What to Do With Our Boys and Girls

By

Sir Geo. Baden-Powell, Bart.

Sir Herbert Maxwell, Bart.

Miss Clementina Black,

and Other Writers

Edited by John Watson, F.L.S.

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EDITED BY JOHN WATSON, F.L.S., &c., &c.

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EDITORIAL NOTE.

It will probably be agreed by parents and guardians that the question as put by the title of this book is not satisfactorily answered by *Punch's* laconic advice —Marry them. The problem—What to do with our Boys and Girls—is serious and pressing, and one which every year becomes more difficult to answer. In the following pages an endeavour has been made to suggest new channels for work, rather than new occupations. It is true that the rapid advance which has been made of late years in all that pertains to electricity, for instance, suggests almost untold possibilities both in this country, and abroad; yet one new opening, however great its demands, can only put work into a small proportion of the eager hands which are always awaiting their opportunity. Our great, and, as yet, undeveloped colonies, naturally suggest themselves as valuable training-grounds for vast numbers of boys and girls. To obtain reliable advice on this head the editor sought the assistance of Sir Herbert Maxwell, M.P., and Sir George Baden-Powell, M.P. These gentlemen have made a special study of the present conditions and

possibilities of our colonies, and their suggestions and advice will doubtless be read with profit; at all events they are absolutely disinterested.

To fully answer the question proposed by the title of the book would require more space than has been placed at the disposal of the writers; but the advice given is, we believe, sound.

As to the class of subjects treated of, an endeavour has been made to select those fields of labour which include the greatest number of well-paid workers—openings which are mainly applicable to the great middle class.

With the decided advance which has been made in all that pertains to domestic science, an ever-increasing demand for skilled cooks and nurses has to be met; and in two of the following chapters advice is given under these heads. Miss Clementina Black suggests new openings for women; and the Excise and Customs which annually offer so many favourable openings for men have been treated of by competent writers.

It has been found necessary to offer certain warnings as to already over-crowded professions, and it is hoped that this may prove useful in enabling prospective workers to avoid almost certain failure.

In conclusion, the editor hopes that the following short chapters may be found of a practical nature; and he believes that the names of the writers are a guarantee of the ability which has been brought to bear on the subject,

J. W.

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No. 1.

ON GOING OUT TO THE COLONIES.

CANADIAN OPPORTUNITIES.

BY

SIR GEORGE BADEN-POWELL, BART., M.P.

I.

ON GOING OUT TO THE COLONIES.

CANADIAN OPPORTUNITIES.

THE problem with which I have been asked to deal is pressing, and to all appearances will be more and more pressing for many years to come. In the United Kingdom each day, every twenty-four hours, an average of, say, 1,500 human beings die, while on the other hand, more than 2,500 babes are born into the world. The consequence is that each week makes it necessary, at some future date, to determine how livelihoods are to be devised for not fewer than 8,000 persons; each year it is necessary to find employment for nearly half a million—men, boys, and girls.

"GO WEST, YOUNG MAN!"

"Go West, young man!" is the legendary American advice, and "Go West, young woman!" has been the case, whatever the advice, in the crowded Atlantic States of America. Without doubt, in the case of the United Kingdom, emigration and migration have been the great outlets for much of this increase of population. At the same time we know from recent statistics that at least

one-half of the growth of the United Kingdom is absorbed annually in new employments in the old country.

Lord Beaconsfield, in that most useful novel, "Endymion," makes his wise man point out clearly that what England needs is not new measures, but new channels. Not policies and Acts of Parliament, but new openings and outlets for her people and their enterprises—these are what are more than ever needed. A nation rapidly creating wealth and increasing rapidly in population must have new channels, or we come to this sad dilemma—we have our boys and girls, but nothing for them to do.

EMIGRATION AND COLONIZATION.

If we look to facts, and especially to the unnoticed undercurrents of actual life, we find that all classes intuitively turn to our colonies, to our great empire, as to some natural outlet, some new channel. The House of Commons recently appointed a Select Committee to consider the whole question of emigration and colonization, and that committee sifted a vast mass of evidence. Out of it all came the one leading conclusion, that by a thousand-and-one private channels, emigration proceeds steadily and in a continuous current through all the years. The undercurrent of fact continues steady, no matter how the surface eddies and even whirlpools may misrepresent the set of the great stream to the eye that only sees the surface.

While our colonies thus provide real outlets, the public

eye does not perhaps appreciate what these colonies really are, and still less what they are certain to become in the near future. In this chapter I had best confine myself to some one group of our colonies, and I will take that which lies nearest to us, the great Canadian Dominion—although most of what I shall say will, of course, be applicable, *mutatis mutandis*, to Australia or to South Africa.

CANADA.

To any one who has wandered and sojourned, as I have done, in various parts of Canada, and made note of the products, climate, and soil at various seasons of the year, there recurs at every turn the thought that it resembles, with a strange closeness, the countries of Northern Europe. In area, the fertile belt of Canada, from Nova Scotia to Alberta, may be well likened to the stretch of country from Holland through Westphalia and Prussia to the "German" provinces of Russia. There may be indications of greater mineral wealth and greater fertility of soil in Canada; and if the winters are more settled and perhaps colder, the summers are warmer. On the whole, temperate Canada is every whit as favourable to the production and profitable work of men as Northern Europe, and quite as extended in area. Wherefore we are entitled to argue that there is no reason why Canada should not come, and that at no distant date, to supply and support an equally numerous, an equally hardworking and an equally vigorous mass of human beings. With such perfectly legitimate reasonings in our mind we are

necessarily drawn to the conviction that in the near future there will and must be a great filling-up of Canada. What does this mean to our boys and girls ?

GREAT POSSIBILITIES.

Two results follow. On the one hand, there is thus opened up a new great prosperous community, reflecting, in the ordinary course of trade and investment, increased prosperity and employment in the old country—so that more and more boys and girls are enabled to earn livelihoods.

On the other hand, in populating, in opening up, in working this great new country, our boys and girls, of all classes, find a great field for new and profitable employment. Such is the general aspect which entices us to consider the particular details.

Most of us know among our relatives and friends of numerous instances of emigration. Most of us have heard something, at all events, of the difficulties and the successes, of the failures and the fortunes of emigrants. But we do not, all of us, hear so much or understand so much of the commonplace quiet well-being of the great bulk of emigrants. We do not, all of us, appreciate the great steady current of transference of population to our great colony of Canada. We do not appreciate that, drop by drop and day by day, a stream, great in its aggregate volume, sets across the Atlantic, and steadily occupies and fertilizes the great North American Continent.

Of late years, especially, this stream has set in the direction of the Canadian interior—a tendency due to the opening up of new railway communication, and the rapid extension of means of carriage even to the remotest parts. In earlier years the Grand Trunk Railway "connected up" the provinces and districts of the older Canadas. In recent years the same good work for the newer provinces, away to the Rockies and the Pacific, has been accomplished by the Canadian Pacific Railway. This great line was constructed, with Government aid, by far-sighted men of business through a fertile wilderness, in the sure hope that in future years populations would come and cultivate and occupy. But, to the surprise of the promoters of the railway, traffic seemed to spring out of the wilderness as if by magic from the very first, and already all along 3,000 miles of new railway in this new country one sees abundant signs of settlement and industry.

GIRTON GIRL OR FARM GIRL.

This go-ahead colony is just the country for our boys and girls. No matter what class they belong to—the Girton girl or the farm girl, the university graduate or the fisher-boy—here if they come, not afraid to work, they will find immediate employment, and will have bright prospects, impossible in more populated centres. The whole country-side must rise rapidly in prosperity, and carry its population with it. As an indication, take the value of land. At the present moment any "boy," of age, can obtain 160 acres for absolutely nothing—if he will only go and work and live upon it. Of course, as

years roll by, all the land along the great railways, near or in the towns, otherwise favourably situated, becomes private property, and settlers have to go further and further afield for the free grant of Government land. But, as population comes in, for a variety of reasons the selling value of land rises, and many a working man taking up a free grant of 160 acres as a lot, has, in a few years, been able to sell at a high price and take up a new 160 acres, with the comfortable satisfaction of several hundred pounds sterling invested in his own name. With the inevitable growth of population, not only the value of land, but the value of all trades and professions steadily grows. Thus, the lad who can shoe a horse and start a blacksmith's shop on a rough and small scale where he may settle among scattered farmers, in a year or two finds himself in a village which has grown up around him, and in a year or two more, in a township. So, too, with any other person of industry—the storekeeper or the doctor, the barber or the lawyer—the district very rapidly grows, and with it all the circumstances and opportunities of any particular trade or profession.

