lithia (Trade Mark)—Effervescent Tablets of Cystogen 3 grains and Lithium Tartrate 3 grains. Uric Acid Solvent. Urinary Alkaline Antiseptic."

In the box were three glass vials, each labeled "Effervescent Cystogen-Lithia Tablets." Other devices aided ready identification. The box contained a circular nominally addressed to the physician who prescribes the preparation, but not likely to be seen by him unless the patient brings it to him. The circular is well adapted to impress the patient, who will probably remove it from the box, with

". . . the uric acid solvent and genito-urinary antiseptic properties of Cystogen augmented by the alkaline and solvent action of the lithia salt. The value possessed by the Salts of lithia as uric acid solvent, diuretic and antacid are available in this preparation. It is a most happy combination, displaying all of the desirable effects of both Cystogen and Lithia."

There is no evidence that the association of lithium with hexamethylenamin will prove of any assistance in its therapeutic action. The solvent powers of lithium for uric acid have not proved available in practice. It is, therefore, an unnecessary, and probably, inert addition to hexamethylenamin. The association of a tartrate of lithium is objectionable because it is known that tartrates are not decomposed with the formation of alkaline carbonates as are the acetate and citrate and it is further known that compounds of tartaric acid are capable of irritating the kidneys so that the use of this salt might be very undesirable.

Cystogen-Aperient.—According to the label on the carton Cystogen-Aperient is

"An Effervescent Salt, Urinary Antiseptic, Uric Acid Solvent, Laxative." "Each Heaping Teaspoonful Contains Cystogen (Hexamethylentetramin) 5 grs., Phosphate of Soda 30 grs., Effervescent Mixture q. s."

So much stress is laid in the advertising on the value of the "tonic laxative" with which Cystogen is here combined that it is well for the reader to remind himself that the wonderful ingredient is nothing more or less than the ordinary sodium phosphate.

While the carton states that Cystogen-Aperient is to be dispensed only on the order of a physician, it gives full directions as to dosage and the conditions for which it is to be used. Enclosed with the bottle are four circulars setting forth the virtues of the Cystogen preparations, which, while they are ostensibly addressed to the physician, will prove most interesting reading to the patient into whose hands they are likely to fall, for they abound with suggestions for self-medication.

The physician who does by any chance read these circulars will find that, if he is to believe their recommendations, one or another of the Cystogen preparations is indicated in almost every imaginable disease, as for instance:

"Gout, Rheumatism, Diabetes, Chorea and Lithaemia," "a form of Asthma," "some manifestations of Eczema," "Pyorrhoea Alveolaris," "Grave's Disease and what has been called the Diathesis of Early Degeneration, shown in premature baldness, greyness of the hair, obesity and other physical or mental stigmata."

RECOMMENDATION

It is recommended that Cystogen be refused recognition for conflict with Rule 8 (therapeutically suggestive name), Rule 6 (unwarranted therapeutic claims) and Rule 4 (indirect advertisement to the public). It is recommended that Cystogen-Lithia and Cystogen-Aperient be refused recognition for conflict with the same rules and also for conflict with Rule 10 (unscientific character). It is recommended that publication of this report be authorized and that at the same time attention be called to the conservative discussion of the action of hexamethylenamin which appears in "Useful Drugs."

IODALIA

Report of the Council on Pharmacy and Chemistry

(An Abstract of this Report Appeared in The Journal A. M. A., Dec. 12, 1914, p. 2149)

The following report on Iodalia was adopted by the Council and its publication authorized.

W. A. Puckner, Secretary.

Your referee begs to present herewith a report on Iodalia, a proprietary iodine preparation sold with the claim that it does not cause iodism. This claim, as shown by the report of the A. M. A. Chemical Laboratory, is true only because the preparation is deficient in iodin.

LABORATORY REPORT

In regard to the composition of Iodalia, the A. M. A. Chemical Laboratory makes the following report:

Iodalia, said to be made by "Laboratory: 12 rue Vanin, Paris, France," and sold in the United States by Geo. J. Wallau, is stated to be "Saccharated Iodine" containing its iodin in organic combination with tannin and because of this form of combination the iodin in Iodalia is said to be "always well tolerated"; the claim is made that it "cannot cause the well known symptoms of iodism." As regards the iodin content of Iodalia, the label declares that

"Each teaspoonful contains 0.06 centigrammes of Iodine . . ."

and the circular wrapped with the bottle emphasizes that this amount is "regulated with mathematical precision." While thus the preparation is said to contain only six-tenths of a milligram or one-hundredth grain of iodin, a circular entitled "Intensive Iodine Medication" asserts that 5 gm. or a teaspoonful contains 0.06 gm. or one grain iodin. According to the label, Iodalia is

"Indicated in the same cases in which iodine is usually employed."

Iodalia is a light-brown, sweet granular powder, evidently composed chiefly of sugar, and is very hygroscopic (thus contradicting claims of superior permanence), having a slightly acidulous taste. Its aqueous solution is acid in reaction and when treated with an excess of silver nitrate test solution, a precipitate forms at once and, the precipitate having been removed by filtration, the clear liquid yielded no iodin when boiled with ferric sulphate and diluted acid or when previously treated with zinc in an alkaline solution and then boiled with ferric sulphate and acid.[1]

From these experiments it is concluded that when Iodalia is dissolved in water its iodin will be in the form of iodid ions or in a form which yields iodid ions very readily—just as was found in the case of the iodin contained in Nourry Wine. From these findings it is evident that when Iodalia is administered, the iodin will be present in the gastric fluids in the form of iodids and will enter the circulation as alkali iodid just as is the case when potassium iodid is administered.

Quantitative determination of iodin indicated the presence of 0.9 gm. iodin in 100 gm. of Iodalia or 0.0445 gm. (¾ grain)

1. Rep. Chem. Lab. A. M. A., 1911, iv, 18; 1913, vi, 38.

in 5 gm., equivalent to 75 per cent. of claim. This indicates that the statement of iodin content on the label is incorrect—probably due to a typographical error. The assertion that Iodalia contains 0.06 gm. iodin in 5 gm. and that this amount is "regulated with mathematical precision" is not confirmed.

DISCUSSION OF CLAIMS

The chemist's report that, for all practical purposes, the iodin in Iodalia behaves as do ordinary iodids, rules out of court the claim of special advantages over inorganic iodid in the peculiar form of organic combination of the iodin in Iodalia. The iodin of Iodalia evidently will enter the circulation in precisely the same form as will the iodin of the inorganic iodids, the use of which the Iodalia advertising propaganda decries. Hence it follows that the advantages claimed for Iodalia in that it is "always well tolerated" and that it cannot produce "symptoms of iodism" are due to the small dosage of iodin (0.9 gm. iodin in 100 gm. of Iodalia).

Incidentally, it may be remarked that the bottle of Iodalia retailing at a dollar contains about 100 gm.; hence it would be necessary to administer more than a bottle to obtain iodin equivalent to 20 grains of potassium iodid. The recommendation that Iodalia is "Indicated in the same cases in which iodine is usually employed" cannot be taken seriously, for the administration of from half a bottle to two or more bottles of Iodalia a day would be disastrous to the patient's digestive organs, if not to his pocketbook.

It being generally conceded that the chief, if not the only, therapeutic activity of cod-liver oil is due to the fat which it contains, the recommendation that Iodalia is a valuable substitute for cod-liver oil is unwarranted.

While it may be true that under certain circumstances an iodid preparation which is particularly palatable may be indicated even if its iodin content is low, it is entirely unwarranted to recommend Iodalia as a general iodin medication—in syphilis for instance. Equally unwarranted is the recommendation to use Iodalia in anemia, dysmenorrhea, dyspepsia, malaria and diseases of the heart.

In view of the reported discrepancy between the iodin content claimed and that found, and in view of the reported hygroscopic nature of Iodalia, other claims that must be challenged are that Iodalia is "unalterable with time" and

that in it the amount of iodin is "regulated with mathematical precision."

Further, the preparation is advertised in a way which tends to lead the public to use Iodalia indiscriminately and to depend on it in conditions which should have prompt medical treatment.

Besides having the name blown in the glass, the label gives as the "Principal Indications" of Iodalia:

"Scrofula, Goitre, Rachitis, Lymphatism, Anaemia, Syphilis, Diseases of the Blood, Dysmenorrhoea, Dyspepsia, Malaria, Diseases of the Heart, Arterio-Sclerosis, Tuberculosis, Grippe, Bronchitis, Pleurisy, Pneumonia."

Its use as "An effective Tonic" is suggested. These recommendations if followed would do harm. Further, the circular accompanying the bottle suggests:

"Besides, the iodine introduced into the system by the mononucleosis, which it occasions, offers the same protection against grippe, bronchitis, pneumonia, tuberculosis, pleurisy and other infectious diseases that vaccine does against small pox, rendering the organism fit to resist the infection and giving it the necessary strength to successfully combat the disease."

"It is also the best preventive against the slight infections and ailments to which debilitated and delicate children are subject."

It is recommended that Iodalia be refused recognition for conflict with Rule 1 (false or misleading statements of composition), Rule 4 (indirect advertisement to the public) and Rule 6 (exaggerated and unwarranted therapeutic claims). To call attention to the unwarranted claims made for this ineffective iodid substitute, it is recommended that publications of this report be authorized.

IODOTONE

Report of the Council on Pharmacy and Chemistry

(An Abstract of this Report Appeared in The Journal A. M. A., Dec. 12, 1914, p. 2149)

The following report on Iodotone was adopted by the Council and its publication authorized.

W. A. PUCKNER, Secretary.

Iodotone, sold by Eimer and Amend, New York, is stated to be a solution of hydrogen iodid (hydriodic acid) in glycerin and to contain 1 grain of iodin per fluidounce. The

following claims are made in the advertising circulars for Iodotone:

"It will produce the constitutional effect of Iodine in a shorter time than other preparations . . .

"The iodides are quickly eliminated, and being very stable salts, resist the attempts of the body fluids to disintegrate them into their component parts, Iodine and Potassium or Sodium—as the case may be, giving little Iodine for therapeutic work unless large doses are administered.

"In Iodotone these conditions are reversed, the Iodine . . . is rapidly absorbed and the Iodine at once becomes physiologically available, and is readily assimilated . . ."

In solution hydrogen iodid and the alkali iodids both are dissociated with liberation of the iodid ion. Because of the alkaline reactions of the tissues, iodids, whether administered as hydrogen iodid or as alkali iodids, must circulate precisely in the same form and for this reason they will exert the same therapeutic effects in precisely the same way. The claims above quoted are therefore unwarranted.

The claim is made that the ordinary iodids may to advantage be replaced by Iodotone. Thus it is said:

"In Syphilis, when it is necessary to give Iodine for a lengthy period, Iodotone is the ideal form of medication."

The absurdity of this claim is apparent when it is considered that, in administering Iodotone, to give a dose equivalent to a 10-grain dose of potassium iodid, it will be necessary to administer nearly one fluidounce of glycerin. The claim is also made that Iodotone "will not disturb the stomach or produce the usual disagreeable symptoms of Iodism that are noticed when other forms of Iodine are employed." This is evidently unwarranted, for it is generally conceded that symptoms of iodism can be avoided only at the risk of insufficient iodin medication.

The name "Iodotone" suggests the uncritical use of the preparation as a general tonic, a suggestion which is enhanced by the recommendations in the advertising circular to combine it with all sorts of drugs, such as mercury, arsenic, valerian, etc.

It is recommended that Iodotone be refused recognition because exaggerated and unwarranted therapeutic claims are made for it (Rule 6) and because its name is therapeutically suggestive (Rule 8). As the claims tend to a false conception of the therapeutic relation of hydrogen iodid to the inorganic iodids, it is recommended that this report be authorized for publication.

NOURRY WINE

Report of the Council on Pharmacy and Chemistry

(An Abstract of this Report Appeared in The Journal A. M. A., Dec. 12, 1914, p. 2150)

The following report explaining the rejection by the Council of Nourry Wine was adopted by the Council and authorized for publication. W. A. PUCKNER, Secretary.

Nourry Wine, E. Fougera and Co., New York, is one of the so-called iodo-tannin preparations which contain their iodin either in the form of hydrogen iodid or in a loose combination with tannin which readily yields hydrogen iodid. The alcohol content declared on the label is 12 per cent., somewhat stronger than ordinary wines.

LABORATORY REPORT

Regarding the nature of the iodin compound contained in Nourry Wine the A. M. A. Chemical Laboratory reports:

To determine the character of the iodin contained in Nourry Wine a specimen recently obtained from E. Fougera and Company was examined. When treated with an excess of silver nitrate test solution a precipitate formed at once. The precipitate having been removed by filtration the clear liquid yielded no iodin when boiled with ferric sulphate and dilute acid, or when previously reduced with zinc in an alkaline solution and then boiled with ferric sulphate and acid.[1] These experiments demonstrate that the iodin contained in Nourry Wine is present either in the form of iodid ions or in a form very readily yielding iodid ions.

UNWARRANTED CLAIMS

The claim is made that

"The Nourry Wine is the one preparation . . . able to introduce into the organism the active metalloid liberated little by little from the organic combination . . ."

As explained in the chemist's report, however, for all practical purposes the iodin in Nourry Wine is present in the form of an iodid. There is no evidence in support of the claim for unique virtues in its iodin content.

The manufacturers further claim that Nourry Wine is therapeutically a most active preparation of iodin. In the

1. Reports Chem. Lab. A. M. A., 1911, iv, 18; 1913, vi, 38.

advertising matter great ado is made over the claim that the iodin in Nourry Wine is all utilized so that 1 grain of iodin in it is as good as 10 grains of potassium iodid. For instance:

"It should be further pointed out that, when iodine is combined with tannin, the patient is able to assimilate the whole of the iodine, and this is not the case when the various preparations of the alkaline iodides are administered. For instance, it has been demonstrated by very careful analysis that, when iodide of potassium is given, nine-tenths of the iodide is eliminated by the urine in a very short time. As the iodide thus eliminated is not decomposed, it evidently has not been taken up or absorbed by the system. It has simply and uselessly passed through the body and is lost. Under these circumstances, the iodine contained in the Nourry's Wine is, from a therapeutic point of view, much more effective; for the whole of it is utilized by the system, and not a mere fraction as in the case of iodide of potassium. It may therefore be affirmed that a French tablespoonful of Nourry's Wine is equal, in medicinal value, to no less than 75 centigrammes of iodide of potassium or 11 grains for the English tablespoon, a dose which would be highly disturbing and often dangerous if given as iodide of potassium."

There is absolutely no evidence that 1 grain of iodin in Nourry Wine is as good as 10 grains of potassium iodid. Even granting the fact that a large amount of potassium iodid is rapidly excreted, the proof is not complete that this amount is not therapeutically active while in the blood.

Another alleged merit of Nourry Wine on which great stress is laid is freedom from iodism. Thus one circular asserts that

"Many attempts have been made to obtain a pharmaceutical preparation containing iodine in large quantity and yet in such colloid or organic combination as to be readily assimilated or absorbed, without disturbing action on the digestive or other vital functions . . . Iodine preparations of the kind indicated are not only liable to a dangerous decomposition or change while in the hands of the patient, but they only contain a small quantity of combined iodine and even this may escape or volatilise . . .

"All these difficulties have now been overcome. M. Nourry has invented a special process which has enabled him to produce the Nourry's Wine."

Another circular declares that

"The Nourry Wine presents a high dose of iodine . . ."

The true reason why Nourry Wine does not produce iodism is the extremely small amount of iodin it contains. The amount of iodin claimed to be present is 1½ grains to the fluidounce; the recommended dose (a tablespoonful) is equal to about 1 grain of potassium iodid, and 5 fluidounces of the wine must be consumed to obtain the equivalent of

an ordinary dose of 10 grains of potassium iodid. The absurdity of the claim that it is because of special virtues in the iodin that Nourry Wine does not produce iodism and the falsity of the claim that it "presents a high dose of iodin" are therefore evident.

It may be noted in passing that these extravagant claims are bolstered up by testimonials from twelve to twenty-five years old.

While the label on the bottle of Nourry Wine contains the admission that the wine is "Prepared in New York," the advertising circulars convey the impression that the preparation is imported from France and thus no doubt impressing those who consider as superior all that comes from abroad. The illusion of French origin is further sustained by the following injunction on the label: "Require the Signature of F. Nourry, Pharmacien de 1 re Classe, Ancien Pharmacien des Hôpitaux Militaires." The circular refers to this as the "signature of the manufacturer."

Exception must also be taken to the tendency of the advertising to encourage the use of Nourry Wine by the public —a dangerous tendency. The bottle containing the Nourry Wine has the name "Nourry" blown in the glass, the indications "Anaemia, Lymphanaemia, Debility, etc.," appear on the label, while a circular states that Nourry Wine is

"Indicated in Lymphaemia, Anaemia, Rheumatism, Eczema, Coughs, LaGrippe, Bronchitis, Asthma, Emphysema, Chronic Catarrh, Phthisis, etc."

The circular also contains an advertisement for Nourry's Syrup.

RECOMMENDATION

In view of the preceding evidence it is recommended that Nourry Wine be refused recognition for conflict with Rule 1 (misleading statement of composition), Rule 4 (indirect advertising), Rule 5 (misleading claims as to origin) and Rule 6 (unwarranted therapeutic claims). Furthermore, while the referee believes that the alcohol is the most potent constituent of Nourry Wine, he is of the opinion that the invariable use of the term "Nourry Wine" in the circulars (omitting the adjective "Iodinated" used on the label) is mischievous as likely to lead to the thoughtless use of the preparation in cases in which iodin is not indicated, and amounts to a conflict with Rule 8 (employment of objectionable names). It is recommended that publication of this report be authorized.

CYPRIDOL CAPSULES

Report of the Council on Pharmacy and Chemistry

(From The Journal A. M. A., Dec. 19, 1914, p. 2247)

Having voted that Cypridol Capsules be refused recognition, the Council directed that for the information of physicians publication of the following report be authorized.

W. A. PUCKNER, Secretary.

Cypridol Capsules, sold by E. Fougera & Co., New York, are stated to be "Bottled in the New York Laboratories of Vial, late Rigaud and Chapoteaut, Paris," and to contain, in each capsule, 2 mg. (1/32 grain) mercuric iodid (biniodid of mercury) dissolved in a fatty oil. They are claimed to permit the administration of mercury without danger of salivation—an obvious misrepresentation.[1] Cypridol Capsules are marketed in a way to appeal to the public. If they are once prescribed, the directions on the bottle and the full instructions for the treatment of syphilis by means of Cypridol and by other proprietaries sold by Fougera & Co. are likely to lead the patient to attempt the treatment of his malady on his own accord, and thus probably to forfeit his chances of cure. Cypridol is a vicious example of the "ready-to-take" proprietaries.

Cypridol Capsules are in conflict with the Rules of the Council as follows:

Rule. 4: The dosage, price, etc., on the label, and the name "Cypridol" blown in the bottle, all tend to a direct self-prescribing by the public. In addition to the objectionable statements on the bottle itself, the preparation is put up in patent medicine style and is accompanied by a circular giving full directions for the use of this and of other proprietaries for the treatment of syphilis in all of its stages. The circular states that "a 1 per cent. solution of bin-iodide of mercury in an aseptic oil" is "An Improved Specific in the Treatment of Syphilis," and after lauding the virtues of Cypridol, gives full directions for the treatment of syphilis in its various stages by means of Capsules of Cypridol augmented, during periodical cessation of treatment, by "small

1. Physicians who desire to use a solution of mercuric iodid in oil should direct their pharmacist to prepare it according to the method suggested by Lemaire (Repert. pharm., xxi, 97-102, from Chem. Abst., 1909, p. 1444), viz: One gm. of mercuric iodid is dissolved in 50 c.c. sterilized castor oil by warming to about 70 degrees, 3 gm. guaiacol are added and the solution made up to 100 c.c. with sterilized poppy oil. Or according to a later suggestion (Dunning: Proc. Am. Pharm. Assn., 1910, p. 1123): one gm. of mercuric iodid is dissolved in 99 gm. of a mixture of equal parts of sterilized castor and olive oils, by warming on the water-bath.

doses of iodide of strontium (Paraf-Javal's standard solution, thirty grains to the ounce)." Further, the circular expounds the need of "a toning up of the general system" and by means of obsolete theories and obviously untrue assertions recommends *"Chapoteaut's Wine* [another of their proprietary preparations], each ounce of which contains 10 grains of phospho-glycerate of lime. This is a delicious, nutritive tonic. A pint bottle costs $1.00."

Rule 6: Whereas it is evident that Cypridol, depending for its effects on mercuric iodid, the ordinary well-known hydrargyri iodidum rubrum of the U. S. Pharmacopeia, must naturally have the properties of a mercuric compound, unwarranted claims such as the following are made:

"CYPRIDOL does not render patients anemic. Ptyalism never follows the administration of the capsules or injections. On the contrary, patients rapidly put on flesh and keep well. There are no diarrhoeas or other symptoms of intolerance even when the dose is pushed."

Rule 8: The non-informing name "Cypridol" for a mercuric iodid preparation is bound to lead to its use without consideration of the fact that a potent mercury preparation is being used, requiring a careful adjustment of dosage, a consideration of the needs of the individual case, a correct diagnosis, etc. While the advertising propaganda argues that "physicians recognize the advantage of prescribing this solution of mercuric iodide in an aseptic oil under the name of 'Cypridol,' because it does not betray to the laity the fact that mercury is being used," not only the physician but also the patient has a right to know, and ought to know, the potent character of the remedy which is being administered.

It is recommended that Cypridol be refused recognition and that publication of this report be authorized.

INTESTINAL ANTISEPTIC W-A

Report of the Council on Pharmacy and Chemistry

(From The Journal A. M. A., Dec. 19, 1914, p. 2247)

The Council voted that Intestinal Antiseptic W-A be refused recognition, and that the publication of the following report be authorized. W. A. PUCKNER, Secretary.

The Abbott Alkaloidal Company advertises "Intestinal Antiseptic W-A" as

". . . A scientifically blended and physiologically adjusted mixture, of the pure sulphocarbolates of calcium, sodium and zinc, grs. 5, with bismuth subsalicylate, gr. 1-4 and aromatics."

This formula is in conflict with Rule 1 in that it does not state in what proportion the sulphocarbolates are present.

The name "Intestinal Antiseptic W-A" is in conflict with Rules 4 and 8, since it is therapeutically suggestive.

The preparation is in conflict with Rules 6 and 10, in that exaggerated claims are made for it, no evidence being submitted to prove the superior value of the mixture.

The most serious of these conflicts consists in the exaggerated and misleading therapeutic claims. The advertisements say:

"This combination has no equal as an antiseptic and inhibitive agent in typhoid fever, diarrhea, dysentery," etc.

"Numerous cleverly devised and scientifically constructed intestinal antiseptics have been introduced to the profession, but not one of them has ever rivaled for one moment these salts in popularity."

". . . we are convinced that no small share of the credit for the reduction of the death rate in infantile diarrheas is due to the widespread application of this general method of treatment, associated of course with the calomel clean-out and the regulation of diet, now known to be essential."

"But the use of the sulphocarbolates is not restricted to diseases of the alimentary canal, although in the summer diarrheas, gastric fermentation, intestinal indigestion, typhoid fever, dysentery—indeed in all alimentary disturbances—it is the one essential remedy. It is also indicated in practically all infectious diseases."

"Typhoid Fever (in this disease the W-A Intestinal Antiseptic is of great value; used early, with the proper synergistic cleanout, it will often cut short the disease)."

These extreme claims exceed the limits of permissible optimism, unless they are supported by strong dependable evidence. They contrast sharply with the low esteem in which the phenolsulphonates (sulphocarbolates) are generally held. To accept these claims, and to justify encouraging physicians to rely on them, it would be necessary to establish:

First, that feasible concentrations have a distinct antiseptic action on cultures of intestinal bacteria. This experiment could be easily made, but the claims do not seem to be based on evidence of this kind.

Second, that the preparation actually checks putrefaction in the intestines. There are several methods by which this proof may be attempted; but the claims do not appear to be based on evidence of this kind.

Third, that the preparation actually has a favorable influence on the progress of diseases. This sort of evidence is exposed to so many fallacies that it would have to be gathered very carefully and critically, duly discounting the effect of other treatment; for instance, by comparison with similar cases which do not receive this preparation. This is especially important; and yet we find directions to use this preparation in conjunction with active cathartic treatment, which in itself has considerable influence on the conditions for

which this preparation is recommended. No evidence of this kind is presented.

The testimonials contained in the advertisements cannot be considered as serious evidence. None present any indication of accurate record, or proper control of conditions; of the performance of control observations. They are superficial impressions, to which little or no weight can be attached.

It is recommended that Intestinal Antiseptic W-A be considered ineligible for New and Nonofficial Remedies.

ECHTISIA, ECTHOL AND ECHITONE

Report of the Council on Pharmacy and Chemistry

(An Abstract of this Report Appeared in The Journal A. M. A., Jan. 2, 1915, p. 71)

Echtisia, Ecthol and Echitone are preparations each of which has as its chief constituent echinacea, a drug used by Eclectics. In 1909 the Council examined into the claims made for echinacea. This drug has been claimed to be a "specific" for rattlesnake bite, syphilis, typhoid fever, malaria, diphtheria and hydrophobia. Enthusiasts had credited it with equally certain curative effects in tuberculosis, tetanus, and exophthalmic goiter and with power of retarding the development of cancer. No reliable and trustworthy evidence could be found, however, to substantiate these claims.[1]

Echinacea is not often prescribed under its own name, but is employed as an ingredient in proprietary preparations mixed with other little-used or obsolete substances. Naturally the manufacturers of such proprietaries make use of all available optimistic reports, whether verified or not, in promoting their sale. Each manufacturer, of course, ascribes special and peculiar virtues to the combination represented in his own preparation, but there is no satisfactory evidence that their claims are any more reliable than those for echinacea. The Council directed that the following report on three representative proprietaries be published.

W. A. Puckner, Secretary.

Echtisia

Echtisia, (William S. Merrell Chemical Company, Cincinnati, Ohio), is typical of this class of preparations. According to the label on a trade package of Echtisia:

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1. Echinacea Considered Valueless, The Journal A. M. A., Nov. 27, 1909, p. 1836.

"Each fluidounce represents Echinacea angustifolia 120 grs., Baptisia tinctoria 24 grs., Thuja occidentalis 16 grs. and Phytolacca decandra 16 grs., each drug gathered in its prime and employed in green or fresh condition."

The label also declares the presence of 50 per cent. alcohol, but fails to mention the presence of borax, which, the A.M.A. Chemical Laboratory reports, is present in quantities equivalent to 1.23 mg. crystallized borax per 100 c.c.

An advertising circular for Echtisia reads much like a leaf taken from the advertising matter for Eusoma, another echinacea proprietary which is stated to be a combination of echinacea, thuja and baptisia. It makes use of papers by Finley Ellingwood and A. B. Matthews, both published in 1905, which already have done duty as advertising material for Eusoma. The Merrell Chemical Company describes how the "promptness and thoroughness" of the action of echinacea have been materially increased by the "synergists, Thuja, Baptisia and Phytolacca"—the last having been added in response to requests of its "medical friends." The advertising circular then reiterates the old, impossible claims for echinacea and enlarges on the added virtues bestowed on it by the presence of the other drugs.

In regard to baptisia, the Merrell Chemical Company states that "in typhoid fever, scarlatina, dysentery and septic diarrhea this remedy will work wonders" and that "In Syphilis, Baptisia is one of our most effective remedies." This alone should brand Echtisia as unworthy of the attention of thinking physicians. The following is a further illustration of what the Merrell Company seriously submits to physicians:

"Baptisia is a destroyer of those elements in the blood which tend to devitalize it and cause it to break down and cloud the stream. We will go further and say that Baptisia is not only a destroyer of that which poisons the blood current, but it is also a vitalizer of the blood as well."

Comment is superfluous!

Thuja is described as a

". . . perfect antiseptic and a generator of vital force in disorganized tissues."

Then, it is explained that while baptisia guards "the inner circle" thuja is proposed for the "outer defenses" and "as a local application to morbid solid tissues."

Finally, the virtues of phytolacca (poke root) are spread before the reader by quotations apparently taken from Blair's handbook of materia medica and therapeutics, which include the following sweeping but guarded assertion.

"Syphilitic sciatica, gonorrheal rheumatism, venereal buboes, quinsy, suppurative sore throat, follicular tonsillitis, orchitis, rheumatic periostitis, and diphtheria are all more or less amenable to full doses, not of course to the neglect of other indicated measures."

As an illustration of the wide range of Echtisia we are presented with a remarkable list of case reports covering ulceration of the cornea, septicemia, rattlesnake and tarantula bites, peritonitis, appendicitis, cholera morbus, cholera infantum, pustules, burns, boils, diabetes with ulcers, gangrene, sepsis, mastitis, varicose ulcer, acne. Scattering, unsystematic observations or impressions gained from the treatment of the above-named diseases with this preparation cannot be regarded as satisfactory clinical evidence on which to base the astonishing claims made for it. The recital of these comparatively few cases is rather evidence of the wonderful recuperative power of the human organism, and their outcome has been taken advantage of to give physicians a false confidence in this nostrum.

In view of these impossible claims and gross exaggerations made for a mixture of drugs, the individual virtues of which have not been demonstrated, it is recommended that Echtisia be held in conflict with Rules 6 and 10.

Ecthol

Ecthol (Battle & Co., St. Louis) is advertised with the sweeping, if somewhat indefinite, claim that it is

"'The Ideal Corrector' of depraved conditions of the fluids and tissues —anti-purulent, anti-suppurative and anti-morbific in the internal and external treatment of septic and infective processes."

Ecthol, one of a quartet of proprietaries put out by Battle and Co., is said to contain, in each fluidram, 28 grains of echinacea angustifolia and 3 grains of thuja occidentalis. No statement being made as to the manner in which the drugs named have been converted into Ecthol, the referee asked the Chemical Laboratory to investigate the matter. In reply the laboratory reports:

> While the label on the sample bottle sent through the mails does not declare the presence of any alcohol a determination showed approximately 24.34 per cent. of absolute alcohol by volume, corresponding to about 25.64 c.c. U. S. P. alcohol in 100 c.c. of Ecthol. Considerable amounts of glycerin also were found present. While no accurate determinations were made we believe the menstruum to consist essentially of alcohol, glycerin and water in something like equal volumes.

In agreement with the claims made for other echinacea proprietaries[1] it is asserted that

". . . Ecthol has been found of extraordinary value in Typhoid, Morbific or Eruptive Fevers, Erysipelas, Diphtheria, Pneumonia, etc., Boils, Carbuncles, Abscesses, Indolent Ulcers, gangrenous processes, and the various skin diseases,—especially Chronic Eczema,—and in all types of Cachexia and Blood Depravity."

Further, the familiar echinacea-thuja claim is made that Ecthol is

". . . exceedingly effective in Bites and Stings of Insects and Snakes, and in the local as well as systemic treatment of Blotches, Pimples, Acne, etc."

In addition to this long list of indications its use is recommended, locally, for the treatment of pyorrhea alveolaris, vaginitis and leukorrhea.

An attempt is made to establish a basis for the manifold virtues ascribed to Ecthol in an advertising pamphlet entitled "Practical Therapeutics" under the caption of "Constitutional Antisepsis." Messrs. Battle & Co. state that the

". . . ubiquitous microbe is not the alpha and omega of sepsis."

The important thing in infectious diseases, they say, is to increase the natural resistance of the human organism through increased phagocytosis—and they recommend the administration of Ecthol to bring this about, for it is said that

". . . the possession of such properties has been demonstrated in the vegetable extracts which compose the product known as Ecthol."

The exploiters of Ecthol present no evidence whatever for the broad claims which are made. As the advertising propaganda for Ecthol is likely to lead physicians to place false dependence on the preparation and thus neglect the employment of suitable measures, Ecthol must be held in conflict not only with Rule 6 because of the unwarranted therapeutic claims made, but also with Rule 10 because its use is inimical to the best interests of the profession and the public.

Echitone

Echitone (Strong, Cobb and Company, Cleveland, Ohio) is stated to contain, besides purple cone-flower (*Echinacea angustifolia*) also pansy (*Viola tricolor*) and blue flag (*Iris versicolor*). The preparation is marketed with the claim that

". . . 4 C C represents: 0.500 Gramme Echinacea Angustifolia, 0.125 Gramme Iris Versicolor, 0.375 Gramme Viola Tricolor."

The advertising propaganda includes most of the extravagant and ridiculous claims generally made for echinacea and in addition, evidently appreciating the feeling of well-being which follows the use of cathartics, lays stress on the cathartic action of the blue flag. In evident mistrust of the efficiency of this drug, it is directed that if need be the action of Echitone be reenforced by the use of a laxative. A "Treatise on Blood Dyscrasia [whatever that may be] and Allied Lesions" which Strong, Cobb and Company have issued in the belief (?)

". . . that the constant repetition of established and well-known facts . . . must be helpful to the general practitioner."

They state at the outset that

". . . our difficulty has been in circumscribing our claims of its virtues"!

Assuming the position of instructor to the medical profession, they present a discussion of the symptoms and nature of anemia, eczema, "blood dyscrasia" and syphilids or "Absolute Blood Dyscrasia." Strong, Cobb and Company then present us to

"One of the most important of the new remedies introduced in recent years."

This is echinacea angustifolia, which we are told, has been properly called

"THE CORRECTOR OF DEPRAVITY OF THE BODY FLUIDS."

This name, however, we are further instructed

". . . . only suggests the range of its therapeutic uses. Bad blood, so-called, should call to the mind of the average practitioner first of all, Echinacea Angustifolia."

The lesson continues:

"Boils, Carbuncles, Abscesses, Cellular Granular Inflammations, Cerebro Spinal Meningitis, Puerperal, and all other forms of Septicemia, in fact, any condition arising from a toxic condition of the blood are all within the range of its [echinacea's] sphere of action."

In addition tonsillitis, bronchitis, typhoid pneumonia, fermentive dyspepsia, duodenal catarrh all are said to be curable with this wonder of drugs. Having reasserted, with the notable exception of the claims for hydrophobia and snakebite, the curative claims made in the past for echinacea—claims which a committee of the Council could, in no single instance find substantiated by competent experimental or clinical evidence—our druggist-preceptor proceeds to a discussion of the remaining constituents of this proprietary,

blue flag and pansy, two drugs which are now entirely ignored by writers on pharmacology and therapeutics and which may fairly be said to have been tried, found wanting and consigned to the therapeutic scrap-heap. The assertions are made that blue flag is

". . . one of the most powerful excitants of the biliary, salivary and pancreatic secretions . . . and on account of its powerful catalytic (!) action upon the lymphatic glandular system and the ductless glands it is one of the best agents in influencing the process of waste and repair."

"The principal sphere of action of Viola Tricolor is in the gastro-intestinal canal and the skin."

Strong, Cobb & Co. then proceed to explain how these properties adapt these two drugs to the treatment of diversified diseases, and that in their proprietary the effect of each drug is activated and augmented by the presence of the others and that the whole possesses most unexpected virtues. Thus they say

"We claim for it not only the virtues of its constituent parts, but a wider field and a particular therapeutic value of its own. Those conditions indicating the use of any one of its three ingredients, are equally indications for the use of ECHITONE. However, ECHITONE, the combination supplements one after another the phases which may arise in certain pathological conditions not covered in their entirety by any of the three remedies . . ."

As regards the production of Echitone the statement is made that

"The ingredients entering into the manufacture of Echitone, are of the highest grade of standardized strength. . . ."

No indication, however, is given as to the methods employed for this "standardization." As, so far as known, no such methods have been devised, this claim must be put down as unacceptable and as giving a false value to the preparation.