Such are the very hopeful opportunities of this great new land. But to those who are responsible for the careers and welfare of our boys and girls who emigrate I would urge that two conditions be observed. In the first place the boy or girl of whatever class must only go to Canada *to work*. The one main idea must be work, the one great leading thought work. The new country is the one place for work; the place above all others

where honest labour reaps the greatest harvest. But it is the place above all others where there is no room for the idle, and where loafers of any kind most speedily meet with ruin.

WORK! WORK! WORK!

The second condition I would lay down for our boys and girls who go out to Canada, whether as single emigrants or in families, is that from the very outset they should be employed—they should be at work, whether for relatives, friends, or strangers. Whether the "girls" go to "stay with friends," or as servants; whether they go as governesses or as dairy maids—let them go; and only go under contract or promise, to take personal part in the work of some household or establishment. And the same with the "boys." If they go out let them go direct to the ranche, or the mill, or the farm, upon the distinct understanding that they take part in the work going on. Their parents and guardians must see to this, and they will find for all classes reliable organizations, reliable channels for effecting their purpose, and by means of emigration providing bright prospects of work and well-being for the younger generations as they arise. In Canada, in building up their own fortunes, they will have the satisfaction of knowing they are building up a vigorous nation of British stock; and a great number of parents and guardians will find they have successfully solved the pressing problem of "What to do with our boys and girls."

No. 2.

ON GOING OUT TO THE COLONIES.—II.

AUSTRALIAN OPENINGS.

BY

SIR HERBERT MAXWELL, BART., M.P.

II.

ON GOING OUT TO THE COLONIES.—II.

AUSTRALIAN OPENINGS.

CROWDED as we know the world to be—overcrowded already as some think—and keen as the competition is for every promising opening, the question, "What are we to do with our children?" is not one that need yet be asked in despair. Still it is one that, for the majority of parents, is attended with some perplexity. There are more human beings on the face of the earth than there ever were before, there is, consequently, less unoccupied space, and less room for enterprise. This difficulty is balanced by greater facility of access to remote lands, and by the fact that the increase of the population and of the demand for comfort and the means to pay for it, carry with them a proportionate addition to the field of profitable employment. On the other hand, the general rise and spread of education unfit many of those now entering life for pursuits and occupations into which, with a lower degree of culture, they would naturally have been drawn. Under the compulsory system which has been in force for nearly twenty years in this country, a generation has grown up with views, it must be confessed, far beyond their station: the children of working men enter life equipped with instruction equal to the average of that of

the leisured classes a hundred years ago. The necessary result is increased fastidiousness as to the means of making a living, and a corresponding limitation of choice. A labouring man's son who has acquired a nice taste in English composition hesitates to make the plunge into surroundings where he fancies his gift will be thrown away ; a small tradesman's daughter who has taken prizes in extra subjects at the Board School may feel her culture a hindrance rather than a help, in providing herself with the means of living. Knowledge is power, it is true, but she is a mutinous handmaid to judgment. This is the chief cause of the fact brought out by each recurring census, namely, that the rural population is steadily diminishing. The children of agricultural labourers flock into the big towns, preferring employment as clerks or shop-assistants to the routine of farm-work, of which education has made them impatient. Perhaps some of them think regretfully in after-life of the free air and green fields, and murmur Virgil's apostrophe, "*O fortunatos nimium, sua si bona nôrint, agricolas.*"

The question, therefore, "What shall we do with our boys and girls?" resolves itself mainly into another—"What are our boys and girls fit for?" In what career will their load of knowledge prove a power rather than an enervating influence—a weapon rather than a useless incumbrance? The British colonies naturally suggest themselves as promising fields for young lives. Ever since man was on earth, the children of men have had to move into new lands, as the old became settled up; but in many of our colonies competition has become as keen as

in the mother country, and these have given unmistakable signs of impatience with new-comers. Moreover, the report of the Select Committee of the House of Commons on colonization, which has just been issued, contains a sentence well worthy of the attention of those who contemplate emigration.

"The evidence . . . has not shown that any extensive measure of emigration is at present necessary for the greater part of the United Kingdom. On the contrary, by all the tests of national welfare, the volume of pauperism and crime, the condition of the industrial classes, the ruling rates of wages, the regularity of employment, and the accumulation of savings, it is apparent that hitherto the country generally has been able to maintain its vastly increased population, on the whole, better than other European countries, or than the United Kingdom itself was able to maintain a much smaller population in the first half of the present century."

It is evident, therefore, that young persons seeking their fortunes in distant lands may, unless well advised, be faring further to fare worse.

A PROMISING OPENING.

But from time to time the door opens and the way is pointed out to exceptionally promising fields of labour. Such seems to be the case at the present time in the Irrigation Colonies on the River Murray, established under Acts of the Colonial Parliaments for the encouragement of "intensive" horticulture and agriculture. These are worked, under Government inspection, by the Irriga-

tion Company (Messrs. Chaffey Brothers, Limited), who are bound to lay out specified sums on irrigation works and rabbit-fencing at Renmark, in South Australia, and Mildura, in Victoria; the freehold of the land so treated is offered to investors at the price of £20 an acre for fruit farms, and £15 an acre for land prepared and suitable for ordinary agriculture. The statutory maximum permitted to be bought by any individual is eighty acres of fruit farm (£1,600) and 160 acres of agricultural land (£2,400), but the maximum extent or any less amount of each may be bought and held by one person. Fruit land cannot be bought in lots of less than ten acres (£200), but persons with even less capital at command than this sum are encouraged to invest by the provision enabling two or more partners to become owners of the minimum quantity of ten acres. Again, to suit wealthier investors, it is provided that each of a firm of partners may purchase the statutory maximum of land.

If deferred payments are more convenient to the settler's circumstances, a deposit of £2 per acre of fruit land has to be paid on application, the balance of the purchase-money (to which 5 per cent. interest is added) being payable by monthly instalments extending over ten years or any shorter term that may be agreed on. Thus, for each horticultural allotment of ten acres the purchaser has to pay £20 deposit, and thereafter £2 7s. 6d. a month for ten years. For agricultural land the deposit is £1 an acre and 3s. 6d. an acre each month thereafter for ten years. Further, where it is preferred, irrigated agricultural land can be had on lease for a term

of years, the conditions being that one-quarter of the gross annual produce is paid as rent, and there are special arrangements for enabling tenants under such agreements to purchase their holdings within a given term of years. Every purchaser of lands (whether for cash or by deferred payment) receives one fully paid-up share in the Irrigation Company for each acre of land in his possession.

ESTIMATED OUTLAY.

Such, very briefly stated, are the principal conditions as given in the Company's memorandum under which the lands are offered. Let us now see what is to be done with lands thus acquired, what further outlay is likely to be required in order to bring them into bearing, and what market there is for the produce. The following is the Company's estimate of the outlay on one ten-acre horticultural allotment at Mildura, purchased on the time payment system, one half planted with oranges and the rest with raisin vines, the cost of labour being calculated at the rates charged by the Company for cultivating the holdings of non-resident owners. Of course if the owner gives his own labour on the holding the disbursement would be lessened by so much.

FIRST YEAR.	Rate.	£ s. d.
Deposit on 10 acres	£2 0 0	20 0 0
Twelve monthly instalments	£2 7 6	28 10 0
Tithe charges		3 7 0
Clearing 10 acres (open country) say ...	£0 10 0	5 0 0
N.B.—If timbered land be selected, the cost of clearing will be from £2 to £4 10s. per acre.		
		£56 17 0

The above are the charges on taking possession.

Cultivation.—First Year.

	Rate.	£	s.	d.
Ploughing or scarifying (18 inches deep) ...	£1 5 0	12	10	0
Grading or levelling (cost varies from 10s. to 30s. per acre, according to configuration of ground), say	£1 0 0	10	0	0
Planting, cultivating, irrigating, pruning, and tending for twelve months	£7 0 0	70	0	0
Water rate, about 6s. per acre per annum ...		3	0	0
Plants—five acres oranges	£9 12 0	48	0	0
„ five acres raisin vine cuttings ...	£1 1 0	5	5	0
Fencing—cost of one end (7 chains) ...	£0 15 0	5	5	0
Half cost of division fence, viz., two sides and one end (37 chains)	£0 7 6	13	17	6
Gate		3	5	0
Expenditure first year ...		£171	2	6

SECOND YEAR.

Twelve monthly instalments	£2 7 6	28	10	0
Cultivation—Tending, pruning, irrigating ...	£5 0 0	50	0	0
Water rate		3	0	0
Expenditure second year ...		£81	10	0
Total expenditure first two years		£309	9	6

The third year's outlay will also be £81 10s., after which the yield should be ample to cover all expenditure, including instalments on land. It must not be overlooked that in addition to the outlay on ten acres of fruit land, estimated above at nearly £400 in three years before any return can be looked for, there remains to be provided a house or lodging and the cost of living. It follows, therefore, that the intending freeholder of ten acres of this description of land must have £600 or £700 at command.