Echitone is in conflict with Rule 2 in that the drugs used are said to have been standardized although the method of standardization is not given and none is known; with Rule 4 in that the label of the Echitone bottle gives directions for its use in the treatment of specified diseases and thus is likely to be used by the public with harmful results; with Rule 6 in that unwarranted, exaggerated therapeutic claims are made for it; with Rule 8 in that the name does not indicate its several constituents but instead suggests its thoughtless use as a "tonic" and with Rule 10 in that it is contrary to the interests of the profession and the public to use complex mixtures of drugs, particularly when these have little or no proved value.

NEUROSINE, GERMILETUM, DIOVIBURNIA AND PALPEBRINE

Report of the Council on Pharmacy and Chemistry

(*From The Journal A. M. A., Jan. 9, 1915, p. 167*)

Neurosine, Dioviburnia, Germiletum and Palpebrine are "shotgun" proprietaries typical of the polypharmacy of the past three or four decades. They are marketed by the Dios Chemical Company, St. Louis, Mo. On the recommendation of the referee, the Council has authorized the publication of this report. W. A. PUCKNER, Secretary.

Neurosine

According to the manufacturers, each fluidounce of Neurosine represents:

"Bromid of potassium, C. P.	40 grains
"Bromid of sodium, C. P.	40 grains
"Bromid of ammonium, C. P.	40 grains
"Bromid of zinc	1 grain
"Extract Lupulin	32 grains
"Cascara sagrada, fl. ex.	40 minims
"Extract Henbane	.075 grain
"Extract Belladonna	.075 grain
"Extract Cannabis indica	.60 grain
"Oil Bitter Almonds	.060 grain
"Aromatic Elixirs."	

No physician would think for a moment of prescribing all of the drugs contained in Neurosine for any one condition. Yet physicians are urged to use this nostrum in insomnia, hysteria, neurasthenia, migraine, neuralgia, delirium tremens and in a host of other conditions.

It is recommended in the treatment of epilepsy on this ground:

"Neurosine is presented in a very palatable and agreeable form and can be administered for an indefinite time without untoward by-effects as so often attends the use of the commercial bromides. In order to secure lasting benefits the treatment should be extended over a long period of time."

The evident implication here is that the recognized drawbacks of bromid medication are due to impurities present in the commercial bromids and that the teachings of modern medicine with regard to caution in the use of bromids do not apply in the case of Neurosine.

The assurance is offered:

"Neurosine contains no chloral, morphin or other objectionable drug —a fact of the utmost importance when administering medicines to neurotic women."

"As a nerve-calmative and sleep-producer nothing can excel Neurosine . . . It should be borne in mind that this preparation contains no opium, morphine, chloral or habit-forming drugs . . . Neurosine being a harmless remedy is especially indicated for neurotic individuals."

Apart from cannabis indica, Neurosine contains no efficient hypnotic. Cannabis indica is a dangerous drug, whose administration to "neurotic individuals" is by no means free from danger — especially when it is given under a proprietary name that carries no warning of its presence.

Here is another recommendation—this time for chorea:

"All authorities recommend the bromides, hyoscyamus and cannabis indica in this disease. These remedies are all combined in Neurosine, the ideal calmative for both children and adults."

On the contrary, practically "all [medical] authorities" will admit that it is undesirable to keep a child under the influence of bromids if this can be avoided. Such treatment is mentioned only for use as a last resort in extreme cases. Hyoscyamus and cannabis indica are mentioned in connection with chorea by few authorities, and then merely as probably valueless.

Not content with recommending the promiscuous use of this already too complex mixture, the Dios Chemical Company advises physicians to combine it with iron, when chalybeate and tonic effects are to be combined with "a nervine," with acetanilid for "irritable cough," headache and neuralgia, with antipyrin in asthma and with Dioviburnia—another Dios nostrum—in all female ailments.

Of the rules that the Council has formulated for the protection of the public and the profession it conflicts specifically with the following:

Rule 4, in that the label contains recommendations for the treatment of disease, thus leading the public to use recklessly a combination of drugs that should be taken only on medical advice;

Rule 6, in that unwarranted, exaggerated claims are made for it;

Rule 8, in that while Neurosine is a pharmaceutical mixture, the name does not indicate the most potent ingredients, and, further, the name suggests pathologic conditions;

Rule 10, in that the preparation is an unscientific combination of many drugs which prevents the rational use of any of the individual ingredients.

Germiletum

Germiletum is a member of the large class of alkaline antiseptic solutions with excessively complex formulas. In this case not only is the formula complex but also the Dios Chemical Company finds it impossible even to assign a constant composition to it—at least the "formulas" which appear on the different styles of Germiletum labels and advertising circulars vary greatly.

The company says:

"We appeal only to the Doctor's judgment of his estimation of the formula."

"Doctor you will readily determine from the formula the class of cases in which you have a right to expect satisfactory results."

Yet the "formulas" given present so great a variety and such confusion that it is not clear even to a chemist just what the Dios Company wants the medical profession to regard as the composition of Germiletum.

The following statements of "composition" have appeared at various times:

1. In an advertising circular sent out some time ago:

"[HBF_4 + BOH $(OC_6H_4\ COOH)_2$ +
+ BOH $(OC_6H_3COOH)_2$ + $C_3H_5BO_3$
+ CH_2O + $C_{10}H_{14}O$
+ $C_{10}H_{20}O$ + $C_{24}H_{28}N_3Cl$.]"

2. In advertising circulars which have been received of late, being wrapped with a sample package and with the "large size" trade package:

"[$C_7H_6O_2$ + H_3BO_3 + $C_3H_5BO_3$
+ $(CH_2O)_3$ + $C_{10}H_{20}O$ + $C_{10}H_{14}O$ + C_2H_6O]"

3. In another advertising circular:

"Germiletum is a slightly alkaline chemical solution of Borohydrofluoric Acid, Borosalylbenzoic Acid, Boroglycerine, Formaldehyde with Menthol, Thymol and Antiseptic Aromatics."

4. On the label of a sample package sent through the mails during 1914, and on the label of a "small size" trade package purchased in 1914:

"FORMULA.—Borohydrofluoric Acid, Borosalylbenzoic Acid, Boroglycerine, Formaldehyde with Menthol, Thymol, Amyl Acetate and other Antiseptic Aromatics."

5. In the circular which was wrapped around the sample package referred to above, and around the "large size" trade package purchased at the same time that the "small size" package was bought:

"Germiletum is a slightly alkaline chemical solution of Borobenzoic Acid, Boroglycerine Formaldehyde, with Menthol, Thymol and other Antiseptec [*sic*] Aromatics."

6. On the sample package, on the "small size" trade package and on the wrappers of the "large size" trade package:

"Alcohol 18 per cent.; Formalin 3/4 M. per oz.; Amyl Acetate 1/3 M. per oz." (also written "Acetate Amyl.")

The label on the large trade package states that Germiletum contains "Formalin ½ M. per oz."

One and all of these various formulas spell mystery. The existence of some of the constituents is problematic; even if the theoretical possibility of such combinations be conceded, some of them could not exist in Germiletum, for they would be broken up by the alkaline fluid. As illustrating the contradictions which the formulas present: While the wrapper of the "large size" trade package claims that Germiletum contains ¾ minims Formalin (Formalin is a proprietary name for a 40 per cent. formaldehyd solution) the label on the bottle claims only ½ minim. Again, while the composition expressed in chemical symbols asserts that "H_3BO_3" (boric acid) is a constituent of Germiletum, the "formula" which follows it states that Germiletum has an alkaline reaction; hence it cannot contain much boric acid. Finally, the "small size" bottle of Germiletum purchased at the same time as the "large size" bottle and also the label of a sample package sent through the mails to a physician in 1914, give as a constituent "Borohydrofluoric Acid," which is mentioned neither on the label of the "large size" trade package nor in the pamphlet wrapped around it. The only information which these contradictory "formulas" can convey to a physician is that Germiletum is an unscientific, varying mixture of many drugs.

A trade package, having the name "Germiletum" blown in the glass, bears on the label recommendations for its use in the treatment of "catarrh," "Gastritis, Stomatitis, Gastric and Intestinal Catarrh," "Leucorrhea and Uterine Diseases," "Hemorrhoids," "Whooping Cough," "Tonsilitis and other forms of sore throat" and "Eczema."

The following statement on the label is designed to induce physicians to place false confidence in Germiletum to the danger of their patients:

"The lying-in-room should be thoroughly sprayed with Germiletum. Can be relied upon to destroy the living particles which so generally constitute contagion."

This claim, as well as the assertion which appears on the label of a sample package and of the "small size" trade package that it is "PAR-EXCELLENT IN OBSTETRICAL PRACTICE" is almost criminal, as Fussell[1] has said, since to depend on any preparation of this sort is to court disaster.

The booklet around the trade package makes the claim that Germiletum "is the best antiseptic"—evidently largely because it is claimed to be "the blandest of all"—and that it is "thoroughly germicidal" and even that it is "the best disinfectant obtainable." It also contains such unwarranted and misleading claims and suggestions as:

". . . preparatory to all operative work—Germiletum should be used freely in spraying the atmosphere . . ."

"Operative wounds, whether large or small, can be rendered thoroughly antiseptic by freely spraying them with Germiletum. . . ."

". . . it may be given internally in many dyspepsias and in all zymotic diseases. . . . In such conditions Germiletum is the ideal internal antiseptic and disinfectant."

In the present advertising, no evidence whatever is offered for the value of Germiletum, the Dios Company contenting itself with unsupported claims and cant phrases such as

". . . the truth is only reached through a final appeal to intelligent practical experience."

In the old circulars only crude, uncritical and meaningless tests to establish the antiseptic value of Germiletum are reported and none whatever as to its germicidal action. In the advertising matter sent out some time ago, for instance, were given "Microscopical, Bacteriological and Chemical Tests, Comparing Germiletum with Carbolic Acid." These tests have no value whatever, unless it be to show the worthlessness of the preparation. This is particularly true as regards a series of experiments on "Germiletum as a Preventive of Lactic Fermentation," in which one part of Germiletum in thirty parts of milk did not prevent fermentation. Such effect as indicated is probably due to the formaldehyd present. The tests show the absurdity of using the preparation for internal and external purposes. The referee challenges the therapeutic claims on the basis that they are extravagant and unsubstantiated. (The Chemical Laboratory of the American Medical Association reports that the alkalinity of Germiletum corresponds approximately to a 1 per cent. borax solution.)

1. Fussell, M. H.: Dangers of Certain Ethical Proprietary Preparations to Both Physicians and Public, THE JOURNAL A. M. A., Oct. 7, 1911, p. 1196.

From the available evidence it is clear that Germiletum is in conflict with Rule 1, in that vague, indefinite and contradictory statements are made in regard to its composition; with Rule 4, in that the method of exploitation will bring about its use by the public with the probability of serious consequences; with Rule 6, in that exaggerated and unwarranted claims are made in regard to its therapeutic qualities; with Rule 8, in that it bears a name which does not indicate its potent ingredients, but which does suggest its uncritical use as a "germ-killer," and with Rule 10, in that the use of a preparation of secret composition in the treatment of disease is unscientific and dangerous.

Dioviburnia

Dioviburnia, another Dios nostrum, according to the label, has the following composition:

"Every fl. oz. contains 3-4 dr. each of the fl. extracts, Viburnum Prunifolium, Viburnum Opulus, Dioscorea Villosa, Aletris Farinosa, Helonias Dioica, Mitchellae [*sic*] Repens, Caulophyllum Thalictroides, Scutellaria Laterifolia." [Lateriflora?—Ed.]

Further, according to the label, Dioviburnia contains 18 per cent. alcohol. If this statement is correct then the "formula" is false, for the fluid extracts named contain from 25 to 73 per cent. of alcohol. As — according to the "formula" — these fluid extracts constitute three-fourths of Dioviburnia, the average alcohol-content in the whole mixture must of necessity be much above 18 per cent.[1] According to the makers, Dioviburnia is "unexcelled" for:

"Amenorrhea, Dysmenorrhea, Leucorrhea, Puerperal Convulsions, Prolapsus Uteri, Menorrhagia, Threatened Abortion, Parturition, Subinvolution, Miscarriage, and a general relaxed condition of the uterus and appendages, together with the various aches and pains peculiar to women."

Around the sample bottle of Dioviburnia is wrapped a booklet entitled "A Treatise on Uterine Diseases and Obstetrical Hints," said to be "For the Profession Only." The booklet has been prepared, physicians are told, to present "some very valuable suggestions" regarding the treatment of female disorders and the attention of the medical profession

1. Five of these fluidextracts have their alcohol-content determined by the Pharmacopeia or National Formulary. Three are not recognized and hence their alcohol-content is not defined by law. The alcohol-content of the mixture of fluidextracts said to be in Dioviburnia has been kindly furnished by five leading pharmaceutical houses. If the lowest alcohol-content of the several fluidextracts is made the basis of calculation, Dioviburnia should contain at least 30.75 per cent. of alcohol, or more than half as much again as the amount declared on the label.

is "earnestly" called to the "very remarkable medicine," Dioviburnia. Further, it is said that Dioviburnia was devised by the Dios Chemical Company because there was an "absolute necessity" for some really efficient internal treatment in female diseases. The company backs up its statements by such claims as:

"The most valuable preparation, therapeutically, ever offered."
"[Contains] every essential for toning up the female organs of generation, and relieving pain."
"A general and special tonic, antispasmodic and invigorating cordial."

While the company directs the attention of physicians to the "well-known, therapeutical effects of each individual constituent" of Dioviburnia, there is in reality little positive evidence regarding the action of any of the drugs contained in the nostrum. Most writers on materia medica do not even mention these drugs and the few who do discuss them, either question or deny their medicinal value. But if every drug claimed to be present in Dioviburnia had some actual demonstrated therapeutic properties, it still would be impossible to predict the action of such a combination in the many and varied conditions for which it is exploited. Certainly there is no warrant for such statements as:

"In Painful Dysmenorrhea [*sic*] Dioviburnia is especially indicated, and its continued use will invariably give relief."
"In cases of Leucorrhea of long standing, Dioviburnia, together with local treatment, invariably gives relief."
"Dioviburnia is efficient in cases of subinvolution; it cures by its tonic effects . . ."

The effects of the drugs alleged to be present in Dioviburnia are not such as to justify the hope of either "cure" or "invariable relief." In a way the Dios Chemical Company seems to recognize the inefficiency of Dioviburnia since it frequently suggests that it be used in combination with drugs of known value; but it ascribes all favorable results to its own product:

"In chronic constipation fluid extract of cascara sagrada aromatic may be combined with Dioviburnia."
"In cases of habitual abortion, depending on syphilitic taint, a prescription containing the following should be used during the entire pregnancy:

℞ "Hydrarg. Chlor. Corros .....gr. 1
"Potass. Iodid .....dram 1
"Dioviburnia .....ounces 16"

"An Anemic or Chlorotic patient, suffering with absence of the menstrual flow, should take DIOVIBURNIA combined with Iron."
"In leucorrhea depending on endocervicitis, hot astringent douches once daily should be given. Local applications of iodin are useful in chronic conditions. Internally, D i o v i b u r n i a promotes healing."

"Rest in bed, hot douches of a one-half per cent. solution of compound cresol solution and D i o v i b u r n i a internally, a teaspoonful every 3 hours will rarely fail to cure endometritis in a few days."

"In specific vaginitis, a solution of potassium permanganate (1 to 1000) should be used as a douche twice daily. Internally give the following:

"Sodii benzoate ..... ½ ounce
"Dioviburnia ..... 16 ounces
"M. sig., Teaspoonful every three hours."

"Prolapsus Uteri is benefited, and often cured, by DIOVIBURNIA combined with local treatment in the shape of tampons, pessaries, electricity, etc."

If Dioviburnia will cure specific vaginitis, anemia, etc., so will a cobblestone make excellent soup. All that is necessary in the former case is to add certain potent drugs that might be indicated in the pathologic conditions mentioned and, in the latter case, to combine suitable amounts of beef, chicken, green turtle or vegetables, with herbs and other seasoning.

Summed up it may be said that Dioviburnia specifically conflicts with the following rules of the Council:

Rule 1, in that a correct statement of its composition is not furnished;

Rule 4, in that it is evidently marketed so as to be indirectly advertised to the public, the name being blown in the bottle and the suggestion printed in the package for its use in certain diseases;

Rule 6, in that unwarranted and exaggerated therapeutic claims are made for it;

Rule 10, in that Dioviburnia is an unscientific and useless article, the sale of which is a menace to public health and inimical to the best interests of scientific medicine.

Palpebrine

According to the Dios Chemical Company, Palpebrine is "A Reliable External Ocular Antiseptic" having, it is said, the following composition:

". . . each fluid ounce contains 1/116 grain Sulphate of Morphia, 1/7 grain Sulphate of Zinc, 1/11 grain Bi-Chloride of Mercury, 5⅜ grains Boric Acid, ¾ grain Salicylic Acid."

The essential virtues ascribed to Palpebrine, according to its makers, are its harmlessness and its therapeutic efficiency due, presumably, to its complex composition:

"Attention is called to the constituents of this formula, each one of which is used by ophthalmologists. Their combination in Palpebrine is such as to blend their action in a very happy manner. Palpebrine acts as an antiseptic, an irritant, an astringent, and a nerve tonic to the mucous membrane of the eye."

"Palpebrine is superior in its action to the remedies now in use. It contains all the constituents of Aqua Conradi . . . But to these are added a number of other agents which will prove it to be of much greater value and give it a broader field for action."

In all external afflictions of the eye the free use of Palpebrine is suggested in such statements as:

"They [general practitioners] will therefore gladly receive from our hands an efficacious preparation which may be used with perfect safety."

"The name of our preparation—Palpebrine, is derived from the Latin *palpebra,* the eyelid, and is well fitted, as it designates at a glance the sphere of action of Palpebrine."

"With the assistance of Palpebrine the general practitioner can successfully treat all cases of external eye disease ordinarily encountered in his practice."