But those who have the mind and muscle necessary can obtain work at remunerative wages to keep them while their land is being brought into bearing by the Company. Once the returns begin, all the evidence points to steady and handsome profits. The climate is said to be perfect for fruit-growing, and the soil under the influence of irrigation extremely fertile. The vine, orange, lemon, fig, and olive, as well as stone-fruit and Zante currants, bear profusely, and the produce can be sent off at reasonable rates and remunerative prices. Oranges seem at present to pay best; Lord Ranfurley, who with his partner, Mr. Aylmer, owns 480 acres of horticultural and arable land at Mildura, is quoted as stating that he examined the books of one grower, which, from trees thirteen years old, showed a return of £80 per acre; another from trees sixteen years old, £100 to £240 per acre.

The Victorian Government has voted bonuses for the encouragement of horticulture; for every acre of vines planted, £2 in three years; for every ton of grapes dried, £5 up to twenty tons; for raisins exported, 25 per cent. on the price in the country of sale, &c.

WHEN TO START.

The best season for intending settlers to arrive is not later than March or April, the beginning of the Australian winter. Planting begins in July or August, and there is much work to be done in clearing and preparing the ground, which could not be overtaken by one arriving in May or June. But one having friends out there on whom he could rely to select a block, could arrange with the

Company to have the clearing and planting done and the cultivation maintained for the first two or three years, so that he could enter upon his possession when it would begin to be remunerative.

A writer should be shy to recommend a new territory as a field for settlers, especially when he has not personally inspected the ground. But so far as can be gathered from careful inquiry—both from documents and from friends who have visited the farms—the conclusion which may fairly be formed as regards the colonies of Renmark and Mildura, is that they are fields of exceptional promise for the enterprise of diligent, healthy men of active habits, and that, although the prospects might be altered by disease on the plants or fluctuation in markets, the probability is that land in that territory will increase in value as time goes on and railway and steamboat facilities increase. One thing is tolerably clear, that if *la petite culture* is to be undertaken with any hope of making anything but a bare living out of it, it is under the steady climate, on the rich soil, and with the plentiful water supply of such places as these settlements on the Murray River.

No. 3.

MECHANICAL ENGINEERING FOR MEN.

BY

GILBERT GILKES, Esq.

(*Assoc. M. Inst. C.E.*

III.

MECHANICAL ENGINEERING FOR MEN.

YOUR boy is thirteen or fourteen years old, and you wish to choose some calling for him in which he will have a fair prospect of success. You would like to decide as soon as you can, because you wish the remaining years of his school career to be spent in such a way as rather specially to qualify him for the business or profession which he is to follow. If you wish to make him an engineer, you must not be satisfied that it is a right step because you see nothing against it. Negative reasoning will not do; there should be positive aptitude. You may be satisfied with his power of application, his perseverance, and his general ability; you may be inclined to think that he will succeed in anything he undertakes. This is not enough; before you decide that he shall be an engineer you must be convinced that he naturally possesses the needful qualifications. Engineering draws to itself, by a subtle force, so many who have the needful gifts that those, and those alone, who take to it *con amore* will really succeed. If your boy has fair abilities he may work amongst engineers and maintain himself, and be very useful; but if he has not within him that which will

make his work a living and satisfying interest, you will probably find him when middle-aged a draughtsman working out the inspirations of others, or, if figures be his strong point, working out weights and strains for those who invent and design. We need not say that such occupations are useful and honourable, but they are underpaid. Many good draughtsmen are to-day working for less wages than fall to the lot of a good working fitter or blacksmith.

No father would try to educate his son as a musician if he could scarcely discern the difference between harmony and discord. The choice of music as a profession is almost invariably preceded by some display of natural aptitude. Real success in engineering is quite as dependent upon the natural qualifications.

If you think that your son has what is commonly called a turn for mechanics, watch the boy, do what you can to encourage him to train his hands, and as his dexterity developes, a definite constructive ability may show itself. Take note of his earliest endeavours to make any little thing he may want—let him have a few tools, not many—give him an old clock to clean, or to make use of its parts in his own way. A little help may stimulate his efforts. If he has a real mechanical bent, mechanical pursuits will, long before his school-days are over, fascinate him, and you will know beyond all question that it is not a passing whim. If you do not yourself possess any mechanical knowledge or ability, let others who have see the boy's work and advise you. Above all, do not be in a hurry to settle his future career, for whatever

you may ultimately decide, he cannot fail to be a gainer by the development of even a slight mechanical ability. The mere attainment of handiness will serve him all his life, and he will thank you for it hereafter.

A COMPREHENSIVE EDUCATION.

Let us assume, firstly, that you have good ground for thinking that he will make an engineer; and secondly, that several years of school life are before him. If possible, let special attention be given to drawing, not only copying mechanical drawings, but sketching machine parts and drawing to scale from models. Encourage him to read books on dynamics, pneumatics, and hydraulics. If he is so fortunate as to be at a school where these sciences are regularly taught, he will be the more ready, when he leaves school, to understand their varied application. Your boy is to be a mechanical engineer, and it will be well, if circumstances render it possible, to give him a year or two at some engineering college after a while, but not just after his school course is completed; he should first devote himself for at least three years to practical mechanics. In that time he should learn what a vast field there is before him; he will have realized the absolute impossibility of mastering every branch of engineering, and circumstances will have guided him to the choice of some branch in which, whilst gaining a general knowledge of many branches, he intends to excel. When he goes to an engineering college he will apply himself especially to the study of the branch he has chosen. His three years of workshop life will have

enabled him to understand the drift and aim of the theoretical teaching which will then occupy much of his time and thought. His practical experience will tend to make him thorough in his theoretical research.

We must retrace our steps a little, and assume that your son at about seventeen years of age is leaving school, and that after a short holiday he will enter upon what we have called his three years of workshop life. Where is he to go? The question is of the deepest importance, and in dealing with it there are several things which must be kept steadily in view.

BEWARE OF LARGE WORKS.

He is not to learn a handicraft trade, though he will be to blame if during three years he does not acquire some skill. But few young men will master one branch of mechanical labour in less than six or seven years, and your son has much ground to cover in various departments, and only three years to do it in. You must find a master who does not expect to obtain profit from his labours, but one who is ready to let him move forward from one department to another as soon as he acquires an intelligent comprehension of what he is about. Beware of very large works. There are few such in which the pupil has the least chance. There may, it is true, be a good many different kinds of engineering work going on in a large establishment, and one would say at first sight that the knowledge to be gained would be of a general character. The danger lies in the fact that the lad might possibly gain knowledge of the various branches of

mechanical engineering trades as applied to one special manufacture only.

The same difficulty as that suggested in the last paragraph will be found in small works that are almost entirely dependent on some speciality, such as steam hammers, lathes, &c. The same objection applies to works where the manufacture is confined to small engines. The success of such an establishment depends largely on keeping the individual men at work on the same portion of an engine year after year. In such an establishment a visitor commenting upon the marvellous dexterity with which a smith was making cranked shafts, was answered by the workman, "No wonder, I have made nothing else for thirty years." Your boy will learn more among men of *general* than of *special* ability.

THE RIGHT WAY.

Choose a place where the master is himself a *bonâ fide* engineer, not merely a manufacturer of things which are designed by engineers. An engineer loves his calling, and, unless he is a singularly selfish man, he loves to see his pupils make the best use of their opportunities. In overgrown establishments, where almost everything is necessarily delegated to subordinates, the advantage of personal supervision is to a large extent lost.

Some knowledge of foundry work is most desirable. Avoid, therefore, works where the castings are not made at home.

If the master with whom you ultimately decide to

place your son is worthy of the trust you repose in him, you had better leave the arrangement as to the time to be spent in each department in his hands. He will probably send him into the pattern shop first. The work there is principally made from drawings, and the knowledge of drawing from models, acquired at school, will come into play, and much that a draughtsman should know will be learnt by working from drawings. The pattern-maker is in such close touch with the moulder that the pupil will almost unconsciously learn a good deal of the moulder's trade. Moulding itself is hopelessly out of his reach ; proficiency in moulding is only attained by years of work. After a few months in the pattern shop, the pupil should work at a lathe until he understands the machine and its uses, then perhaps at a shaping machine. In working these machines he will find out for himself a good deal about the qualities of the metals he turns or shapes. In fifteen or eighteen months, after a good long spell of work at the vice with file and chisel, a strong and able lad will be so far advanced as to be capable of working at erecting or fitting parts together, without being an actual hindrance to the men thus employed. He will learn how bad casting and inaccurate machinery hinder the fitter in his work, and he will instinctively acquire a power to discern between designs that are practicable and good and those (if he meets with such, as he probably will), in which a knowledge of good construction is conspicuous by its absence. Nine months in the drawing office will be of good value to him towards the end of his term, and, after his brief experience in the

works, he will delight to apply the knowledge he has gained there.

All through his three years' course, and especially when enjoying the shorter hours he will have in the drawing office, he must be encouraged to do a little book work—not too much. Fifty-four hours in the week will tax his strength almost sufficiently, but he must not let his power to learn from books become rusty from disuse.

FURTHER TRAINING.

We have now arrived at a fresh stage. Our young engineer is twenty or twenty-one years of age, and if the hopes we have entertained respecting him are fulfilled, his hand to hand dealings with materials which are more or less refractory will have convinced him of the need of careful design. He will thirst for such scientific knowledge as will enable him to design really good, well-proportioned work. Send him to college if you can do so. Our engineering professors are wide awake to the necessity of combining theoretical and practical instruction, and they have opportunities at their command which he would not readily meet with elsewhere, which will enable him rapidly to obtain a fair knowledge of the immutable laws which govern mechanical engineering.

If for financial or other reasons college is out of the question, a situation should be sought near some large town, when evening classes will, so far as they can, take the place of college instruction. In choosing the work this time it will be well to have regard to the special bent of the student's inclination. He may incline to iron-

producing plant, marine engines, or some other special branch, and must choose accordingly. He will by this time have become aware that he must concentrate his efforts on some special branch of engineering. Manhood has at length overtaken him, and his circumstances and aspirations are those which are common to most young men who study engineering with a view to their own maintenance, and he must begin to fight his battles alone.

Business considerations will affect his movements. There is not room for an unlimited number of engineers, and most young men will have to apply their knowledge in connection with industrial pursuits. The training which we have thus briefly sketched cannot fail to lead to some good opening. Either as a master or as a servant, the time and money spent will prove to have been well spent, provided always that we have not been trying to make an engineer of a man without the natural qualifications.

ADVICE TO PARENTS.

Many a father who may read this paper will perhaps say to himself, "My son certainly gives evidence of this natural aptitude, but such a course of training is beyond my reach." A few words to such will not be out of place. Many men have attained to great eminence as engineers who have had to earn their living from childhood, and whose early education could not compare for a moment with that of a public elementary schoolboy of the present day who has reached the sixth standard.

Perhaps you could afford to keep your boy at school

until he is sixteen. If he is to be a working fitter, and must earn apprentice's wages until he is twenty-one, and maintain himself afterwards, you had better forego the last year at school, put him to work before he is fifteen, and spend the money thus saved in providing books and paying the fees at the Science and Art evening classes. Do not send him to work where he will be made a machine hand, but secure him a place as a fitter's apprentice in a general engineering workshop of moderate size. Be careful to choose a place where the master keeps an eye on the working apprentices. If the work is of a general character, and he develops his powers as you hope he will, his ability will bring him to the surface at last, and, if circumstances favour him, he will rise to the position of a leading hand. Thereafter, probably in some other works, where he will go to gain greater experience, he may advance step by step, and at length the innate ability will assert itself in such a way that he will no longer work with the hands, but will take a position as an engineer. You may not like to entertain any scheme that might end in his being a workman all his life. If so, be very sure in the first place that he has in him the elements of success. In any case you will run the risk of his career being that of a working man, but even if that should be the result, he will probably be happy in having congenial work. Such men have a value too often insufficiently rewarded in the matter of large earnings, but their labour is of the higher class, and in the engineering world they take a position of great usefulness.

No. 4.

TYPE-WRITING AND JOURNALISM FOR WOMEN.

BY

Miss CLEMENTINA BLACK.

IV.

TYPE-WRITING AND JOURNALISM FOR WOMEN.

TYPE-WRITING.

LET me begin by observing that the lady who works a type-writing machine—operates it, as some people like to say—is not a type-writer. The type-writer is the machine; the "operator" is a "typist," and the process of operating is typing. So I learn from the first number of a paper devoted to the interests of shorthand writers and typists. There may be said to be three branches of the trade: the individual typist who has her own instrument and takes work direct from the public; the operator working in a type-writing office, who uses her employer's instrument and receives a fixed payment, but has nothing to do at firsthand with the public; and the private clerk working in some one house of business.

Most women who wish to adopt type-writing as a calling, go as learners to one of the type-writing offices. These offices are of two kinds, which may be described, in trade union terms, as "fair" and "unfair." The fair

offices employ properly trained and skilled typists, and pay them at a rate reasonably proportioned to the price which is charged to the public. The unfair offices attract custom by charging lower prices to the public, and getting a great part of their work done by learners, to whom they pay little—sometimes nothing—and who are bound down by agreement to continue working for them for a certain time. This action has of course tended to bring down the rates of payment to operators, and the same result is being brought about by the willingness of typists working at home to accept lower prices, because they do not need to live by their work, but only to "make a little." This danger of seriously lowered rates—aggravated of course by the fact that a great number of girls are crowding into this particular calling—was perceived as long as two years ago by a few of the proprietors of "fair" offices, who resolved to form a Union to try and fix a standard scale of charges to the public. The members of "The Typists Society" desired that a similar Union should be formed among employees, but the "operators" appear to have been rather languid. At last, however, some advance has been made in the direction of organizing them. They are now admitted to the "Society of Typists," which was originally a union of employers, and there are two committees, one for employers and one for clerks. The Society is therefore an example of that rare form of trade union which employers and employed combine to resist that underselling which threatens to prevent both alike from earning a comfortable living.

That some such bulwark was needed was shown by the statements at the Society's recently held annual meeting. A desire was expressed to fix as a minimum standard wage the historic 6d. per hour of the dockers—that is, 4s. a day for eight hours' work, or 24s. The Government, it appears, is beginning to employ female typists in various departments, and in one of these (probably in all) the Treasury fixed 14s. a week as the salary. The head of that department having been privately remonstrated with, appealed to the Treasury to increase this amount, and was informed that in the present state of the market typists would be willing to come for 14s., and that no more would be paid. I am glad to say that two young ladies who had been nominated for these posts refused to accept them at less than 25s. a week; but I do not doubt that the niggardly and cynical reply of the Treasury was commercially sound, and that the typists can, and will, be secured at 14s. a week. Whether the state does well to buy the lives of skilled women-workers at that price is, as Mr. Rudyard Kipling has taught us to say, another story.

As there is no standard, it is difficult to give any notion of what a girl may earn as a typist. I have seen advertisements offering 30s. a week for a clerk who should be a good shorthand writer and typist, and though this is liberal, compared with the Treasury's views, I confess that I thought of Mr. Weller's charity boy, who doubted, concerning the alphabet, whether it was worth going through so much study to acquire so poor a result. For my own part, I should not advise a girl to enter this

calling unless she possessed considerable general intelligence, and good general education. The mere mechanical part of type-writing can be learned by any one, even without instruction, and by itself is not likely to command higher wages than is received by the ordinary copying clerk. If a girl means to do well at type-writing she must have either special qualifications for some one branch of the work, or else a high standard of general qualifications. For instance, scientific, legal, and commercial copying can only be done accurately by a person possessing some degree of knowledge in these lines. Again, in a business house a typist-clerk who could translate as well as copy would be far more valuable; while shorthand is coming more and more to be regarded as quite an essential part of the typist's business. Type-writing has the advantage that it does not require any high degree of health or strength, and if the operator is careful not to sit in too high a chair, and so stoop to her instrument, there is nothing at all unhealthy about the work. But it is not work upon which the half-educated woman, without capital, can expect, unless she has unusual abilities, to make more than a very modest income.

JOURNALISM.

Journalism is one of the very few callings in which a woman may, if she is fortunate, arrive at an income calculated rather on a man's scale than a woman's—that is to say, in which an able woman may earn enough to live, not on bare, but on ample means. To succeed, however, demands a rather special combination of qualities. First

among these stands strong physical health. The work involves much going about, irregular hours, crowds, speeches, spectacles of all sorts. The journalist must have health for all these enterprises, and for a reserve of energy, enabling her to take interest in what she sees, and to write about it vividly and amusingly. A certain skin-deep frivolity (not at all incompatible with an underlying seriousness) is needed. A woman who would not of her own inclination observe the bonnet of a fashionable duchess will be apt to give her readers but a dull impression of that brilliant product. The same is true of all sorts of products beyond bonnets. The ideal journalist should be interested in all the matters in which the public is interested, and as the range of public interest is very wide, there is hardly any sort of knowledge which may not be found useful at some unexpected moment. The girl of bright, inquiring, but perhaps not very concentrated mind, whose discursiveness was always being reproved at school, is the girl likely to make a good journalist, especially if she has the happy knack—which very commonly accompanies that temperament—of picturesque description and appropriate epithet.