One of the members of the Council staff of clinical consultants calls attention to the fact that much vitally valuable time might be lost in a case of iritis, for example, which being unrecognized, should be treated with Palpebrine on the strength of the Dios Chemical Company's advertisements. Even more dangerous is the recommendation of Palpebrine for the prevention of ophthalmia in the newborn, especially as this recommendation is coupled with an attempt to discredit the established treatment with silver nitrate solution:

"The use of severe remedies for this purpose has been discarded by most physicians. . . ."

While it is doubtless true that ophthalmia neonatorum may be averted by other drugs than silver salts, it is utterly unjustifiable to suggest that the established method of treatment by means of silver salt irrigations has been generally discarded.

Palpebrine is in conflict with Rule 6 in that unwarranted and exaggerated claims are made for its therapeutic efficiency; with Rule 8 in that the name does not indicate its potent ingredients, but instead the suggestive name "Palpebrine" invites its use without consideration of the ingredients; with Rule 10 in that the use of a preparation having the complex composition claimed for Palpebrine is unscientific and detrimental to the interests of the public and the profession.

[Editorial Note.—The four nostrums mentioned above have been grouped together for publication to call attention to one phase of the proprietary business. A fact not mentioned in the Council's report is that these nostrums are manufactured and promoted by a concern that belongs to a type we have often designated "pseudo-chemical" companies. By this is meant companies that are not in the legitimate business of pharmacy or chemistry, but organized to exploit

one, two or in some instances half a dozen proprietaries. "Patent medicines" are exploited by this class of "companies." The Dios Chemical Company is not a chemical company, except in name. J. H. Chambers, the founder so far as we can learn, never claimed any special knowledge of chemistry, pharmacy or medicine. The officers at the present time are: J. H. Chambers, president; M. E. Chambers, vice-president; Leslie T. Chambers, treasurer, and Arthur Chambers, secretary. M. E. is the wife of J. H., and Leslie T. and Arthur are sons.

This is simply one illustration of the fact noted above. Some physicians have been and are prescribing nostrums originated, manufactured and advertised by laymen who are not in the legitimate pharmacy business. In addition, such physicians have been accepting the statements of laymen, not only as to the composition of the nostrums, but as to their use. In every state the practice of pharmacy is regulated by law: before assuming the responsibility of compounding medicines a druggist must have studied and passed an examination in pharmacy. Public safety demands and the law requires it. There are some doctors, however, who will allow laymen who are not chemists, pharmacists nor physicians to formulate and compound a prescription and tell them what it is good for and how to use it.

The Dios Chemical Company is not an isolated instance: we have already referred to some; we shall take occasion to refer to others in the future. That such concerns flourish is a reflection not so much on the shrewd laymen who exploit the medical profession—and through it the public—as it is on the physicians who cast their scientific training to the winds and permit themselves to be thus exploited.]

HAYDEN'S VIBURNUM COMPOUND

Report of the Council on Pharmacy and Chemistry

(From The Journal A. M. A., Jan. 23, 1915, p. 359)

The following report on Hayden's Viburnum Compound was prepared by a member of the Council's Committee on Therapeutics. The Council held the preparation in conflict with its rules and authorized publication of the referee's report.

W. A. PUCKNER, Secretary.

Hayden's Viburnum Compound, according to the advertising circulars, was first compounded in 1860 by W. R. Hayden. The medical profession is told that W. R. Hayden

". . . found by his experiments that a combination of the active principles of *Viburnum Opulus, Dioscorea Villosa,* combined with aromatics, proved a valuable remedy for *Spasmodic Dysmenorrhea.*"

As in 1860 W. R. Hayden was not a physician (he received a diploma from the Eclectic Medical College, New York, in 1867), and, so far as we can learn, he was not a pharmacist or chemist, one wonders what kind of "experiments" he made. Hayden's Viburnum Compound is put on the market by the New York Pharmaceutical Company of Bedford Springs, Mass. The name of this concern may sound imposing, until it is realized that it is merely a trade name adopted by Hayden in exploiting his nostrum.

The advertising matter formerly claimed that Scutellaria (skull-cap) was one of the ingredients of Hayden's Viburnum Compound. As this is no longer mentioned, it is fair to assume that even the manufacturer does not consider the composition to be of vital importance. Stress is laid on the superior efficacy of viburnum opulus in the conditions for which the preparation is recommended; it is emphasized that it is viburnum opulus, and not viburnum prunifolium, that is the important ingredient of Hayden's Viburnum Compound. The label, in accordance with the requirements of the Food and Drugs Act, declares that the preparation contains 50 per cent. alcohol. The claim is made:

"It is free from all narcotics and leaves no unpleasant after-effects."

The medical profession is told that Hayden's Viburnum Compound is a remedy in:

"Hysteria, Bilious Colic, Cramps of Cholera Morbus, Muscular Cramps, . . . Nervous Diseases of Pregnancy, Threatened Abortion, Post-Partum Pains, Puerperal Convulsions, Rigid Os, Dysmenorrhea, Menorrhagia."

DISCUSSION OF ALLEGED INGREDIENTS

Viburnum Opulus (*Cramp Bark*).—Botanists and pharmaceutical chemists declare that this drug has not been on the American market for many years, if ever, and that the drug used and even described as viburnum opulus is really the bark of another plant. Viburnum opulus and its preparations are therefore to be dropped from the next United States Pharmacopeia. The principal constituents of viburnum opulus are stated to be a glucosid, viburnin, a bitter resin, and a little tannin, with small amounts of earthy carbonates and phosphates and organic acids (Culbreth, Ed. 4, 1906, p. 591). The glucosid and resin being bitter, the drug might have a slight stomachic action (if, indeed, any such effect is actually produced by "bitters"); the small amount of tannin might make it slightly astringent; its fruit acids (citric and malic) might make it slightly diuretic. Even if viburnum opulus were present in Hayden's Viburnum Com-

pound there is no clinical or laboratory proof that it, if given alone—without alcohol or other drug—has any antispasmodic or nervous sedative action.

Dioscorea Villosa (*Wild Yam*).—This drug contains a saponin and an acrid, irritant resin. It has never been proved clinically or experimentally that this drug has any action whatever except that its irritant resin might, if taken in sufficient quantity, cause irritation of the stomach and vomiting.

Aromatics.—The irritation produced by concentrated aromatics causes increased peristalsis and consequently may, if there is no obstruction, relieve intestinal stasis and intestinal colics. Therefore, a preparation containing large amounts of aromatics, especially if given in hot water, would have practically the same effects in the "cramps of a cholera morbus" or other forms of acute diarrhea as a home-brewed cup of spiced tea—and no more.

Alcohol.—This drug is a muscle relaxant, and sufficient doses might, by relieving spasm, relax a muscularly contracted os uteri and relieve post-partum pains. Alcohol dilates the blood-vessels both in the abdomen and on the surface of the body. It may thus either relieve uterine bleeding by lowering the blood-pressure and causing more blood to go to other parts, or increase uterine bleeding by relieving arterial and muscle spasm. Alcohol is also a habit-forming narcotic (Hayden's Viburnum Compound is advertised as "free from all narcotics"!) and when habitually used by either males or females tends to impair the capacity to produce normal offspring.

Even if the manufacturer's "formula" be accepted, Hayden's Viburnum Compound contains no therapeutically active ingredient except alcohol and aromatics. The recommended dose of this preparation is ". . . two teaspoonfuls in six of boiling hot water or milk and one teaspoonful of sugar, every fifteen or twenty minutes until relief is obtained."

"Frequently after taking the Viburnum Compound the patient will sleep soundly for several hours from the sudden cessation of pain; in such cases she should never be awakened through any fear of oversleeping, as Hayden's Viburnum Compound does not contain any narcotic whatever, nor does it leave any disagreeable after-effects, and it may be given to a child when necessary without any special caution."

Read the foregoing and then remember that it means that one teaspoonful of alcohol (the equivalent of two teaspoonfuls of whisky) is to be given in hot water, every fifteen or

twenty minutes until relief is obtained and the patient is asleep. Why not use plain language and say "until she is drunk"?

The thoughtful physician would consider it decidedly unwise to give alcohol to a young girl, to a prospective mother, or to a young mother, except under extraordinary circumstances. He would know that the menstrual pains for which this preparation is recommended are likely to be recurrent, and that the repeated taking of alcohol for recurrent pain is fraught with danger—the danger of initiating the alcohol habit. If, however, a physician does elect to give alcohol as a drug, he must let the conditions that govern each individual case determine whether it is not better to give it as whisky, or to disguise it in a prescription of his own. Above all the physician should be conscious that he is giving the drug, alcohol; and this is not the case when he prescribes a ready-made nostrum. If he writes a prescription containing whisky or other alcoholic he will take measures to avert the dangers inseparable from the use of this drug.

CONCLUSIONS

1. Even if the manufacturer's formula for Hayden's Viburnum Compound be accepted, it is apparent that any therapeutic activity the preparation may have is due essentially to the alcohol and aromatics.

2. Alcohol is a narcotic drug, and a habit-forming drug. Physicians ordering this preparation may, by so doing, be initiating the alcohol habit.

3. Whatever result is obtained by the use of Hayden's Viburnum Compound in the treatment of uterine or pelvic disturbances, is due to the alcohol it contains. The fact that menstrual pains are likely to recur might, when this preparation is relied on, become a factor in the formation of the alcohol habit.

4. Whatever result is obtained by the administration of Hayden's Viburnum Compound in the treatment of gastrointestinal disturbances is due to the alcohol and the aromatics it contains.

5. Whisky has the same alcoholic content (50 per cent.) as Hayden's Viburnum Compound; the dangers in the use of whisky are well known and its value as a therapeutic agent is being questioned more and more every year.

Holding the exploitation of this proprietary a danger to the public and a detriment to scientific medicine, the referee recommends publication of this report as a protest against

such irrational therapeutics. The profession should recognize that most, if not all, of the preparations recommended for painful menstruation and for all kinds of pelvic pain contain large percentages of alcohol, and that whatever physiologic effect is produced is, for all practical purposes, due to the alcohol.

CELERINA, ALETRIS CORDIAL AND KENNEDY'S PINUS CANADENSIS, LIGHT AND DARK

Report of the Council on Pharmacy and Chemistry

(From The Journal A. M. A., Feb. 13, 1915, p. 606)

The following reports on products of the Rio Chemical Company have been submitted by a referee. The Council recommends that they be published, as the preparations discussed are glaring instances of nostrums exploited through physicians on unscientific claims and false representations.

W. A. PUCKNER, Secretary.

Celerina

Celerina belongs to what Samuel Hopkins Adams calls the "bracer" type of nostrum. According to the label it contains 42 per cent. alcohol (whisky contains about 50 per cent.). The other ingredients of Celerina are declared to be as follows:

"Each fluidounce represents Forty grains each Kola, Viburnum, Forty-eight grains Celery, Twenty grains Cypripedium, Sixteen grains Xanthoxylum and Aromatics.

"Dose—1 or 2 teaspoonfuls 3 times a day."

Kola contains a very small percentage each of caffein and theobromin. It is impossible for the infinitesimal amounts of these alkaloids in an ordinary dose of Celerina to produce any physiologic effect.

Viburnum has been called a "uterine sedative," whatever that may be. Its only real activity is the psychic one due to its taste and odor.

Celery at one time was credited with being both an antispasmodic and a nerve stimulant—a remarkable combination of opposing qualities! Scientific investigation has failed to show that celery has any physiologic or therapeutic activities. If it had the slightest medicinal value, the rational course would be to prescribe it in its fresh and natural state. The small dose contained in a teaspoonful of Celerina is inappreciable and not even equivalent to that contained in a stalk of celery.

Ladyslipper, more imposing under the Latin name of "cypripedium," is a flowering plant with a legendary reputation as an "antispasmodic and nerve stimulant." It has been in the therapeutic scrap-heap for years. It contains a little tannic acid, gallic acid and a volatile oil. Even a tannic acid action cannot be expected from a teaspoonful of a preparation containing 20 grains of ladyslipper to the ounce.

Prickly ash (xanthoxylum) has never been shown to have any activity other than that of a local irritant, especially to mucous membranes. The slight "bite" from this drug would be entirely covered up by the alcohol in Celerina. Any stimulating effect which this drug may have on the stomach is greatly inferior to that produced by a very small glass of ordinary ginger ale.

In short, there is no ingredient in Celerina, except the alcohol, that has any recognizable activity; and the alcohol content is nearly as great as that of ordinary whisky. Some of the claims and recommendations for this nostrum are:

"Celerina (Nerve Tonic), for Nervousness, Hysteria, Insomnia, Nervous Indigestion, Languid and Debilitated Conditions, Recovery from Alcoholic Excess."

Think of prescribing an alcoholic nostrum four times a day to promote recovery from alcoholic excess!

"NEURASTHENIA: The bane of the general practitioner; the puzzle of the neurologist; the juicy fruit of the quack and faddist; the opportunity of the intelligent therapist. . . . For the medical treatment CELERINA is the preparation of wide utility."

The *sang froid* with which the exploiters of this nostrum refer to other "quacks and faddists" as reaping "juicy fruit" from neurasthenics would command admiration were it not so pitiful.

"Celerina has substantial endorsement in nervous disorders characterized by Aphonia (nervous)."

Of course, the disappearance of nervous aphonia might follow the application of any treatment whatever, be it Eddyism, Chiropractic, Peruna or Celerina.

"CLIMACTERIC (the Menopause) flattering results have been reported from a combination of equal parts Celerina and Aletris Cordial Rio."

"Teaspoonful doses after meals and upon retiring have proven efficacious [in "dyspepsia"] when other remedies have failed."

Here is a good example of proprietary-house therapeutics: Such widely different conditions as digestive trouble and the climacteric are to be treated with a combination of alcohol,

simple bitters and aromatics! Why not order a cocktail under its own name? It would be equally efficacious, less mysterious and its dangers might be better realized!

"A teaspoonful or two in three tablespoonfuls of boiling hot water [for insomnia] upon retiring."

Any other hot toddy at bedtime (and it need not cost a dollar a bottle) might give relief; but the intelligent physician to-day recognizes the danger of prescribing alcohol in such conditions.

"In the case of brain workers who suffer from nervous excitability and mental fatigue, the administration of Celerina in teaspoonful doses, three times a day and at bedtime, rapidly controls the condition and increases mental capacity."

And the same effect follows its use:

"In cases involving worry, anxiety, overwork, and excesses of various kinds. . . ."

Moreover:

"Celerina is the most prompt and efficient of remedies for devitalized or broken-down constitutions—doses four times a day."

The statement made by its manufacturers that this preparation is free from narcotics or habit-forming drugs is not true. Alcohol is both a narcotic and a habit-forming drug.

As in the case of other nostrums containing no potent drugs but alcohol, Celerina is recommended for various diseased conditions in combination with a familiar form of treatment by drugs of more or less value. The physician who thoughtlessly prescribes one of these combinations will without doubt unthinkingly attribute any subsequent improvement to the Celerina. Thus, for malaria, a prescription of quinin and Celerina is advised; for chorea in children, arsenic with Celerina; in "Convalescence from La Grippe," strychnin sulphate, Fowler's solution, and Celerina; for impotence, nux vomica, dilute phosphoric acid and Celerina. In none of these conditions would Celerina affect favorably anything except the pockets of the exploiters; in some, as in the chorea of children, the alcohol would be positively detrimental. Of course, the value of such prescriptions (so far as they have any apart from the fictitious value lent by the alcohol) resides altogether in the standard drugs prescribed with Celerina.

There is no possible excuse for writing a prescription for Celerina, either in original package or mixed with well-known or valuable drugs. The sooner it is realized that this preparation has no place in medicine, should never be prescribed by physicians and is essentially nothing but alcohol and bit-

ters exploited under a fancy name, the better for the public health and the science of medicine. The continued sale and use of Celerina is a disgrace to the medical profession.

Aletris Cordial

Aletris Cordial is a nostrum containing therapeutically worthless drugs in alcohol (28 per cent.).

The "formula" on the label reads:

"Each fluidounce represents ten grains Aletris, thirty grains Helonias and thirty grains Scrophularia."

At one time these drugs had some vogue, chiefly as domestic remedies. They have been discarded as valueless by modern scientific medicine.

Aletris, or unicorn root (Aletris farinosa), contains a bitter principle and starch. The remarkable uterine tonic properties formerly ascribed to it have not been confirmed by reliable observers. It is practically worthless.

Helonias, or false unicorn (Chamaelirium luteum), is asserted to be a hemostatic and uterine tonic. No trustworthy evidence has ever been offered in support of the claims made for this drug; reliable medical literature contains no reference to it; it has no valid claim on the attention of physicians.

Scrophularia, or figwort (Scrophularia marilandica), contains a principle which has a digitalis-like action on the heart. Its activity is so slight in comparison with that of digitalis, however, that there was nothing to be gained by studying it. The drug is consequently little known and is not mentioned in critical works on pharmacology. If the drug were therapeutically active in the quantities used, another danger would be added to that of the alcohol content of Aletris Cordial. Since the recommended dose (a teaspoonful) contains, if the formula be correct, only about 4 grains of figwort, this drug too may be regarded as practically inert in this preparation.

Not one of these drugs has been deemed worthy of mention in the Pharmacopeia. The Council has previously discussed them and declared them valueless (Reports Council Pharm. and Chem., 1909, p. 146; 1910, p. 10; 1912, p. 42).

In Aletris Cordial, then, there is no ingredient capable of producing any other effect than the alcohol stimulation and such psychic effect as may be due to the bitter taste. Yet physicians are asked to believe that

"Probably no remedy is so uniformly successful in the prevention of threatened miscarriage as ALETRIS CORDIAL Rio."

"HABITUAL MISCARRIAGE can be effectually overcome by the systematic use of Aletris Cordial Rio."

". . . regulates the local circulation and imparts normal tone and strength to the uterine muscle."

"The use of Aletris Cordial Rio throughout pregnancy goes far to assure normal, uncomplicated labor."