There is another quality particularly desirable in a woman journalist, although its absence may not, I am sorry to say, prevent her from attaining a good deal of success. This is the quality of good taste—the power of perceiving and avoiding the border-line of vulgarity. The journalist is always being tempted to comply with the desire of the baser sort of readers, and to go a little too far. To be sprightly, and yet never vulgar, to give the vivid touches

that make a narrative real, and yet to avoid that personality which is justly offensive, is not an easy task.

The fine discernment which preserves from transgression is hardly to be learned as an art; it depends on feeling, on point of view, on the habit and education of a whole lifetime. Its too frequent absence is always tending to bring down the level of journalism, and to degrade a legitimate, useful, and often noble calling into a scarcely reputable trade. For a woman journalist the possession of the indefinable, but perfectly recognizable, quality of good breeding is especially necessary, because her work is apt to place her in positions that are a little unusual, and, therefore, a little conspicuous, and it is precisely in such positions that the composure and unobtrusiveness of a thoroughly well-bred woman are most necessary.

How shall a girl learn the calling of journalism? There are persons who profess to teach it; but, speaking generally, it has to be "picked up." A girl living in a provincial town can begin by trying for work on a local paper, sending in notes carefully modelled upon the methods of the particular paper, and can at the same time be sending work in the same way to some one or more London papers. The points to be observed are: First, to bring everything which she sends into the prevailing tone of the paper to which she sends. Individuality is a spice which, though it adds greatly to the flavour, will seldom be accepted by editors unless from experienced hands: Second, not to aim too high. A newspaper is not likely to take "leaders" from a young

beginner; notes, paragraphs of news, and what the jargon of advertisements call "leaderettes" have far more chance. By and by the would-be journalist will probably come to London, arranging perhaps to send regular contributions to the local paper for which she has worked. She may then write to, or call upon, editors, with specimens of her work, and should be constantly on the watch for likely topics on which to write, always choosing her topic and her style with reference to the particular paper for which each article is meant. If she is entirely dependent upon her own earnings the struggle may at this point be severe, the rather that a shabby appearance is far more prejudicial to a woman in search of work—of literary work at any rate—than to a man. The writing woman can only afford to be shabby when she has secured a regular income. The success of a woman in journalism depends upon two points—her ability and her regularity of work. She must have the power, natural or acquired, of writing in a way that the public cares to read, about a thing that the public cares to know; and she must have this power as nearly as possible always at command. To be trustworthy is, from the editor's point of view, one of the greatest of merits. The journalist who wants to advance must always produce her copy at the right time, and of the right kind and length. A girl who is really well educated, who has the right kind of ability, and can go on working steadily and regularly, keeping her copy always up to the mark, may be pretty sure, when once she has secured a foothold, of increasing her engagements and her income.

EMPLOYMENTS IN GENERAL.

As to the employments for women in general, the great difficulty is that nearly all occupations are overcrowded, that most are underpaid, and, being unorganized, are likely to become worse paid rather than better, and that a considerable number of them offer no opening for the future. For instance, shop girls, nurses, and teachers of all sorts are preferred moderately young; after a certain time of life they have a difficulty in finding fresh employment and their earnings tend rather to diminish than to increase.

A capable girl, about to choose a calling, should take careful stock of her own special faculties and then try to discover some comparatively untried path in which they may have as full play as possible. Suppose, for example, that she has a gift for drawing, and has trained it carefully. The ordinary walks of art are crowded, and only marked talent can be sure of coming to the front; but there are humbler and emptier by-paths, by no means without interest of their own, where capable work can command good prices. The drawing of illustrations for scientific books, for instance, requires great accuracy, and is, I am informed, well paid. I am told that there are one or two ladies who devote themselves almost exclusively to drawing anatomical plates.

Another branch which might well be undertaken by women, though it has not, I think, hitherto been attempted, is the preparation from the architect's plans of completed perspective views of a building. Roughly

speaking, every architect who designs a large house, or church, or a public building, wants a drawing made from his plans. Any person familiar with the journals devoted to the building and architectural interests, knows the neatly outlined picture inscribed beneath with the legend: Acorn Lodge, Summerfield, Surrey; the residence of Alderman Mark Lane; Messrs. Mullion and Copingstone, architects. Acorn Lodge is depicted with great elaboration and accuracy of detail—the pattern of every tile, the curve of every weathercock is distinctly perceptible—but there is a certain indefiniteness about the luxuriant shrubbery background, and a certain diagrammatic angularity about the figures of Mrs. and Miss Mark Lane, who stand admiring a peacock on the terrace, while a barouche full of visitors advances up the carriage drive, and a neat square cart is indicated at the servants' entrance. To produce such a drawing requires precision, trained draughtsmanship, and a thorough knowledge of perspective—qualities possessed by hundreds of art students. The work can be done at home, and is, so far, very fairly paid. Of course the demand is strictly limited. Any girl who proposes to attempt this kind of work should not be dependent upon it from the beginning, for she will have to build up a connection by degrees. Nor must she start by endeavouring to be original or artistic in her designs. Her first step must be to acquire the power of making precisely the sort of drawing that is usually used. She should make herself acquainted with the sort of illustrations used by the *Architect*, the *Builder*, and the *Building News*, and should practice drawing accurately

from buildings. She should seek out some curious, interesting or noteworthy subject, and try to get a drawing accepted and printed in one of these papers. When she has succeeded, she should send round a copy to various architects in London and in other towns, with a circular saying that she is ready to execute drawings from plans at such and such prices. Perhaps it will be wiser to draw a circular, if this can be managed, in such a way that her sex does not appear, or she may find an inclination to beat down her prices to a rate considered fitting to her sex—that is to a third or so less than the pay of a man.

This architectural drawing is but one example of new paths which women might engage in. Every woman who thus enlarges the borders of work, not only has a better chance of doing well for herself, but also helps to improve the condition of all women, because every new channel opened relieves the pressure of competition which is causing the underpayment of women in so many callings. This alleviation, however, is only temporary, if women in the new calling merely replace men at a lower rate. The sad truth is that, in trade after trade, the entrance of women has begun by lowering wages, and has gone on to lowering the quality of the work. The displacement of men by women, or the lowering of men's payment by the competition of women, tends to throw upon the labour market more women, the sisters and daughters of the displaced or worse-paid men. The remedy for this lies not in employing women less but in paying them more. Women need to realize the whole economic range of

effect of their own action in regard to pay for labour. It seems at first sight so exclusively one's own affair what price one takes for one's work. But in our complicated modern commercial system we are all so bound together that the underpayment of any single worker in any branch tends to bring about the underpayment of every other worker in that branch, and indirectly of all workers in all branches. To take lower pay than one's fellow-workers is, in the truest and most literal sense, to take away their pay. To do work at a price by which we could not live, because we happen to be otherwise supported, is to make it impossible for some other unsupported woman to live by work of that sort. If actions are to be measured by the sufferings they cause, few actions are more wicked than those which tend to lower the payment of labour; and such an action is committed by every woman who lets herself be ill-paid for her work. The battle is not her own; it is that of all women-workers—ay, and in the long run of all men-workers too.

No. 5.

HOW TO BECOME AN ELECTRICAL ENGINEER.

BY

PROFESSOR NICHOLSON.

(*Demonstrator Electrical Engineering, Cambridge University.*)

V.

HOW TO BECOME AN ELECTRICAL ENGINEER.

Of all the departments of the engineering profession that of electrical engineering, if it be not the least overcrowded, certainly offers to the intending recruit the hope of the widest and most indefinite future expansion. In all the other branches of civil engineering a measure of finality appears to have been reached in the divergency of their lines of application, whilst in the electrical branch hardly a year passes by without the extension of old or the opening up of new avenues of industrial progress, by the discovery of some novel object of civilization to which the new science may be applied.

Without attempting an exhaustive list, it will be sufficient in illustration of this statement to mention a few recent developments.

PROBABLE OPENINGS.

At the present time there are between fifty and sixty townships applying for provisional orders for electric lighting. So that if even only one half of them be

obtained, it is quite certain that within the next few years there will be a period of good trade in electrical circles, and the building of dynamos may be expected to become lucrative, which it has hardly hitherto been.

In the transmission of the electric current, either for lighting or power, secondary batteries, that is batteries which may have their charges renewed by the direct application of current, are in many cases very conveniently used to store up electric energy and give it out again either in a different form or at another time from that at which the generating machinery supplies it. In this way, for example, the expensive steam or gas engines and dynamos for producing current may be kept running day and night, instead of only intermittently when the light is actually needed. They thus pay a greater interest on the money invested in them. Or, again, these accumulators may be charged by the engineers at high electric pressures such as 1,000 volts, and safely discharged to consumers at low pressures, such as 100 volts. In this way less power is wasted during transmission. Or, yet again, the energy may be carried stored in these shells on board ship, as in electric launches, and there used for propulsion. There is great scope for electrical engineers in the improvement of these storage cells as regards portability, durability, and safety in working. An enormous reward may be confidently predicted for the man who produces a battery of one-quarter, or even of one-half the weight at which they are now manufactured—a storage cell which will weigh, say, 28lbs. per horse-power-hour, instead of 130 as at present.