Such claims as these, when made for a mixture containing no therapeutically active constituent except alcohol, are absolutely preposterous. It should be noted that the declared alcohol content of Aletris Cordial is much higher than that of the strongest wines, and, in the light of medical experience, quite high enough to promote the formation of the alcohol habit in a steady user. The following recommendation, taken from the company's "Budding into Womanhood" circular, therefore, is outrageous:

"Many medical practitioners recommend to mothers the use of Aletris Cordial Rio for their growing daughters, ranging in age from twelve to eighteen years. . . ."

It is to be hoped that no medical practitioner is so heedless of consequences as to prescribe for adolescent girls a worthless nostrum capable of creating a craving for alcohol. The temperance societies might with profit take steps to inform laymen, especially women, concerning the worthlessness of this nostrum, the risk involved in taking it, and the outrageous character of the recommendations made for it by the manufacturers.

Kennedy's Pinus Canadensis, Light and Dark (Abican and Darpin)

Kennedy's Pinus Canadensis, Light (recently renamed "Abican") and Dark (renamed "Darpin") are also exploited by the Rio Chemical Company. Although they have been on the market some thirty or forty years they appear to have achieved no marked degree of commercial success. Yet they have been imitated by most of the pharmaceutic houses. They are of interest chiefly through the barefaced fraud involved in their exploitation.

COMPOSITION CLAIMED

Apparently the dark preparation ("Darpin") was first put on the market; then the light one ("Abican") was offered, to be used only "as an injection and externally." The reason for the existence of the light preparation evidently was the objectionable property of the dark, which stained linen. The two preparations are both said to be extracts of Pinus Canadensis or hemlock bark. A circular issued some years ago contained the following statement:

"Pinus Can. (Ken.)—*Dark*—A non-alcoholic extract of Pinus Canadensis, to each fluidounce of which is added 0.48 grains Thymol.

"Pinus Can. (Ken.)—*Light*—A non-alcoholic extract of Pinus Canadensis, to each fluidounce of which is added 24 grains each of pure Alum Potash and Sulphate of Zinc and 0.48 grains of Thymol."

The labels on the packages of the light and dark preparations sent out to-day bear, respectively, only the following references to composition, the first on the dark and the second on the light:

"Each fluidounce also contains 0.48 grains Thymol."

"A non-alcoholic preparation of Pinus Canadensis, to which is added twenty-four grains each pure alum potash and sulphate of zinc and 0.48 grains thymol to the fluidounce."

ACTUAL COMPOSITION

"Darpin" or Kennedy's Pinus Canadensis, Dark, does contain tannin, but, as the simplest of chemical tests demonstrate, Pinus Canadensis, Light, does not contain tannin. It might as truthfully be called maple syrup or beef tea.

It is almost a work of supererogation to discuss the therapeutic claims made for preparations sold under false pretenses as to composition. It is enough to mention that Kennedy's Pinus Canadensis, Dark or Light, is recommended in

Albuminuria	Hemorrhage from the Nose
Diarrhea-Dysentery	Uterine Hemorrhage
Fetid Perspiration	Leucorrhea
Endometritis	Nasal and Pharyngeal Catarrh
Fissures	Piles
Fistula	Sore Throat
Gonorrhea	Ulceration of the Cervix

The intelligent physician of to-day knows that his forefathers in the days of the stage-coach employed tannic acid in its crude form and treated intestinal disease in a very unsatisfactory manner; he knows, further, that advances in our knowledge of pathology have rendered the use of tannic acid in gastro-intestinal therapeutics largely unnecessary and that when it is used it should be in some form that will pass the stomach unchanged. So far as its use as local application is concerned, he knows, without need of instruction from the Rio Chemical Company, when tannin is indicated, and the Pharmacopeia furnishes a suitable preparation for the physician so that he need not resort to an unscientific nostrum like Darpin.

The physician who is competent to treat a case of gonorrhea does not need to be told that alum and zinc sulphate may be useful in such conditions, and he does not want them palmed off on him for something else under the name of Pinus Canadensis, Light, Abican or what not. Also, he pre-

fers to use them, when they are needed, singly and in strength suited to the conditions of the individual case.

[Editorial Comment.—Celerina, Aletris Cordial and Kennedy's Pinus Canadensis, Light and Dark, appear to be the entire output of the Rio Chemical Company, which was one of the earliest of the various companies organized by James J. Lawrence of *Medical Brief* fame. The business was moved from St. Louis to New York City in 1901. According to what we believe to be reliable information, the Rio Chemical Company is now composed of James P. Dawson, president; William W. Conley, vice-president and treasurer; and E. D. Pinkerton, secretary. These also constitute the directors. It appears that James P. Dawson is a member of the law firm of Dawson and Garven, St. Louis; E. D. Pinkerton is said to be Miss Effie D. Pinkerton, stenographer for Dawson and Garven. We know little concerning William W. Conley except that he appears to be in charge of the establishment in New York. We find no evidence that he is either a chemist or a pharmacist; his name does not appear in the membership list of the American Chemical Society or of the American Pharmaceutical Association, nor can we discover that he has published anything in the way of chemistry or pharmacy. As a matter of fact, the Rio Chemical Company is another of the pseudo-chemical companies created to exploit one or more proprietaries—in this instance Celerina, Aletris Cordial and Pinus Canadensis. The following medical journals carry advertisements of the Rio products, (or did late in 1914): *American Journal of Surgery, American Medicine, Denver Medical Times and Utah Medical Journal, Eclectic Medical Journal, International Journal of Surgery, Interstate Medical Journal, Massachusetts Medical Journal, Medical Brief, Medical Century, Medical Council, Medical Review of Reviews, Medical Sentinel, Medical Standard, Texas Medical Journal* and *Woman's Medical Journal.*]

BOVININE

Supplemental Report of the Council on Pharmacy and Chemistry

In 1909 (The Journal A. M. A., Nov. 20, 1909, p. 1754) a report of the Council directed attention to the exaggerated and false claims which were being made for Bovinine, a preparation consisting essentially of some form of defibrinated blood, alcohol, glycerin and added sodium chlorid.

To determine if the claims had been revised to agree with the facts and also to determine whether certain criticisms of the report which had been made by the exploiters of Bovinine required a revision of its findings a further examination of the product was made. This examination demonstrated that the unwarranted and false claims previously objected to were for the most part still made and also that the conclusions of the first report were fully warranted by the experimental evidence. The second report having been sent to the Bovinine Company and the firm's reply considered, publication of the report was authorized; this appears below.

W. A. PUCKNER, Secretary.

The result of an examination which your referee has had made of several samples of Bovinine (Bovinine Company, New York) recently shows that Bovinine is virtually of the same composition as reported in THE JOURNAL for Nov. 20, 1909. The findings are in close accord with the information submitted by the company. Hence so far as concerns its claimed composition no criticism can be made.

A booklet which accompanies the package enumerates various diseases; for example, asthma, St. Vitus dance, diabetes, atonic dyspepsia, chronic gastritis, typhus, scarlatina, small-pox, measles, diphtheria, yellow fever, gastric ulcer, phthisis, influenza, typhoid fever, pneumonia, Bright's disease, etc. The circular also represents that Bovinine is indicated in anemias, alcoholism, chronic respiratory inflammation, coughs and colds, menstrual disorder, nervous exhaustion, fevers, and "as a topical application in ulceration of all forms and in skin grafting." Attention is also called to several particular features which your referee believes are false, fraudulent, deceptive, or misleading.

Bovinine contains about 12 per cent. of alcohol, and all will agree that such a preparation is not to be advocated for the ailments of infants.

On page 2 of the booklet will be found the following:

"Dose for an Infant. Commence with five to ten drops in its bottle of milk for each feeding."

On page 3, under heading "How Assimilated," appears the statement, "By the blood." It is quite apparent that this product is absorbed in the same way as is any other protein-bearing food and the representation that Bovinine is assimilated by the blood is misleading.

On page 7, under heading "Phthisis":

"Sustaining and maintaining an appropriate and full nutrition is most essential in tuberculosis. . . . It retards the pathological lesions."

On page 6, under "Chronic Gastritis":

". . . it soothes the inflamed mucous membrane, regulates the circulation."

Same page, heading "Atonic Dyspepsia":

"It increases the formation of the digestive juices."

Page 8, heading "Fevers":

"After the acute stages or crises of the adynamic fevers, typhus, typhoid, scarlatina, smallpox, measles, diphtheria, yellow fever, there is almost invariably left extreme emaciation, great prostration of the vital powers, and suspension of the organic functions, especially those connected with the digestion and assimilation of food and the nutrition of the tissues. . . . Bovinine being capable of arousing the functions as well as completely supplying it, also generating nerve force and promoting digestion is of great value. . . ."

Page 9, under heading "What Are Its Effects?"

"It establishes normal cell metabolism and feeds the cellular system, assuring normal nutrition and a full opsonic index."

Page 11:

"Experiments which have been and are now being conducted in the hospitals and dispensaries afford corroborative evidence demonstrating the unprecedented advantages afforded by the above-mentioned treatment, not only in chronic, indolent, syphilitic, varicose and tuberculous ulceration, but also in skin-grafting, sponge-grafting, rectal fissures and ulcerations, osteo-necrosis, deep seated abscesses."

Page 16, heading "Medical Opinions Briefly Stated":

"As a restorative after INFLUENZA it is of the greatest possible value."

"It has yielded unparalleled results in cases of typhoid, pneumonia, acute phthisis and gastric catarrh."

"The invigorating effects of BOVININE in a case of choleraic diarrhea were magical."

"In Bright's Disease, with large albuminous waste, it is the best food I have found."

Your referee also calls attention to the following, which he believes tend to mislead. Bearing in mind the composition of the product, what is there in it which would justify the representation that Bovinine possesses "protective properties of the blood of beef"? So far as can be determined, Bovinine does not possess any protective properties superior to that of any other food commodity, and therefore the representation is unwarranted. What is there, furthermore, in the product which will justify the following?

Page 4:

"Bovinine has a selective tonic influence upon the circulation of the respiratory mucous membrane."

Page 5:

"Unlike most tonics or foods, it [Bovinine] does not raise the blood pressure above normal, but will, where the pressure is below normal, bring it up to its standard, and is entirely free from any deleterious effects."

On page 6, heading "Lactation":

". . . increases the supply of milk."

Page 7, heading "Pregnancy":

". . . lessens the dangers of complications."

On the label outside of package is the following:

"Palatable and agreeable to the most delicate taste."

On page 14 is a short discourse dealing with the palatability of Bovinine. As a matter of fact, the preparation possesses a disagreeable taste and flavor.

Is Bovinine useful so far as its food-value is concerned? There is little doubt that blood may serve as a food and thus could be useful in a sense. Bovinine, however, is not sold as a simple food product; and to be useful as a medicinal food or therapeutic agent it must be shown that it possesses some distinct advantage over ordinary food.

Is Bovinine harmful? The pharmacologist who made the observations has carefully and thoughtfully reconsidered all the experiments he has made relative to the question of absorption and assimilation of Bovinine, and is satisfied, with the data at hand, that no injustice has been done to Bovinine, relative to the former claim of non-irritability. The experiments were all conducted on dogs. It should be noted that this former representation of non-irritability has been eliminated.

A criticism of one portion of the pharmacologic work as reported can justly be made, namely, the injection of Bovinine into the peritoneal cavity of rabbits. The experimenter states that the reason why he reported this observation was that it is his custom to submit all of the observations. It may be stated that this particular observation might well have been omitted, but no importance was attached to it in arriving at a conclusion which would not have been any different with this feature eliminated.

Summary

1. The composition of Bovinine is as represented.

2. The product is advertised for the treatment of numerous diseases and abnormal conditions in a booklet accompanying the bottles (violation of Rule 4 of the Council).

3. There are no reliable data available which would tend to indicate that a mixture consisting of 83 per cent. of defibrinated steer's blood, 19 per cent. alcohol, 4 per cent. glycerin and 1 per cent. common salt has the remarkable properties ascribed to Bovinine.

4. The pharmacologic observations relative to the effect of Bovinine when administered by way of the alimentary canal are believed to be in accordance with the facts.

5. The pharmacologic observations dealing with the injection of Bovinine into the peritoneal cavity of rabbits are gratuitous and should be eliminated from further consideration.

CAROID AND ESSENCE OF CAROID REFUSED RECOGNITION

Report of the Council on Pharmacy and Chemistry

After having had Caroid under consideration for a long time the Council, in view of the acknowledged variability of Caroid, decided not to give recognition of any kind to Caroid and its derivative, Essence of Caroid. The Council directed publication in the annual Reports of the Council on Pharmacy and Chemistry of the referee's report together with a brief summary of the investigation.

W. A. PUCKNER, Secretary.

SUMMARY OF THE INVESTIGATION

Commercial preparations of the papaya plant have been on the market for some time. They are intended for use in digestive troubles and purport to contain as their main ingredient, papain, the active principle from the fruit of *Carica papaya*. Among these are Caroid and Essence of Caroid, which were marketed first by the American Ferment Company, and later by Mead Johnson and Co.

The Council in 1905 first took up the consideration of Caroid with the view of determining its eligibility for inclusion with New and Nonofficial Remedies. Since then, at the request of the manufacturers, it has repeatedly been considered, each examination confirming the previous findings that the claims for its digestive efficiency were exaggerated. The Council recognizes the existence of digestive power in the fresh juice of the papaya fruit and admits the possibility of securing an effective ferment from this source.

In 1912, because of the submission of some apparently favorable reports by the manufacturer with regard to the digestive activity of the Caroid marketed at that time, a further investigation of Caroid was taken up by a fourth referee. This investigation, which is published in full in the referee's report, was extended to include the non-proprietary brands of papain on the market.

It was known to the fourth referee, from his own experiments and from a review of the considerable literature on the papaya ferment and its action on protein, that the remarkable activity of the papaya extracts reported by some investigators prior to 1905, was due to the stimulation of proteolytic activity by hydrocyanic acid, which had been used to exclude bacterial action, and that, in many cases, no digestive action was noted when hydrocyanic acid was excluded. In the investigation of Caroid by the referee it was ascertained that the high digestive results reported for the preparation by the manufacturers were likewise due to the use in the digestion experiments of hydrocyanic acid, which has been added merely as a preservative, but which was found to have exerted a marked stimulating action on the ferment. Nevertheless the examination proved Caroid to be of greater digestive power than any of the other papain preparations examined. Thus under standard conditions 1 part of Caroid digested 8.5 parts of protein of egg or 57 parts of egg albumin, 14.2 and 16.92 parts of protein of cooked, hashed meat, 50.76 parts of protein of raw, hashed meat, 38.6 parts of raw fibrin and 30.1 parts of cooked fibrin. Under the corresponding conditions, 1 part of Papain, Merck, digested 8.75 parts of protein of cooked meat, 1 part of Papain, Lehn and Fink, 7.50 parts, and 1 part of Papain, Parke, Davis and Co., 1.92 parts. Also 1 part of Papain, Merck, digested 4.80 parts of protein of egg albumin, 1 part of Papain, Lehn and Fink, 8.57 parts, and 1 part of Papain, Parke, Davis and Co., 4.37 parts. It is to be noted that papain products, in general, act but slowly on egg albumin.

With regard to the action of Caroid on milk, the referee found that in neutral milk Caroid produces a peculiar, fine curd which forms more rapidly than with pepsin, though rather large weights of the ferment seem to be required to produce it and he notes some advantage in this behavior of Caroid which is entitled to consideration.

The manufacturers were given every opportunity to substantiate their claims for the activity of Caroid; but even after their own chemist had been permitted to work under the direct supervision of the referee, they were obliged to

admit that because of the indefinite source of supply of the papaya, they could not produce a reliable and uniform product. They announce, however, that they intend to take up the work of improving and standardizing the papaya ferment, through the product obtained from a plantation in Porto Rico which they are establishing.

Because of these facts the Council voted that neither Caroid nor any of the other papain preparations be admitted to New and Nonofficial Remedies. The Council assured the manufacturers of Caroid of its readiness to give the product further consideration at any time when it should be requested.

FIRST REPORT OF THE FOUTH REFEREE ON CAROID AND ESSENCE OF CAROID, MEAD JOHNSON & COMPANY

Caroid, a product sold by Mead Johnson & Co. (formerly by the American Ferment Company), has been before the Council for several years, in fact, since 1905. The first report on it presented the information that the action of the ferment on egg albumin was almost nil, while on lean meat it was slight but appreciable. On these and other findings the product was rejected.

In 1906 Caroid was further considered. The report then made gave findings which were practically no more favorable. This led to a second rejection of the product, which then remained in the background for over three years. Mead Johnson & Co. asked for a reconsideration in 1910, and this led to a new and very full investigation on the part of the second referee.

In submitting his findings to the Council the referee discussed some work by Chittenden on the similar preparation Papoid, which work had been submitted by the manufacturer[1] in support of his claims for Caroid and as a suggestion regarding methods of testing Caroid. These submissions were not fortunate, as the Chittenden studies showed very clearly that when examined carefully Papoid was an extremely weak ferment from any practical point of view. The referee was able to confirm this part of the findings of Chittenden, and added results of his own which did not place the product in any better light as far as digestive activity was concerned. He was unable to substantiate the claims of the manufacturer and reported adversely to the acceptance of Caroid for inclusion with New and Nonofficial Remedies. More time, however, was granted to the firm, and it was given until Sept. 1, 1911, about six months, to submit new evidence.

1. Tr. Conn. Acad., 1892.

Reports of two pieces of work were sent in by Mead Johnson & Co. in consequence of this time extension, and these gave in detail a large number of new experiments. This new evidence was reported to the Council by a new referee. This report does not present new work on the part of the referee, but comments on the moderate claims of the manufacturer, in view of the new evidence which had been submitted, as to the ferment strength of the products. It was concluded that the whole question of the action of papain ferments should be investigated, and thus the present referee (the fourth) came into the case.