We should then be a great stride nearer to aerial navigation.

The electric transmission of power above mentioned, by means of which we can pass on and distribute to much greater distances than by shafting and belting, the power supplied by steam engines, is making rapid advances in efficiency and consequent cheapness of delivery; and in the near future a large demand for electric motors for domestic purposes may be anticipated. Much work hitherto done in factories may be expected to be as cheaply carried out by operatives in their own homes. Besides enlarging the motor and lead industries, this will of course necessitate the construction and maintenance of large central stations for the production of power. The application of electricity to machine tools of all kinds in factories is engaging serious attention, and may be expected to become a great industry.

Electrical dyeing, bleaching, ore separation and smelting are as yet only in their infancy, and these branches of electro-chemistry and electro-metallurgy open up great fields for intelligent enterprise.

Without speaking of many other departments (such as electric railways, telpherage, electric welding and stamping, advertising by electricity, telephony, telegraphy, or cablegraphy), enough has, I think, been said to show that electrical engineering offers to industrious and intelligent young men an honourable occupation, and very probably a successful and lucrative career; while to men of superior ability and intellectual power Nature seems to present in this department of study an illimitable

avenue of approach to her most cherished secrets, and a place amongst the names of the sages high up on the blazing scroll of fame.

HOW BEST TO QUALIFY.

In what follows I propose to give a few words of advice to intending aspirants to this honourable profession, and of information to parents and guardians as to the best method of preparing their *protégés*, so that they may start on equal terms with other candidates in the arduous competition.

In the first place, I wish to postulate that there is no training, however good, which is too good for an engineer. The business man requires decision of character and knowledge of men; the lawyer must have the silver gift of speech; the doctor needs manipulative dexterity and self-confidence; and all of them a thorough knowledge of their business. But the successful engineer, whether civil, mechanical, electrical, or mining, must possess all of these, and as much mathematical and physical knowledge besides as he cares to acquire. Time spent in the study of classics must, I am afraid, be considered as wasted, for although witty Greek or Latin allusions will be as well received by engineers *after dinner* as by any other body of professional men; yet classics are of little practical value in actual work. And if we consider the really very extended course of training to which a young man who means to master the profession of electrical engineering must submit himself, it is obvious that no time must be lost, and any study which does not

possess an almost strictly professional bearing must be excluded.

The school to which a boy is sent is so largely determined by the circumstances in life and place of residence of his parents, that it is futile to attempt any selection; but if German and French can be substituted for Greek and Latin by all means let it be done. For the rest, mathematics and physics, and as much of *belles lettres* and natural science as there is time for, ought to form the staple of the school curriculum of the intending electrical engineer. He should of course take the utmost advantage of any workshops there may happen to be; but the mechanical drawing taught in schools is of very little use, and is best avoided. When he leaves school at the age of sixteen or seventeen he ought to go at once into the works of a mechanical engineer; it matters little whether the latter manufactures machine tools, locomotives, or marine engines. It will not usually be found necessary, and at this part of the course of training of an electrical engineer I do not recommend that a premium should be paid. Any money to be spent on him should be reserved for his college course or his entry into the works of an electrical firm. He should stay in the mechanical engineer's works for two years, getting through as many departments as the firm will allow to a non-premiumed apprentice; getting through them all if premiumed. A good apportionment of his time would be:—Six months in the pattern shop and foundry, six months in the machine and fitting shop, and one year in the erecting shop. The larger the works and

the more varied the class of work executed in the factory the better. The absolutely essential thing to make a man a successful electrical engineer is to be first of all a good mechanical engineer. You say, "But he can learn mechanical engineering in the electrical engineer's works, why not put him there at once, and he will learn both together?" I reply that, if you do, he will assuredly devote himself to the electrical and magnetic phenomena, on which the chief stress is there laid, but will entirely overlook the broad foundation principles upon which all good machinery of whatever kind must be constructed; that is, it must be strong enough and stiff enough, so well fitted, and of such materials as will enable it to do its work to the best advantage. A few years ago in the construction of dynamos, motors, and their fittings, attention was strongly directed to the disposition of their parts as governed by electrical considerations. Now-a-days that is, broadly speaking, settled; and the deciding factor in the competition for public favour is rather excellence of mechanical detail than electrical efficiency. I say, then, put your future Preece, or Kapp, or Ferranti, or Hopkinson in the workshops of a large mechanical engineer for two years, and afterwards send him for his third year to those of the particular electrical engineer you may choose. In the evenings, during these three years, get him to attend evening classes at a Mechanics' Institution, or evening lectures at a technical college. Do not believe for a moment that you will "strain his constitution" if he reads two or three hours at night, after working all day in the shops. That is sheer non-

sense. If he is an average British youth, it will do him not an atom of physical harm, and will do him a great deal of mental good. It will be much better for him than playing billiards and drinking bad whiskey. The writer of the present article worked three or four hours every night during the latter part of his four years' apprenticeship, and is not a whit the worse for it to-day.

EXAMINATIONS.

Our *protégé* will go in for the many examinations of the Science and Art Department, and if he works even moderately well, by the time his three years are out he ought to have passed "first class advanced" in machine construction; theoretical and applied mechanics; magnetism and electricity; sound, light, and heat; and steam. In his third year he ought to try for a Whitworth exhibition, and if he fails in getting one, he need not fear that his diligence will go unrewarded.

If he shows any aptitude in his theoretical studies, or if, indeed, it is at all pecuniarily possible, he ought now—*ætat.* nineteen—to go to a technical college for two years. There are courses in nearly all of these colleges specially arranged for electrical engineering students, and the direction of his studies there may safely be left in the hands of the college authorities. It is sufficient to say to the pupil himself that the harder he works at everything the more he will learn—a seeming platitude only proved by hard experience.

At the conclusion of his college course (which will be much more beneficial if prolonged to three years, and

crowned by his taking a diploma or degree), if he has done his work to any purpose, he will really be in a position to make himself in a remarkably short time a very useful man in any department of electrical engineering he may choose to follow.

It is quite usual for electrical engineers of note to exact a premium from beginners of £100 a year. But if he has already paid this in his former third year when he began electrical work, he may expect to escape with giving and taking nothing after leaving college, and may, indeed, in his second year out of college receive a good appointment in charge, say, of an installation at from £80 to £150 per annum.

Many people advise that a youth be sent to a technical college immediately on leaving school. From hard-bought experience I strongly disapprove of such a course, and in this I am supported by such eminent authorities as the editors of *Engineering* in their articles on the "Education of Engineers," in August, 1890. A man takes much more kindly to practical work when he has just left school than at the age of nineteen. After his higher studies at college he does not see the point of this dirtying of his hands, and very coarse and rough-and-tumble business in the factory; in fact he conducts himself generally as a fearful prig, and results as a rule in being a half-trained engineer on the continental method. Whereas he is in a capital way of appreciating his advantages when he goes to college after he has had a hard time for three years in the shops; and he has been interested in theoretical considerations by his attend-

ance at the evening classes so as to follow with zest the instruction of the professors at the college. If he goes straight to college from school he does not know a tap from a hand-hammer when he is put into the engineering laboratory; and he really cannot see what is the use of the professor devoting attention to such trivial matters as the proportions of a double eye or a shaft coupling.

I think it needless to give a list of the technical colleges at which electrical engineering is taught. It is well taught at almost every one of them; and if in some the equipment be inferior, I am not at all sure that the pupil does not gain thereby in resourcefulness and self-reliance in having to make more of his own apparatus.

Similarly I shall not make mention of special firms. The particular line in electrical engineering he will follow is almost certain to be determined for him by circumstances and not by choice. He may have some connection or influence through his parents or their friends with some firm in particular, and will naturally follow the branch which that firm makes a speciality. As I have shown at the beginning of the article, he can hardly go wrong. Every branch of the profession seems at present to have indefinite powers of expansion, and holds out large possibilities of success to its intending cultivators.

I will conclude by offering to the apprentice himself Lagrange's notable advice to students of mathematics—"Allez en avant, la foi vous viendra."

No. 6.

WOMEN AS TRAINED COOKS.

BY

Miss ELIZABETH P. SHOLL.

VI.

WOMEN AS TRAINED COOKS.