REPORT OF THE FOURTH REFEREE

Speaking now in the first person, as fourth referee, I must admit that at the outset I was very much impressed by the new claims of Mead Johnson & Co. The data presented by the firm seemed to show a rather high digestive value for Caroid, and in parallel experiments a markedly higher value than pepsin, in fact about five times as great in some cases. On closer examination, however, a very serious source of error was found in the manufacturer's general method of testing. In many lines of fermentation experiments, in order to exclude the action of bacteria, it is customary to add some antiseptic substance such as toluene, thymol or chloroform. Formerly hydrocyanic acid was very commonly employed and it is occasionally still used. In many of the original experiments reported by Wurtz on the behavior of papaya extracts this acid was employed, but in the work of Chittenden and in the first experiments submitted by Mead Johnson & Co. other bodies were added, boric acid usually. For some reason not explained, in its later experiments the firm returned to hydrocyanic acid—and this in face of the fact that the unsuitability of this substance for such comparisons had been clearly shown by several writers.

In the last few years a very considerable literature on the papaya ferment has accumulated, and much of this presented various discrepancies in regard to the degree of ferment activity. In a series of papers by Vines in the *Annals of Botany*, published from 1901 to 1905, it was suggested that much of the activity in the extracts of papaya, observed by earlier workers, was due to the fact that they had used hydrocyanic acid as an antiseptic in their experiments. This suggestion was confirmed by Mendel and Blood in an interesting paper published in the *Journal of Biological Chemistry*, September, 1910. The extremely marked accelerating action

of hydrocyanic acid in certain mixtures in which protein was digested with papaya extracts is clearly pointed out. In many cases it is shown that in the absence of this hydrocyanic acid no digestion may be detected, while with it the reaction becomes quite marked.

These observations would seem to throw doubt on the value of the experimental work submitted by Mead Johnson & Co., and it was decided by me to undertake a new series of experiments on several proteins, employing fresh Caroid preparations and conducting the experiments without the use of antiseptics, as well as with the use of hydrocyanic acid in parallel tests. Such experiments have now been completed. It may be remarked here that in general the use of antiseptics for such work should be avoided because they are quite out of place in experiments intended to duplicate conditions in the human alimentary tract. Mead Johnson & Co. lay particular stress on the fact that attempts had been made to arrange the tests so as to conform to body conditions much more closely than is the case in the ordinary pharmacopeial tests for pepsin and pancreatin, but a bad blunder was made in introducing hydrocyanic acid into the mixtures. For scientific studies on the progress or products of digestion, in which the work may be continued through many hours or days or weeks, even, an antiseptic is of course necessary; but in the short tests on comparative values, or in tests in which the length of time required to complete digestion in the body is kept in mind, an antiseptic is usually not needed, and should not be employed.

By several series of experiments I am able to confirm the conclusions of the experimental work of the former referees that Caroid is a very weak ferment toward egg albumin. I have found, also, that the digestive activity increases rapidly with increase of temperature, and seems to be at a maximum between 70 and 80 C. This peculiarity has been noted in a number of vegetable ferments, and for the papaya extracts was pointed out by several observers years ago.

In some tests in which, in each case, 10 gm. of egg albumin prepared as for the official pepsin test and 200 mg. of Caroid were allowed to act on each other in neutral medium at 40 C. through three hours, the following results were obtained: The dilutions were always to 200 c.c., and in Experiment A the unchanged egg was filtered off without any further application of heat. The amount of digestion was calculated from the results of Kjeldahl determinations on the filtrate. In Experiments B, C, D and E the mixtures were brought to the boiling point before filtering. In B the boiling point was reached

by rapid heating, while in the other cases it was slowly reached. The results show that the amount of digestion increases as the time required to reach 100 C. is prolonged (Table 1).

TABLE 1.—TEN GM. OF EGG ALBUMIN DIGESTED THROUGH THREE HOURS AT 40 C. WITH 0.2 GM. CAROID

No. of Experiment	Maximum Temperature, Centigrade	Time to Reach 100 C., Minutes	Amt. of Egg Digested, Per Cent.
A	40	..	18.6
B	100	1	40.5
C	100	5	52.3
D	100	10	55.8
E	100	30	63.0

At first sight these digestion values appear rather large, but for the weight of ferment employed they are small, as shown by Table 2:

TABLE 2.—DIGESTION VALUES

No. of Experiment	Parts of Egg Digested by One Part of Caroid
A	9.3
B	20.2
C	26.1
D	27.9
E	31.5

These values are of the order reported from the experiments by the former refrees, and are somewhat similar to those reported by Chittenden for a closely related papaya preparation (Papoid).

Further tests by me were carried out with egg and Caroid in acid solution, following the proportions and method of the Pharmacopeial test for pepsin. No digestive effect which could be measurer resulted. Then experiments were made with much larger weights of Caroid, smaller weights of egg albumin and greater concentration, as suggested in the papers submitted by Mead Johnson & Co. (Table 3).

TABLE 3.—5 GM. OF EGG ALBUMIN DIGESTED THROUGH TWO AND ONE-HALF HOURS AT 40 C. WITH 0.1 GM. CAROID

In 50 c.c. of 0.2 per cent. HCl. practically no result.
In 50 c.c. of water, some slight digestion; biuret reaction in filtrate.
In 50 c.c. of 0.1 per cent. sodium bicarbonate, some of the albumin is digested: biuret reaction shows in filtrate.

When the experiments were made in presence of hydrocyanic acid much more marked effects were observed. As compared with the digestive effects of pepsin, however, all

these values are very trifling, employing the term "digestion" in the sense in which it is usually employed in such comparisons.

Mead Johnson & Co. contend that digestion experiments carried out to test the practical value of ferments should be made under conditions more nearly similar to those which obtain in the body, and especially in presence of less liquid. The firm quotes a comparison of this sort in which 50 gm. of egg albumin were digested in one case with 25 mg. of pepsin and in another with 25 mg. of Caroid in 4 fluidounces of 0.2 per cent. hydrochloric acid. In both cases hydrocyanic acid was used as an antiseptic. The Caroid was found to digest 268 times its weight of the coagulated egg albumin, while the pepsin digested only fifty-one times its weight. In explanation of these peculiar results it may be said that while the stimulating action of hydrocyanic acid on Caroid is quite marked it is not present in the case of pepsin. Besides this it is apparent that a poor grade of pepsin must have been used for the comparison. Even in a solution of such concentration any pepsin which may properly bear the label "U. S. P." should digest far more egg albumin than is here indicated.

The experiment recorded in Table 4 is quoted to show the behavior of Caroid in neutral solution of relatively high concentration:

TABLE 4.—10 GM. OF EGG ALBUMIN DIGESTED THROUGH THREE HOURS AT 40 C.

Carotid, mg.	Water, c.c.	HCN 2 %, c.c.	Nitrogen in Filt., mg.	Parts of Egg Albumin for One Part of Caroid
50	40	3	88	82
50	40	..	68	57
..	40	3	22	..
..	40	..	22	..

After the digestions the mixtures were diluted to 250 c.c. for filtration. The nitrogen made soluble was determined in the filtrate. The control digestions showed how much nitrogen went into solution without the use of any ferment, and if this be subtracted from the other figures the remainder indicates a very low digestive power for the Caroid. In the figures given by the firm no allowance seems to have been made for this solubility.

While abundant experiments have shown that Caroid is a very poor digestant for egg albumin—and this is apparently admitted by the firm—we have some evidence that it works much better, relatively, with other proteins, and especially with meat in the raw condition. The data submitted by

Mead Johnson & Co. suggest this. But for cooked meat the digestive action does not appear to be especially marked, either with or without hydrocyanic acid. The meat used for the purpose was well cooked, hashed and washed thoroughly for removal of soluble protein. At the end of the digestion the mixtures were diluted and filtered for the determination of dissolved protein (Table 5).

TABLE 5.—25 GM. OF HASHED MEAT DIGESTED THROUGH THREE HOURS AT 40 C.

No.	Caroid, mg.	Pepsin, mg.	Water, c.c.	HCl, 0.1% c.c.	HCN, 2% c.c.	Protein Digested, gm.
1	50	..	100	...	...	0.709
2	50	..	100	...	7.5	0.857
3	50	..	...	100	...	0.417
4	50	..	...	100	7.5	0.507
5	..	50	...	100	...	1.062

It will be noticed that in neutral or acid solution, with or without the hydrocyanic acid, the Caroid digestion falls short of the pepsin digestion. This comparison is made here because Mead Johnson & Co. make such remarkable, and apparently unwarranted, claims for the strength of Caroid over pepsin.

Further to test the digestive action on cooked meat, a fresh bottle of Caroid was purchased from a wholesale druggist and used as before with the cooked, hashed meat. After digestion the contents of the flasks were diluted with water, filtered as before and submitted to tests for nitrogen in the filtrates (Table 6).

TABLE 6.—25 GM. OF MEAT DIGESTED THROUGH THREE AND ONE-HALF HOURS AT 40 C.

Carotid, mg.	Water, c.c.	HCN 2% c.c.	Mg. of N in Filtrate Corrected	Protein Digested	Protein for 1 Part of Caroid
50	100	7.5	138.6	0.866	17.32
50	100	...	135.4	0.846	16.92
..	100	...	12.6	.....	.....

Even after washing, a little protein became soluble in the warm water digestion, and the amount of nitrogen found in the filtrate was used as a correction for the other tests. The values are close to those of the first trial and show that Caroid has but a weak action on the boiled meat, and that here the stimulation by the hydrocyanic acid is trifling. In all these tests a simple inspection was sufficient to show that not much of the meat had undergone digestion.

With raw meat, as intimated, the action is better. In the test recorded in Table 7, unwashed, raw, hashed meat was used.

TABLE 7.—25 GM. OF RAW, HASHED MEAT DIGESTED THROUGH FOUR HOURS AT 40 C.

Caroid, mg.	Water, c.c.	HCl 0.1% c.c.	HCN 5% c.c.	Mg. of N in Filt., mg.	Protein Digested	Parts of Meat Digested by 1 pt. of Caroid
50	100	...	3	459	2.869	229
50	100	..	..	406	2.538	203
50	...	100	3	415	2.594	207
..	100	...	..	189	1.181	...
..	...	100	..	196	1.225	...

These values, although much better than for the cooked meat and for the egg albumin, are much lower than are reported by the firm for raw meat, and become considerably reduced when allowance is made for the solubility in acid or water alone. Such experiments have been made many times on both raw and cooked meat and convince me that the values quoted by the firm are quite out of proportion to what actually occurs with Caroid as found on the market.

The behavior of Caroid with fibrin has also been tested, and first in comparison with pepsin (Table 8).

TABLE 8.—10 GM. OF WASHED, MOIST FIBRIN, DIGESTED THROUGH THREE HOURS AT 40 C.

Caroid, mg.	Water, c.c.	HCl 0.1% c.c.	Pepsin, mg.	HCN 2% c.c.	Nitrogen in Filt., mg.	Residue
25	25	..	..	2	174.0	trace
25	25	..	..	..	16.8	much
..	..	25	25	..	175.0	trace

In the pepsin experiment and in the one with Caroid plus hydrocyanic acid the digestion was practically complete, but Caroid without the hydrocyanic acid has less than one-tenth of the digestive value that it has when this stimulant is present. This well illustrates the fallacy of introducing such a foreign substance as an antiseptic. Other sets of experiments on Caroid in acid and in slightly alkaline mediums showed a stimulating action of hydrocyanic acid.

Further tests with a new preparation of fibrin, cooked and uncooked, gave the relations shown in Table 9.

TABLE 9.—10 GM. OF FIBRIN DIGESTED THROUGH FOUR HOURS AT 40 C.

Caroid, mg.	Fibrin Condition	Water, c.c.	HCN, 5% c.c.	Mg. of N in Filt.
50	raw	40	2	154
50	raw	40	..	63
50	cooked	40	2	231
50	cooked	40	..	49

This specimen of fibrin contained 3.26 per cent. of nitrogen. The digestion in the first of these tests is about half complete, while in the third it is about two-thirds complete. Without the stimulating hydrocyanic acid the action is far less. In a hydrochloric acid digestion the behavior of the hydrocyanic acid was less marked in the cooked sample than it was in one uncooked.

In the literature sent out by the firm rather strong claims are made for the action of Caroid in the curdling of milk. There appears to be some justification for these claims, since I find that a very peculiar, fine curd is actually produced by the Caroid in neutral milk. This curd forms more rapidly than with pepsin, but rather large weights of the ferment seem to be required to produce it. From information received from some of my clinician colleagues I am inclined to think that there is some advantage in the behavior of Caroid from this point of view which is entitled to consideration.

The digestive effect following the curdling, however, is slight, and the experiments quoted by the firm to show the superiority over the pepsin in this respect are faulty from two points of view: first, because of the use of hydrocyanic acid in the digestions, and secondly because the firm's chemist seems to confound a simple solution of the casein with its digestion. The experimental proof which the firm offers on the relative behavior of pepsin and Caroid in digesting 200 gm. of milk has no scientific merit. This statement is made in the firm's long letter of claims at the end of the paragraph describing the experiment: "No blank, or control, was run, and no corrections were applied to the results obtained." This is a very serious admission.

Considering all the results with respect to Caroid it is clear to me that its digestive value is far less than is claimed for it by the manufacturers. Leaving the action of hydrocyanic acid out of consideration, the digestive value is low. For this reason some of the comparisons which the firm makes with pepsin are valueless and quite unfair. I am unable to duplicate some of the high values which were reported by the firm even with hydrocyanic acid.

I have made also a few qualitative tests with the Essence of Caroid, from the same firm, but as the results were always very low I did not think it worth while to follow them up quantitatively.

In conclusion I would recommend that if Caroid be accepted at all it should be done only after a very decided modification of the claims for it. From a clinical point of view there would appear to be some value in this vegetable ferment in certain kinds of digestive disturbances, when relatively large doses may be employed. For this reason I would not recommend rejection unless the firm declines to modify radically the claims made in its literature. All claims regarding superiority over pepsin should be omitted, and all claims for great digestive activity also.

In this connection I have tested the behavior of certain other papaya preparations on the market. The result is given in Table 10:

TABLE 10.—25 GM. OF COOKED MEAT, WITH 100 C.C. OF WATER DIGESTED THROUGH THREE AND ONE-HALF HOURS AT 40 C.

Papain, Merck, mg.	Papain, Lehn & Fink, mg.	Papain, Parke, Davis & Co., mg.	HCN 2% c.c.	Nitrogen in Solution, Corrected, mg.
50	..	..	7.5	70.0
50	..	..	...	70.0
..	50	..	7.5	60.0
..	50	..	...	60.0
..	..	50	7.5	15.4
..	..	50	...	15.4

These results are all very low. The digestions with Caroid under the same conditions liberated about 137 mg. of nitrogen. It is further seen here, as before, that for this form of protein the hydrocyanic acid stimulation is nil. Some results with coagulated egg albumin are also given (Table 11):

TABLE 11.—10 GM. OF EGG ALBUMIN WITH 40 C.C. OF WATER, DIGESTED THROUGH THREE HOURS AT 40 C.

Papain, Merck, mg.	Papain, Lehn & Fink, mg.	Papain, Parke, Davis & Co., mg.	HCN, 2% c.c.	Nitrogen in Solution, Not Corrected mg.
50	..	..	3	75.6
50	..	..	..	38.6
..	50	..	3	78.0
..	50	..	..	68.6
..	..	50	3	56.2
..	..	50	..	35.0

All the digestive experiments were made up to 250 c.c. and filtered for the determination of the protein made soluble. The results are all very low, but higher with the hydrocyanic acid than without. In all cases they should be corrected for the amount (though small) of soluble protein in the egg albumin.

In all my experience the digestive value of papaya preparations is best shown in neutral solutions. For this reason I quote nothing concerning experiments made in acid or alkaline mediums in connection with the last preparations examined. It is evident that they are weak as compared with pepsin. I am not aware that the manufacturers have made any special claims for digestive activity.

To learn if Mead Johnson & Co. propose modification of the claims for Caroid, it is recommended that this report, after adoption by the Council, be submitted to the firm and that consideration of Caroid and Essence of Caroid be postponed.

SECOND REPORT OF THE FOURTH REFEREE ON CAROID AND ESSENCE OF CAROID

The fourth referee's report having been sent to Mead Johnson & Co., a reply has been received which is not very satisfactory. It deals largely with the question of the stimulating action of hydrocyanic acid on papain, and with the question of the relative values of pepsin and Caroid.

The referee has insisted that the Council is not concerned with this question in any way. It is probably true that there is much weak pepsin on the market, but this does not justify a weak Caroid.

Mr. L. D. Johnson made a number of experiments in the referee's laboratory, using a sample of Caroid brought with him. Although the results were better than were obtained with the several market samples examined by the referee, they seemed to fall far short of those reported in the earlier letters of the firm.

There seems to be little Caroid on the market at present. It appears to the referee to be a waste of time to work with the special samples furnished by the firm, and he is in favor of dropping any further consideration of the product until it can be produced in quantity. The present letter from the firm admits that the subject is still in the experimental stage, as far as production of the raw material is concerned.

The referee does not question the activity of the fresh juice of the papaya fruit. He has seen it in the native condition and is impressed by the possibilities in the case. But the

practical results of digestion with Caroid and Essence of Caroid are not such as to warrant acceptance at the present time. It is recommended that Caroid and Essence of Caroid be not further considered until the manufacturer is in a position to furnish products of constant value.

FILICIC ACID

Deleted from New and Nonofficial Remedies

Report of the Council on Pharmacy and Chemistry

A referee reported that attempts to purchase Filicic Acid had been unsuccessful. The referee held that Filicic Acid evidently belonged to that large list of medicaments which have been tried and found wanting and recommended that the description of Filicic Acid be omitted from New and Nonofficial Remedies and, as a matter of record, transferred to the annual Council Reports. The recommendation of the referee was agreed to by the Council and accordingly the description of Filicic Acid appears below.

W. A. PUCKNER, Secretary.

FILICIC ACID, AMORPHOUS. — Acidum Filicicum Amorphum.—Amorphous filicic acid is an organic acid, $C_{36}H_{42}O_{13}$, obtained from several species of aspidium.

Actions and Uses.—Amorphous filicic acid has been recommended as an anthelmintic, and is generally considered one of the active principles of several species of aspidium.

Dosage.—From 0.5 to 1.0 Gm. (8 to 15 grains) given with calomel or calomel and jalap.

Note:—The crystalline filicic acid, also designated as filicinic acid, which is considered as an anhydride of the amorphous filicic acid, is devoid of anthelmintic action and must not be used in place of the amorphous acid.

Amorphous filicic acid is a white, or yellow powder, without odor or taste, melting at 125° C. (257° F.), soluble in cold alcohol.

PEPTO-MANGAN (Gude)

Report of the Council on Pharmacy and Chemistry

The following report was adopted by the Council and its publication authorized. W. A. PUCKNER, Secretary.

About ten years ago the M. J. Breitenbach Company circulated what pretended to be an abstract of the report of a government commission for the investigation of the anemia then prevalent in Porto Rico. The company asserted that "this report alone would suffice to establish Pepto-Mangan at once as the foremost hematinic known." Examination of the official report of the commission[1] revealed the fact that the administration of iron in hookworm anemia was considered of secondary importance, and that of the various preparations of iron, Blaud's pill was found to be more efficient than Pepto-Mangan (Gude). A protest[2] was made at this time by the commission against the unwarranted use of its report by the Breitenbach Company.

Later the Breitenbach Company sent out a report pretending to prove that at the Infants Hospital, Randall's Island, New York City, Pepto-Mangan (Gude) had been found a most superior preparation in the treatment of infantile anemia. Inspection of the hospital records and daily charts of the cases disclosed[3] a remarkable disparity between the claims of the Pepto-Mangan pamphlet and the real results of treatment. And so here, also, as well as in the Porto Rico commission's report the trials, selected by the Breitenbach Company prove the limitations and non-superiority of Pepto-Mangan.

The preceding false reports, though no longer circulated, have never been definitely withdrawn and while it is now generally conceded that the good results in anemia are obtained by the administration of the various simple inorganic iron preparations the Breitenbach Company still attempts to convey the impression that Pepto-Mangan (Gude), is of most superior efficacy. Thus the present Pepto-Mangan circular attempts to discredit by obsolete and absurd or untrue statements the various preparations of iron which are in general use and to carry the impression that only iron and manganese, in the particular form and proportion in which they are contained in Pepto-Mangan—namely, 3 parts Fe to 1 part Mn—are useful for the treatment of anemia, chlorosis, etc. Thus contrary to general conceptions, the impression is given that the now generally accepted course of chlorosis is due to the three varieties of insufficiency of certain blood elements:

1. The Journal, Sept. 23, 1905, p. 934.
2. The Journal, Oct. 7, 1905, p. 1099.
3. The Journal, April 6, 1907, p. 1197.

(1) insufficiency of manganese, (2) insufficiency of iron, (3) insufficiency of iron and manganese, and that the administration of iron often fails because manganese is not supplied to the system at the same time and in sufficient amounts. The following statement is made:

"Doctor:

"If you have a case of ANAEMIA, CHLOROSIS, or AMENORRHOEA, that shows no visible sign of improvement, and you have exhausted the entire list of Nauseating Iron preparations with little or no effect, it is because the blood is deficient in that *essential oxidizing constituent, MANGANESE,* in a soluble, readily assimilable form, the best being in combination with iron."

Another extravagant claim:

"Usually after taking it for a week its restorative influence on the functions of the stomach is felt; appetite reappears, and the general health is improved by the increase in bodily warmth, an effect directly due to manganese."

The following statement implies that Pepto-Mangan is absorbed unchanged, for which there is no justification:

"As the ferruginous and manganic ingredients of Pepto-Mangan (Gude) exist in the form of organic peptonates, they have already undergone the changes necessary to insure prompt absorption and appropriation by the circulating fluid."

The following declaration implies that it repairs the individual defective blood-cells which is, of course, also ridiculous:

"That Pepto-Mangan (Gude) quickly and efficiently builds up defective red blood cells, and generates, or at least potently encourages the formation of new ones, and materially increases their richness in hemoglobin, has been abundantly demonstrated. . . ."

The M. J. Breitenbach Company is still trying to mislead physicians; it also aims to make use of them in its direct appeal to the physicians' patients. For instance, the name "Pepto-Mangan (Gude)" blown in the bottle, the advertising circular suggesting Pepto-Mangan as the treatment for anemia, etc., and the recommendation to physicians that it be prescribed in "original bottles" all tend to encourage the use of Pepto-Mangan by the public with the likelihood that it will be depended on where good food and fresh air are of prime importance. The attempt to exploit it directly to the public is further attested by the advertisements of department-store drug departments.

It is evident from the foregoing that Pepto-Mangan (Gude) is in conflict with Rules 4 and 6 and therefore not eligible for admission to New and Nonofficial Remedies.

ABSTRACTS OF COUNCIL ACTION

Reports of the Council on Pharmacy and Chemistry

The Council has authorized the following brief statement of its consideration during the current year of certain articles which were not deemed to require an extensive discussion. (See preface to this volume.)

Agar-lac

(*From The Journal A. M. A., Nov. 14, 1914, p. 1777*)

Agar-lac, said to be the product of "Agar-lac, Inc.," is sold by E. Fougera and Company, New York. The following "formula" for Agar-lac is published:

"Agar-Agar with Lactic Ferments	Grs. 4½
Phenolphthalein	Grs. ½"

Regarding the "lactic ferment," the identity of which is not declared by the manufacturer and for the viability of which no precautions appear to be taken, the Council's expert on lactic acid ferments reported that *Bacillus bulgaricus* was present in small numbers only and that there were at least two other bacteria present, one of which is a gas-former of the *Bacillus coli* type.

The Council found that the amount of agar-agar in Agar-lac and the identity of the "lactic ferment" are not declared; that the name "Agar-lac" is blown in the glass and that the method of its exploitation will lead laymen to use it to their detriment; that the claims that it "facilitates assimilation of proteids" and that it is of value as an aid to "gastro-intestinal digestion" give a false value to the mixture and that the claims emphasize the action of agar-agar when from the composition it is evident that the phenolphthalein action will predominate; that the name does not indicate its predominating constituent, phenolphthalein, and that the use of a ready-made combination of cathartic drugs, such as agar-agar and phenolphthalein with lactic acid ferments, is unscientific.

Aseptikons

(*From The Journal A. M. A., Nov. 14, 1914, p. 1778*)

Aseptikons are vaginal suppositories sold by the Chinosol Co. of New York. Each suppository is said to contain:

Ac. Salicicylici	2 grs.
Ac. Borici	10 grs.
Quin. purae (Alkal.)	1 gr.
Chinosol	2 grs.
But. Cacao	60 grs.

The following claims appear in advertisements:

"These suppositories are indicated in cervicitis, leucorrhea, specific and non-specific vulvo-vaginitis and in all cases where complete vaginal antisepsis is desired."

"Non Toxic, Non Irritating, No Damage to Membranes. Yet a More Powerful Antiseptic than Bichloride."

The Council decided that the foregoing claims in the absence of evidence must be held exaggerated and likely to mislead, and also that the claim "Stronger than Bichloride" which appears on the box is misleading.

The position of the Council is that "In the case of pharmaceutical preparations or mixtures the trade name must be so framed as to indicate the most potent ingredients." The name Aseptikons does not give any indication of the ingredients of the product.

The Council holds that "The combination of two or more remedies in a mixture must be considered contrary to scientific medicine unless a distinct reason exists for such combination." No evidence has been submitted to establish the value of the combination in Aseptikons.

On the basis of the evidence submitted the Council voted that Aseptikons be refused recognition because unwarranted and misleading therapeutic claims are made, because the name does not indicate its potent constituents, and because the combination of two or more remedies in a mixture is considered contrary to scientific medicine unless a distinct reason exists for such combination.

Bacillicide

(*From The Journal A. M. A., Nov. 14, 1914, p. 1778*)

Bacillicide, sold by the Prophytol Products Company, Richmond, Va., is an antiseptic solution of the Glyco-Thymoline type. Vague, indefinite and misleading statements are made in regard to its composition and method of preparation.

The Council voted that Bacillicide was unacceptable because only a non-quantitative and therefore meaningless formula was published; because vague and unsubstantiated statements were made as to its method of preparation (removal of irritating action of formaldehyde); because exaggerated claims as to its therapeutic action were made; because its name did not indicate the potent ingredients of the pharmaceutical mixture but suggested its use without consideration of the composition, and because the use of an indefinite complex preparation such as Bacillicide is represented to be, is contrary to the best interests of the public.

Iron Solution for Intravenous Therapy—Perkins and Ross

(*From The Journal A. M. A., Nov. 14, 1914, p. 1778*)

Iron Solution for Intravenous Therapy, Perkins and Ross, manufactured by Perkins and Ross, Colorado Springs, Colo., is said to be an aqueous solution containing soluble iron phosphate, sodium chloride and "calcium creosote." Its use by intravenous injection is recommended as a "chalybeate,

emmenagogue and tonic" and in "all conditions in which iron is indicated." The advertising circular overemphasizes the use of intravenous medication and minimizes its drawbacks and dangers.

The composition of "calcium creosote" was not furnished and it was acknowledged that only a part of the "calcium creosote" enters into the solution. As the intravenous administration of a drug like iron, which must be continued for long periods, cannot be considered the method of choice, as the composition of the solution is such that changes may occur on standing, etc., which would make the preparation dangerous, and as the method of marketing the solution does not insure its sterility, further increasing the danger of its use, the product was rejected.

Lysoform and Lysoform Crude

(From The Journal A. M. A., Nov. 21, 1914, p. 1870)

Lysoform, made by the Lysoform Gesellschaft, Berlin, Germany, according to the information submitted, is a watery solution of potash-soap containing 6-7 per cent. of formaldehyde. Crude Lysoform is said to contain 10 per cent. of formaldehyde and to be made from cheaper oils, such as linseed oil.

Examination showed that the name "Lysoform" was blown in the glass and that a circular was wrapped around the trade package which recommended its use in conditions such as the following: "bites," "furunculosis," "softening abscesses," "insect-bites," "chronic and acute catarrhs" and "catarrh in the throat." The name was blown in the glass of the sample package of Crude Lysoform and the following claims appeared on the label:

"Eingeführt in den Heilstätten zur Bekämpfung der Tuberkulose." [Introduced into sanatoriums for the treatment of tuberculosis.]

"Bestes Mittel zur Verhinderung und Beseitigung von Tierseuchen aller Art bei Pferden, Rindvieh, Schweinen, Schafen, Katzen, Hunden u. Geflügel." [Best means for the prevention and suppression of epidemics among horses, cattle, swine, sheep, cats, dogs and poultry.]

The referee recommended that these objections, constituting conflicts with the rules of the Council, be brought to the attention of the Lysoform Gesellschaft, and also that evidence be requested for the assertion made that soap is efficient as a means of removing the local effects of formaldehyde, and for Lysoform's asserted "thorough efficiency as a powerful disinfectant." The referee pointed out that the papers of Pfuhl (*Hygienic Review,* 1902-3), Symanski (*Jour. Hyg. and Infect. Dis.,* 1901-3) and Seydewitz (*Centralbl. f. Bacteriol.,* 1902-3) used in the advertising circular for Lysoform really show that Lysoform possesses only a moderate germicidal action and that the claim that Lysoform is a powerful disinfectant is misleading, especially

in view of the work of Seydewitz (1902) who states that it requires a longer time of action than other disinfecting agents.

The referee's report having been adopted by the Council it was sent to the manufacturer Dec. 19, 1913. No action having been taken to remove the reported conflicts with the rules or to present evidence to substantiate the claims made, the Council voted that Lysoform and Crude Lysoform be refused recognition.

Phecolates, Phecolax, Phecozymes and Phecotones

(From The Journal A. M. A., Nov. 21, 1914, p. 1870)

Phecolates, Phecolax, Phecozymes and Phecotones were submitted by F. Waldo Whitney, New York, with "literature" indicating that they are designed to form parts of a system of treatment founded on the theory of autotoxemia, which they are supposed to prevent by their action on the functions of the intestinal canal. The different preparations consist in the main of mixtures of well-known remedies. The basic preparation is Phecolates, which contains bile salts in combination with phenyl salicylates and benzo-naphthol in about one-eighth the regular doses and hence not likely to be of any real service. Since the proportions of these ingredients ought to be regulated by the physician according to the needs of the individual patient, they should not be combined in fixed proportions. The name is not so framed as to indicate the principal ingredients.

Phecolax contains, in addition to the ingredients of Phecolates, phenolphthalein and cascarin, of each one-half grain.

Phecozyme is made more complex than Phecolax by the introduction of additional phenyl salicylate and of pancreatin.

Phecotone contains ten ingredients.

Extravagant claims such as the following are made:

"Our Health is governed by our bowels; Our bowels are governed by our nerves; Our nerves are governed by our digestion; our digestion is governed by Phecolates."

The Council voted to refuse recognition to Phecolates, Phecolax, Phecozymes and Phecotones as unscientific articles with objectionable names.

Serum Vaccine, Bruschettini

(From The Journal A. M. A., Nov. 21, 1914, p. 1870)

The Serum Vaccine, Bruschettini, sold by R. G. Berlingieri, New York, has for its aim the destruction of the tuberculous cell and the facilitation of its elimination by the natural expulsion process, it being held that this constitutes a victory in the struggle against consumption as much as obtaining the death and elimination of the specific bacillus.

The description for the preparation of this "Serum Vaccine" is complicated and makes the impression that it is based on a number of unproved hypotheses.

After an examination of the evidence submitted the Committee on Serums and Vaccines recommended to the Council that further consideration be postponed until the manufacturer submit proof of the value of the preparation. The Council having agreed to the recommendation, this action was communicated to the American agent for Serum Vaccine, Bruschettini, June 14, 1913. After waiting nearly a year for evidence to substantiate the claims made for the product the Council voted that Serum Vaccine, Bruschettini, be refused recognition. This action having been communicated to the manufacturer, the information was received September, 1914, that the Serum Vaccine is now used only in slight cases.

Sherman's Non-Virulent Tubercle Vaccine

(*From The Journal A. M. A., Nov. 21, 1914, p. 1870*)

Consideration of this product of G. H. Sherman, Detroit, having been requested, the Committee on Serums and Vaccines examined the information and advertising matter submitted. It then recommended that in view of the far-reaching claims made for this preparation, for example, that "comparatively small doses of the killed organism will produce a marked immunizing response to the virulent human tubercle bacillus," that consideration be postponed, and the manufacturer be requested to submit evidence—reports of animal experimentation and case reports—to substantiate his claims. After waiting more than six months for the required evidence, the Council voted that Sherman's Non-Virulent Tubercle Vaccine be refused recognition.

White Sulphur Salts

(*From The Journal A. M. A., Nov. 21, 1914, p. 1870*)

White Sulphur Salts, put on the market by the White Sulphur Springs, Inc., White Sulphur Springs, W. Va., is said to be an effervescing salt containing sodium phosphate, magnesium sulphate, sodium sulphate, and sodium citrate with an effervescing base consisting of sodium bicarbonate, citric and tartaric acids and saccharin. It is claimed that one teaspoonful of the mixture represents "the approximate equivalent of one glass of the White Sulphur Spring Water." Comparison showed that the composition of White Sulphur Salts as claimed did not agree with the submitted analysis of White Sulphur Spring Water, the spring water containing calcium, strontium, iron, manganese, lithium, silica and alumina, which were not present in the artificial salts. Further, one teaspoonful of the manufactured sulphur salts to a glass of water would contain from 50 to 75 grains of the several salts, whereas the White Sulphur Spring Water would

contain approximately 8 grains of the several salts. White Sulphur Salts being neither an artificial form nor an approximate equivalent of White Sulphur Spring Water, the Council held it not eligible for inclusion with N. N. R. or the appendix.

Unguentum Selenio Vanadic (v. Roemer)

(From The Journal A. M. A., Nov. 21, 1914, p. 1870)

Unguentum Selenio Vanadic (v. Roemer) is an ointment manufactured by A. von Roemer, Brooklyn, N. Y., and put on the market by Schering and Glatz, New York. It is claimed to contain 1 per cent. of selenium oxycyanid and 1 per cent. of vanadium chlorid "so prepared and incorporated into a modified lanolin base as to insure complete absorption." The preparation is recommended in the later stages of inoperable carcinoma, sarcoma, epithelioma and other malignant tumors, as a substitute for morphin and other narcotics to control pain, as a modifying (ante-operative) treatment in the middle stage of malignant cases presenting the characteristics of being inoperable, and as a prophylactic treatment of recurrences and metastases following excision of malignant tumors. It is also recommended for use in slow-healing surgical wounds, abscesses, tuberculous and mixed septic and gangrenous processes, etc., in lupus, acne, eczema, psoriasis, scabies, erythemata, adenomata, angiomata, papillomata, etc. The use of the ointment is further recommended by systemic inunction in septicemia, pneumonia, erysipelas, cerebrospinal meningitis, septic rheumatism, septic neuritis, etc. The Council voted that the preparation be not accepted for inclusion with New and Nonofficial Remedies because no evidence has been submitted that the vanadium and selenium are absorbed or that they produce any of the effects claimed.

When the preceding report was sent to Schering and Glatz, the firm expressed surprise that evidence of the absorption of selenium and vanadium should be requested. On June 8 the firm wrote that within a few days one or more tests would be sent by which the presence of selenium and vanadium in the urine could be demonstrated. These tests were not received. So far (November, 1914) no evidence of the value of the preparation either in carcinoma or in any of the very long list of other diseases in which it is recommended has been submitted, and, the pharmacologic evidence that such a preparation would be of value in such conditions being practically nil, the Council authorized publication of this report.