"WHO can find a virtuous woman?" was the query of Israel's wisest king. Had Solomon been living in this nineteenth century, his question might very pertinentiy have taken another shape, "Who can find a good cook?" Many an anxious housekeeper, though perhaps not prepared to add, "for her price is far above rubies," must yet sorrowfully admit that she is a treasure quite above her limited means. Only so short a time ago as 1888 the Executive Committee of the National School of Cookery reported a "wish to do something to meet the ever-increasing demand for 'good plain cooks'—domestics apparently extinct." Its laudable efforts in this direction will doubtless, in time, raise a host of competent helpers, if, indeed, by that golden time, domestic servants have not become an anachronism. Meanwhile, how is our work to be done? The position of the upper middle-class British matron, dependent as she is to so large an extent on those who rule her kitchen, is often truly pitiable. She lives in almost abject fear of these gods of the lower regions of the house. Their caprices are legion, and if but one be thwarted, the chances are that the mistress, or nominal mistress of the home, must

perforce begin once more, on short notice, that hunt for cook or housemaid which has all the fatigue but none of the exhilaration of the chase.

From registry office to registry office she tramps, an object at once pathetic and ludicrous. Should she succeed in securing a competent servant (an incompetent one is much more likely to fall to her lot), it will only be for a short time, for servants understand to perfection the art of "moving on," and have apparently adopted as their watchword "To-morrow to fresh woods and pastures new." It may fairly be asked—Why should the British housekeeper be so utterly at the mercy of recalcitrant cook or housemaid? The answer to this must be—Because she has not that practical knowledge of their work which alone can render her independent.

A GERMAN LESSON.

The Germans know better. Our Teutonic cousins have not the misfortune to labour under the delusion that household work is beneath the dignity of a lady. A German establishment with two or three able-bodied daughters does its own work chiefly, and the doing of this work by no means ousts that high mental culture which we now consider to be the birthright of girls. We have heard of a German girl of good family busily cleaning the windows of her father's house while repeating over and over to herself the poem to be presently recited at the "Institut." It was not to such that a modern writer referred when he said, "The lot of many a girl, especially a girl with a rich father, is a

tragedy of aimlessness." But it is painfully true of too many English maidens, who have come to look upon dress, tennis, and match-making, as the absorbing interests of life. The blessing of the "man that has found his work" can never fall on such. How, then, shall they escape this frittering away of their existence to which false social standards have doomed them? Let them take heed to Mr. Ruskin's words, in this case feasibly practical, where he tells them that "the five talents of women are those that enable her to please people, to feed them in dainty ways, to clothe them, to keep them orderly, and to teach them." Were English girls able "to feed people in dainty ways" they would, presumably, be mistresses of the art of good cookery, and hence in a position to laugh at the caprices of unreasoning domestics and dispense with their services with a light heart. But this desirable accomplishment is not to be attained without training, and for this facilities now exist that verily render well-nigh every Englishwoman without excuse in the matter.

NATIONAL TRAINING SCHOOL FOR COOKERY.

Ever since 1874, an organization has been developing in our midst, which aspires to be a National Training School for Cookery, and the work done since that date has gone far to justify such an ambitious designation. South Kensington, which has long been in the van of progress in educational reform, was originally the centre of this movement. Now, as is well known, the school has its head-quarters in Buckingham Palace Road.

From here trained teachers are sent out all over the country, and some idea of results may be gained when we consider that between March, 1874, and the corresponding month in 1891, 46,946 pupils passed through their hands. The scope of the movement is more far-reaching than these figures would imply, for they do not include pupils trained by the "Northern Union of Schools of Cookery"—a branch of the Southern School—having centres in Leeds, Wakefield, Glasgow, Edinburgh, Liverpool, Sheffield, and other northern and midland towns. From any of these centres teachers may be obtained on reasonable terms to give courses of instruction in plain or high-class cookery to local classes. These classes are of two kinds—Demonstration classes, and Practice classes.

The number of pupils at a demonstration class is practically unlimited; at a practice class it is limited to ten. For the trifling fee of 4s. 6d. a lady, wishing to avail herself of the former method of instruction, may watch a competent teacher at work in the preparation of no less than sixty dishes, including all ordinarily required in a middle-class household.

Six dishes are taken at one lesson, which lasts about two hours, the ten lessons usually spreading over a fortnight, or if an arrangement has been made to take together a group of three towns, over five weeks. For the further sum of one guinea, a lady may herself practice, under competent supervision, those principles of cookery whose demonstration she has previously been watching. Lessons in plain cookery are usually given in

the morning, between the hours of ten and twelve. In the afternoon, between two and four, high-class cookery demonstrations are given, the fee for attending a course of ten lessons being 10s. 6d. It should be added that a minimum of thirty tickets for the high-class course, and forty for the plain course is required before such lessons can be undertaken. By the rules of the Southern School, school children are admitted at the rate of one shilling each for the ten lessons after forty tickets at 4s. 6d. have been disposed of.

Much might be done to render the present race of cooks more efficient by sending them to watch such demonstrations as have been referred to, if ignorance and prejudice could be overcome; but the ordinary cook would probably come away from such a lesson more fully convinced than ever that her own methods were the best. Provision is, however, made for the more liberal-minded. Persons wishing to qualify for a plain cook's certificate can do so, in London, at least, for the sum of five guineas; for a high-class cook's certificate ten guineas is required.

For this great work of educating the nation in the art of cookery, it is manifest that a large staff of trained teachers is needed.

GOVERNMENT AID.

A wider field for such has been opened since Government has held out an inducement to elementary schools to take up the subject. A grant of four shillings a head for each child who attends a cookery class for forty hours in the school year, and who passes the examination, has

made the teaching of cookery common in Board Schools and others forced by competition to follow their example. Even private schools are beginning to take it up as a suitable subject for systematic instruction.

To the question daily becoming more urgent as the struggle for existence increases in complexity, "What shall we do with our girls?" the National Training School for Cookery offers at least a partial answer. It invites women who are obliged to earn their own livelihood into a field of labour at once honourable and fairly remunerative, and as yet not overcrowded. The position of teacher of cookery has advantages not possessed by the ordinary school teacher or family governess. It is more independent. Except during the four hours daily, during which she is expected to be giving demonstration lessons, or superintending practice classes, she is free to do what she will with her time, and her Saturdays and Sundays are completely her own. Nor is her leisure consumed, or her life made a burden, by the correction of piles of exercise books. Her sphere of usefulness may be as wide as that of the ordinary governess. To be a successful teacher of cookery, a woman must be more. It is quite a mistake to suppose that a mere knowledge of the one art will suffice. She must have a fair knowledge of arithmetic, of physiology, and domestic economy in addition; and she must furthermore have the power of imparting information clearly and intelligently. Some disciplinary power is needed, also patience and tact in dealing with children. Any lady possessing these, and the ability to master the contents of some half-

dozen works, more or less elementary, on physiology and domestic economy, may begin her training with all confidence. It will be necessary for her to spend six months in London or other centre, during which time she will have to pay for board and lodging in addition to the thirteen guinea fee for training. A lady pupil, training for a teacher, who wishes to board and lodge at the school in Buckingham Palace Road, can do so for thirty-five shillings a week if she occupies a bedroom to herself, twenty-five shillings if she share one with another lady. Where a pupil is fortunate enough to live at any of the centres, it is manifest that her expenses will be considerably less. In any case it is probable that thirty-five pounds might be made to cover the whole outlay. A candidate between eighteen and twenty-five years of age is eligible for admission to the Southern School by subscribers' votes, in which case the whole or part of the fee is remitted. The fee, whether whole or in part, must be paid in three equal instalments, each in advance.

A PROFITABLE INVESTMENT.

Perhaps in no field of labour does so comparatively small an outlay in training yield such a quick return, for a teacher, taking a first-class diploma at the end of six months' study in the Northern School, begins with a salary of sixty pounds, which is raised to eighty if she prove thoroughly competent. Some teachers earn salaries of one hundred, or even of one hundred and twenty pounds per annum. Out of her salary she has to

live. The training school does not undertake to find situations for teachers at any time, but the recommendation to be obtained by reference to the lady superintendent, in addition to the diploma, may be regarded as almost certainly procuring employment.

Any one who is not fairly strong, or who is afraid of work, must not expect success as a teacher of cookery. In the Southern School the first fortnight of the training is devoted to scullery work, both learning and teaching. Then follow six weeks of plain cookery practice, and after that six weeks of teaching. The pupil is then considered ready to begin public demonstration work, which occupies her daily for six weeks longer, the course being ended by four weeks' practice in teaching classes of school children. This programme is probably slightly varied in the different schools, but in its main outlines may be taken to apply to all.

EXAMINATIONS.

The following questions, taken from an examination set by the Southern School during 1891, will give a fair sample of the average difficulty of such papers. No one need be alarmed at the standard required in arithmetic, when of four problems set this is the most puzzling: "A man bought 108 eggs at six for fivepence, and sold them at three for twopence, what did he gain?" Of the eight questions in section 2 the following has the highest marks: "Give an outline of a lesson on fish and how to fry it."