Alborum

(From The Journal A. M. A., Dec. 12, 1914, p. 2148)

The Whitehouse Chemical Company, Inc., Lynchburg, Va., gives the ingredients of Alborum (without specifying the proportions), as boric acid, alum, phenol and oil of peppermint, and its properties as antiseptic, germicide, deodorant,

astringent, hemostatic and prophylactic. The manufacturers recommend it:

". . . In the treatment of Leucorrhoea, Pruritus, Vaginal Catarrh, Gonorrhoea, Inflammation of the Genital Organs, and the various Diseases of the Vagina and Uterus . . . In burns, irritable painful lacerations, and in infected wounds, Alborum is often very serviceable."

Such recommendations for its use can only result in injury to the public health. The preparation lacks originality and is unscientific; its exploitation for the purposes suggested in the advertising matter submitted is contrary alike to the best interests of the public and to scientific medicine. The Council, therefore, held Alborum to be ineligible for inclusion with either New and Nonofficial Remedies or the appendix.

The Council's action was transmitted to the Whitehouse Chemical Co. for comment. Instead of objecting to the report, the company asked the Council to "cancel" the application for the examination of the product. Believing that the medical profession is entitled to the facts in the case the Council directed publication of this report.

Cysto-Sedative

(*From The Journal A. M. A., Dec. 12, 1914, p. 2148*)

Cysto-Sedative is sold by Strong, Cobb and Company, Cleveland, Ohio, with the claim:

"Each fluid ounce represents:
Thuja Occidentalis, 3½ grains.
Pichi, 18 grs.
Saw Palmetto berries, 36 grs.
Triticum Repens, 36 grs.
Hyoscyamus 8 grs.
All inert extractive matter being eliminated."

The therapeutically active constituents of arbor vitæ, pichi, saw palmetto and couch grass have never been isolated—indeed, it has not been proved that all of these drugs contain any therapeutically active constituents. Yet the absurd claims are made that all inert matter has been eliminated and each lot of drug used in the preparation of Cysto-Sedative is "tested in reference to its medicinal activity." Equally preposterous is the claim:

"In formulating Cysto-Sedative each drug entering into its composition was subjected to careful study clinically to determine the exact proportion required when combined to increase their efficiency as a whole. Cysto-Sedative is scientifically prepared, the proportion of each individual drug being so finely adjusted as to increase their therapeutic action in the conditions for which they are intended, forming a preparation always reliable and of the very highest medicinal activity."

Some other extravagant claims made for this complex unscientific mixture are:

"It gives relief in almost every form of cystitis and prostatitis . . ."

"The best results are obtained in the worst chronic cases of cystitis and prostatitis . . ."

"In Cystitis, Urethritis, Prostatitis, Inflammation of the Vesicle Neck, complicated with Gonorrhoea, Enuresis, Painful Micturition, the action of Cysto-Sedative is prompt."

The Council voted that Cysto-Sedative be refused recognition.

Gastrogen Tablets

(*From The Journal A. M. A., Dec. 12, 1914, p. 2149*)

The Bristol-Myers Co., Brooklyn, N. Y., sells Gastrogen Tablets which are described as "A Neutralizing Digestive" to be "used in connection with Sal Hepatica." Sal Hepatica, it will be remembered, is another product of the Bristol-Myers Company and has been the subject of previous unfavorable comment. The label on a recently purchased package of Gastrogen Tablets contains the following:

"For gastric distress, weak stomach and dyspepsia, one to two tablets after eating; repeat in half an hour if needed.

"Also indicated in nausea, flatulence, sour stomach and heartburn."

While these recommendations sound as if they were addressed to the public, Gastrogen Tablets are advertised in medical publications and hence come within the scope of the Council. Gastrogen Tablets are said to be composed of pepsin, calcium carbonate, calcium phosphate and "aromatics." As each tablet, according to the label, contains 7 grains of calcium carbonate (chalk), the recommended dosage would in most cases be sufficient to neutralize the gastric fluids in the stomach and would thus tend to prevent the pepsin from exerting its digestive effects. The means adopted to relieve one symptom of dyspepsia, in other words, defeats the action of the means for relieving the indigestion. The fact is that patients who need an antacid do not need pepsin, while those who need pepsin will be harmed by the administration of an antacid. Gastrologists hold that, except in rare cases, the evidence tends to show that wherever there is a sufficiency of hydrochloric acid there is a sufficiency of pepsin. When pepsin is lacking it should be administered along with hydrochloric acid to make it effective. The Council voted that Gastrogen Tablets be refused recognition.

Bannerman's Intravenous Solution

(*From The Journal A. M. A., Jan. 2, 1915, p. 70*)

Bannerman's Intravenous Solution (Wm. Bannerman and Co., Chicago) was refused recognition because vague, indefinite and misleading statements were made regarding its composition, because it was recommended for anemia, tuber-

culosis and syphilis under grossly exaggerated and unwarranted claims and because the intravenous injection of complex and indefinite mixtures is unscientific and dangerous. Notice of the action of the Council having been sent to the Bannerman Company, the firm submitted a revised statement of composition and also a revised advertising circular.

The claim is made that Bannerman's Intravenous Solution "is a compound of only the purest and proven efficient U. S. P. drugs." According to the latest statement:

Each 10 c.c. of Bannerman's Solution contains:

Hydrargyri Albuminas					
Mercury Content	1	1-9	Gr.	or 0.075	Gm.
Ferri Albuminas					
Iron Content	4	1-4	Grs.	or 0.286	Gm.
Sodii Chloridum	6	1-5	Grs.	or 0.412	Gm.
Calcii Salicylicum	4		Grs.	or 0.26	Gm.
Guaiacol	4		Grs.	or 0.26	Gm.
Creosote (Beechwood)	5		Grs.	or 0.32	Gm.

The solvent is said to be distilled water.

The formula is unsatisfactory in several particulars. The stated amounts of some of the ingredients are in excess of their solubility in water; the nature and amount of albumin contained in the "Hydrargyri Albuminas" and "Ferri Albuminas" are not given; the claim that the solution contains only U. S. P. drugs is not true. But the main objection to the preparation is its unscientific character and the unwarranted therapeutic claims made for it.

Even though a patient had all three diseases, syphilis, tuberculosis and anemia, it would be most irrational to use a shotgun prescription, containing, in fixed unvarying proportions, mercury for the syphilis, iron for the anemia and germicides for the tuberculosis. In syphilis the mercury-content of Bannerman's Solution is inadequate; in anemia the intravenous administration of iron is unwarranted, and in tuberculosis there is no evidence that the injection of bactericides is efficient.

Exception must be taken, moreover, to the statement that "its use is absolutely safe." The danger of anaphylaxis from repeated injections of albuminates cannot be disregarded, and as J. F. Anderson, director of the Hygienic Laboratory, has pointed out[1] we know little of the secondary or remote effects of the intravenous injection of toxic substances; some of them probably do permanent harm.

Such claims as the following require no comment:

"It builds up and increases the hemoglobin in the blood.
"It increases the number of red blood corpuscles.

1. The Journal A. M. A., July 4, 1914, p. 1.

"It regulates the white cells.
"It stimulates cell growth; therefore, it is reconstructive.
"It is a powerful antiseptic.
"It is useful in any septic condition."

In view of the facts given, the Council again refused recognition to Bannerman's Intravenous Solution.

Prunoids

(From The Journal A. M. A., Jan. 2, 1915, p. 71)

Prunoids are tablets put out by the Sultan Drug Company, St. Louis. They are said to be:

"Made of Phenolphthalein (one and one-half grains in each), Cascara Sagrada, De-emetinized Ipecac and Prunes."

The following report on the composition of Prunoids is submitted by the Association's Laboratory:

"From an examination of Prunoids it is concluded that the amount of cascara or extract of cascara in the preparation is very small. Also the quantity of "de-emetinized ipecac" is insignificant. The claim is made:

"The levulose of prunes, a constituent of Prunoids, is hygroscopic and thus when brought into contact with the saliva of the mouth or contents of the stomach, disintegrates and prompt medication is insured."

"Actually the amount of prunes which may be present in Prunoids is negligible. For all practical purposes, therefore, Prunoids are phenolphthalein."

According to the information included on and in the box Prunoids are

"An Ideal Laxative, Purgative, and Intestinal Tonic" . . . "particularly adapted to the treatment of constipation . . ."

They are said to act as an "intestinal tonic"—a claim which in the light of the examination is obviously unwarranted—and because of this it is said that they:

"Will permanently remove constipation without causing after constipation."

The trade package assures the purchaser that Prunoids are:

"Recommended by Physicians Generally."

A circular sent to physicians makes the unwarranted claim that Prunoids are "especially serviceable" in ". . . Neurasthenia, Jaundice, Chlorosis, Rheumatism, Gout . . ." and that

". . . their success in gouty diathesis and vague rheumatic symptoms tends to confirm the opinion expressed by some physicians that they have a solvent action on uric acid."

In the following the haphazard and ill-considered use of purgatives is suggested:

"For the expectant mother, or in the treatment of female diseases, for bowel elimination, no happier or *safer* selection can be made."

The Council refused recognition to Prunoids because the statement of composition is incomplete and therefore meaningless; because unwarranted therapeutic claims are made for them; because the name "Prunoids" gives the false impression that they depend on prunes for their effect; and because it is irrational and a detriment to medicine to disguise a well-known drug by means of a misleading name and to attempt to create the impression of special virtues by combining it with superfluous drugs.

Sedobrol "Roche"

(*From The Journal A. M. A., Jan. 2, 1915, p. 71*)

Sedobrol, put out by the Hoffmann-LaRoche Chemical Works, New York City, is said to contain "17 grains Sodium Bromid, 1.5 grain common salt, fat and seasoning," and to furnish, "on solution in hot water, a very palatable Bouillon." The following report on Sedobrol was submitted to the Council by a member of the Committee on Therapeutics and after discussion endorsed by the Council:

In the opinion of the referee such a preparation of sodium bromid is an unessential modification or combination of official drugs. The advertising literature advocates its use for "stage-fright" and for "arteriosclerosis," both ridiculous suggestions, and the further preposterous statements are made:

". . . small quantity of chlorid present lessens the risk of anaphylaxis [in nephritis] when the ordinary diet is resumed."

". . . it is . . . suitable for administration to discriminating patients who may be averse to taking drugs. The psychic effect of the hot cup of bouillon in neurotic cases may be useful in certain conditions."

The foregoing quotations make it evident that a large dose of bromid is to be employed in the guise of a "cup of bouillon" and the name of the preparation further carries out this deceit. This means encouraging self-medication with a powerful and dangerous drug.

"Sedrobrol 'Roche' gives a savory flavor to unsalted soups. Vegetables, roasts, farinaceous foods, etc., cooked without salt, can be made perfectly palatable by employing for the purpose a strong solution of Sedobrol 'Roche', 1-3 tablets to 4 ozs. of hot water, as a sauce or gravy."

In other words, in a salt-free diet these large doses of bromids are urged as a substitute for chlorids, simply to flavor the food! A more reckless method of medication has rarely been advertised, for the recommendations for the use

of this "flavoring" are not limited to the use of epileptics. The claim that this preparation has increased the number of cases of cure in epilepsy is preposterous on its face.

The referee recommends that Sedobrol "Roche" be refused recognition because it is unscientific, because of exaggerated and misleading therapeutic claims and because its use is likely to mislead both patient and physician into useless and pernicious medication.

Citarin

Deleted from New and Nonofficial Remedies

(From The Journal A. M. A., Feb. 20, 1915, p. 685)

Citarin, a product of the Farbenfabriken vorm. Friedr. Bayer and Co. (The Bayer Company, Inc., New York) admitted to N. N. R. in 1906, is discussed in New and Nonofficial Remedies, 1914, as follows: "This is one of the compounds which it is claimed increase the elimination of uric acid by forming very soluble compounds with that substance. Citarin is claimed to be useful for gout and chronic rheumatism." The referee of the Council in charge of formaldehyd derivatives reported that Citarin is recommended chiefly, if not solely, for increasing the solubility of uric acid in gouty conditions, this supposed effect being referred to the liberation of formaldehyd as Citarin is the sodium salt of an acid obtained by acting on citric acid with paraformaldehyd. The view that the solubility of uric acid could be increased by any such measures in the body has now been generally abandoned. For this reason the Council held that experience has failed to demonstrate the value of Citarin and directed its omission from the next edition of New and Nonofficial Remedies as a useless and unscientific product (Rule 10).

Antitubercle Serum

Deleted from New and Nonofficial Remedies

The Council voted that Antitubercle Serum, Parke, Davis and Co., Detroit, be omitted from New and Nonofficial Remedies because experience has failed to show the value of serums in the treatment of tuberculosis.

Antityphoid Serum

Deleted from New and Nonofficial Remedies

The Council voted that Antityphoid Serum, Burroughs Wellcome and Co., New York, be omitted from New and Nonofficial Remedies because experience has failed to show the value of serums in the treatment of typhoid.

Blandine Laxative, Mulford

Blandine Laxative, Mulford (H. K. Mulford Company, Philadelphia) is a name applied to heavy liquid petrolatum or liquid paraffin, B. P. The Council held Blandine Laxative, Mulford, ineligible for inclusions with N. N. R., because the Council thinks it objectionable to apply proprietary names to well-known or official products (see N. N. R., 1914, p. 14, "Objectionable Trade Names for Official Substances"; also Rule 8).

Diphtheria Antitoxin, Hubbert

Deleted from New and Nonofficial Remedies

William R. Hubbert, Detroit, Mich., advised the Council that he had discontinued the manufacture of biologic products. The Council directed that the description for Diphtheria Antitoxin, Wm. R. Hubbert, be omitted from future editions of New and Nonofficial Remedies.

Endotin

Deleted from New and Nonofficial Remedies

The Council was advised that the sale of the tuberculin preparation Endotin, Tuberculin Gesellschaft, St. Petersburg, Russia (Morgenstern & Co., New York) was not authorized by the Treasury Department. Accordingly the Council directed that the acceptance of Endotin be withdrawn, and that it be omitted from New and Nonofficial Remedies.

Friedmann's Vaccine

As no license has been issued by the Treasury Department for the sale of Friedmann's Vaccine, Standard Distributing Company, New York, in interstate commerce in this country, and as it has been adversely reported on by the United States Public Health Service the Council voted to give the product no further consideration until its sale in interstate commerce has been authorized.

Glycotauro Pills

Deleted from New and Nonofficial Remedies

Hynson, Westcott and Co., Baltimore, have advised the Council that Glycotauro Pills, one of the dosage forms of Glycotauro, is no longer offered for sale. The Council directed that in future editions of New and Nonofficial Remedies the description of Glycotauro be modified to omit reference to Glycotauro Pills.

Kaffee Hag

This product (Kaffee Hag Corporation, New York) was held to belong to the classe of "invalid foods" which, along with baby foods, the Council has so far not found it expedient to consider. Accordingly, the Council held that Kaffee Hag did not come within the scope of the Council.

Supracapsulin

Deleted from New and Nonofficial Remedies

The Cudahy Packing Co. advised the Council that it had discontinued the sale of Supracapsulin Inhalent, Supracapsulin Ointment and Supracapsulin Solution, epinephrine preparations admitted to New and Nonofficial Remedies. In view of this the Council voted to omit the descriptions of these epinephrin preparations from future editions of the book.

Tuberculin, von Ruck

Deleted from New and Nonofficial Remedies

New and Nonofficial Remedies, 1914, contains a note stating that the Bacterio-Therapeutic Laboratory, Asheville, N. C., is licensed to manufacture tuberculin preparations including Watery Extract of Tubercle Bacilli (von Ruck) and Tubercle Bacilli Emulsions (von Ruck), but that these latter are supplied only on special application. As the Council had not examined the claims made for Watery Extract of Tubercle Bacilli (von Ruck) and Tubercle Bacilli Emulsions (von Ruck) and as this note might be taken to indicate that these products had been accepted, the Council voted that reference to them be omitted from future editions of New and Nonofficial Remedies.

Vaccines, Squibb

Deleted from New and Nonofficial Remedies

The Council was advised by E. R. Squibb and Sons, New York, that the sale of the following dosage forms of the accepted articles had been discontinued:

Acne Vaccine: Packages of 6 ampules containing 5, 10, 25, 50, 100 and 200 million killed bacteria.

Whooping Cough Vaccine (Bordet-Gengou Bacillus): Ampules containing 100, 350 and 500 million killed Bordet-Gengou bacilli.

Gonococcus Vaccine: Packages of 6 ampules containing respectively 50, 100, 150, 200, 350 and 500 million killed bacteria.

Pneumococcus Vaccine: Packages of 6 ampules containing 20, 50, 100, 500 and 1,000 million killed bacteria.

Bacillus Coli Communis Vaccine: Packages of 6 ampules containing 100, 500 and 1,000 million bacilli.

Meningococcus Vaccine: Packages of 3 ampules containing 100, 500 and 1,000 million killed bacteria.

Pyocyaneus Vaccine: Packages of 6 ampules containing 100, 500 and 1,000 million killed bacteria.

Staphylococcus Vaccine: Packages of 6 ampules containing respectively 100, 500 and 1,000 million killed bacteria.

Staphylo-Acne Vaccine: Packages of 6 ampules containing 100 million killed staphylococci and 20 million killed acne bacteria; 500 million killed staphylococci and 50 million killed acne bacteria; 1,000 million killed staphylococci and 100 million killed acne bacteria.

Streptococcus Vaccine: Packages of 6 ampules containing 100, 500 and 1,000 million killed streptococci.

Typhoid Vaccine: Packages of 3 ampules containing 500 and 1,000 million killed bacteria.

The Council voted that the descriptions of these dosage forms be omitted from N. N. R.

Vaporole Emetine Hydrochloride

An examination of Vaporole Emetine Hydrochlaride, Burroughs, Wellcome & Co., New York, showed it to be in conflict with Rule 4 in that enclosed with the trade package was a circular advertising Epinine, a product which the Council has rejected for conflict with Rule 6 (misleading claims). The manufacturer having taken no steps to make the product eligible, the Council voted that it be not accepted.

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