Section 3 deals chiefly with the properties of food,

this being a sample question: "What are the chief differences of composition between cow's milk, skim milk, cream, butter, and cheese?" Familiarity with such physiological subjects as the process of digestion, absorption, circulation, and respiration is expected. The following are the only books needful to read up for the theoretical examination: "Physiology," by Foster; "Domestic Economy," by Rice; "Food," by A. H. Church; "Food and Home Cookery," "Health in the House," by Mrs. Buckton; "Boston School Kitchen Text Book," by Mrs. Lincoln.

Macmillan's Science Primers, relating to the laws of heat and elements of chemistry, are recommended. The student is of course expected to give practical evidence of her ability to teach before a diploma is granted. Any lady wishing to enter as a student in a cookery school should apply to the Lady Secretary for the necessary form of application.

That there is a wide field for Englishwomen in this department of labour, we are assured on the highest authority. That the movement is slowly spreading in schools is undoubted, and it is to be hoped that many an intelligent English girl when confronted with the question, "What am I to do to maintain myself in honourable independence?" will resolve to devote a portion of her time and energies to the cultivation and development of the art which Count Rumford places side by side with agriculture, as distinguishing civilized from savage nations.

No. 7.

ON TRAINING FARMERS AND AGRICULTURISTS.

BY

DR. WEBB.

(*Principal of the Agricultural College, Aspatria.*)

VII.

ON TRAINING FARMERS AND AGRICULTURISTS.

Fifty years ago, when a lad was found to be physically or mentally unfit for a profession or a business, he was made a schoolmaster or a farmer. Any one, however dense, was supposed to be able to teach the three R's. There was no particular qualification needed for the task; when a lad left the dame school he went to a man often little or no wiser than the old lady, who cared little if his scholars turned out dunces, provided the fees were all right.

There was nothing to be learned away from the fields, they said. It was practice only the lad wanted who was to be a farmer; he must learn how to plough and harrow, to dig and to mow. He must learn to sow the seed, and to reap the harvest, and to sell it at a price which gave him a fair return for capital invested and labour expended. He could sell his wheat at sixty shillings a quarter then, and it was none of his business that the poor suffered. The high price made up for an indifferent crop; there was no competition. England, with her increasing population, was compelled to exist on the food produced in the island, and the producer could command his own

price; but when free trade was established, and America and Russia poured in their overflow, the price came down with a rush, and farming ceased to be profitable on the old lines.

Centuries of practice had established a system which, however unsuccessful and unprofitable, British persistence still clung to. Year after year the farmers lost money; they could not compete with America, whose virgin soil grew four blades to their one. They did not blame their system, or know how or *try* to change it. Farming was no longer a pleasant pastime, or comfortable opening for the dunces of the family; but those already engaged in agriculture could turn to nothing else, and still continued to farm as their fathers had done. "It had paid them well enough," they said, and they rejected the idea that science could be useful to them. They did not approve of "new-fangled ideas," and so of all the arts practised in England, agriculture has profited least by the advance of science, because farmers have disdained any help, and worked on in incompetent independence.

THE ADVENT OF SCIENCE.

It is this want of education and adherence to old prejudices that has drained the pockets of the agriculturist of the savings of his forefathers. English farming is allowed to be as good as any in the world, and any one looking on an English landscape in autumn will acknowledge that it is so. The farmer himself knew that his crops were equal to, or that they even surpassed, those raised by his father, and obstinately refused to believe

science could increase his returns by a single blade. If he had had the advantages of early education in the elements of science, he could not fail to perceive its uses; he would probably find the reason why some fields grew certain crops better than others, and would know how to supply elements of which the soil had been exhausted; he would have his head to help him as well as his hands in his difficulties. It is of little use when habits have been formed in childhood to attempt to break them.

The young farmer seeing day after day and year after year the same routine, is, as it were, impregnated with the old system; "use is second nature," and what we are apt to consider "ignorant prejudice" is simply the habit of the mind taught by constant practice. The aged know with what persistence the memory returns to the practice of childhood, and how frequently they remember better the usages of their boyhood than the newer ideas of their manhood.

It is, then, in *childhood* that the study of agriculture *as an art* should be begun, if it is to be of any use to the future farmer at home or in the colonies. Science will be thought too difficult a subject to be taken up by the sons of farm labourers, but the elements (all that is required for agriculture) can be taught in the Board Schools as easily as the multiplication table. Methodical training for the practice of scientific agriculture is thus commenced by learning the principles and afterwards putting them into practice. Every art has been commenced in this way; music, painting, surgery, and medicine have been gradually developed by the same

system—a study of the principles first before the practice. Why should agriculturists be so backward to recognize the signs of the times, and suppose farming can be practised with profit without previous study of the principles on which it is founded?

But a subject to be taught must have teachers, and agriculture has comparatively few who could take up the elements in the Board Schools. It is true that elementary science will in future be among the requisites for a Government certificate in a Board School. But some of the agricultural counties of England have organized a series of lectures especially for teachers, in the elements of agriculture, embracing those sciences bearing on it. During the past winter (1891–2), courses of lectures have been given in most of the leading agricultural counties to all those anxious to avail themselves of this means of instruction. The lectures were delivered free of charge at different centres, and to those living at a distance railway fares were allowed.

THE USE OF THIS TRAINING IN ENGLAND AND THE COLONIES.

The young student thus supplied with teachers at school, begins to maintain the principles taught there, and will often assist to dissipate prejudices at home which frequently have existence only in habit. The labourer resting after his hard day's work will listen indulgently to Tommy's "clever talk," and insensibly yield to a reluctant belief in what he once despised. Tommy may never blossom into anything more clever or useful than

his father, but it is a step forward, and not to be despised. "It is the first step which counts," and the intelligent scholar will not rest satisfied with his foot on the bottom rung if there are any means of mounting higher. A lad, however anxious to learn, cannot do much after the hours of labour necessary to provide himself with food and clothes. It is opportunity that so many want. A steady, clever lad, assisted for a year or two by a scholarship into a good working college, like the agricultural colleges at Aspatria, Cirencester, Downton, &c., surrounded by educated intellect, will soon be converted from a plough-boy into an intelligent and educated worker.

The problem now distressing so many parents of how best to further the interests of those who have inherited nothing but the "birthright of toil" would not be so difficult to solve if their lads were better educated in the way most likely to be useful to them in their future calling.

England is over-populated, and in other lands there is more than room for all, but manual work only is not much better paid than at home. What the successful colonist requires to start with is a thorough education in the principles of agriculture, which embrace the elements of chemistry, botany, geology, physiology, and mechanics, some knowledge of veterinary science and land surveying, carpentry and smith's work. A lad without any of this knowledge is cruelly handicapped in the race, both at home and abroad, and it is both wise and kind to remedy the evil of sending a young man totally unprepared to compete for a living with others better educated than himself.

EDUCATION AND PRACTICAL WORK.

One of the stumbling-blocks to advanced education is the idea that the scholar will no longer work with his hands when his intellect has been trained to higher aims, but it has been proved that education does not ever so little interfere with practical work. When called upon to labour with the hands only, the scholar is quite as apt as the "clod," only he finds means to lessen his labour and to use waste energy profitably, and the work will be accomplished more methodically, more scientifically, more quickly, and quite as effectually. Agriculture, more than any other calling, is benefited by science. The farmer has to study his animals, their diseases, their breed, their food, their marketable value, and their domestic use. Of the various breeds of cattle, for instance, some are better suited for milch-cows, and some to fatten for the market. Physiology materially helps him here, for when he understands the processes that take place within the animal, it is easy to arrange the diet to fit it, for whatever purpose it is required to fulfil.

Botany assists him in the selection of seed, the propagation of varieties, in procuring the fittest plants for varying conditions of soil and climate, and in protecting his crops from the parasites to which plants are liable. It has taught him also that the weather alone is not enough for a crop to be useful even if successfully raised and stored in good condition ; for botany shows that a plant gradually matures, seeds, and then deteriorates, becoming

less valuable, not only as food for cattle, but indirectly for the consumption of man.

Geology enables him to understand more of the nature of the soil, and what it would be under different conditions of climate, and under the treatment to which the farmer subjects it, by means of ploughing and other farm operations. Chemistry has proved that the plant takes from the soil certain substances in order to grow, and when this plant food is exhausted the land ceases to be fertile. The remedy is to restore those constituents necessary to that life ; and chemistry has found a means of doing so by using artificial manures. At the present day farming in England could scarcely be carried on without them. It also enables him by means of analyses to see that he obtains what he requires, and is no longer imposed on, for farmers ignorant of the analyses of manures were often cheated, and are so now in some parts.

And, lastly, it would be impossible to estimate the value of mechanical science in the working of the farm; its principles are called into play in the construction and use of every machine used on the farm, from a steam-plough to a horse-rake.

SUCCESS PROPORTIONATE TO SOUND AND WIDE KNOWLEDGE.

From this cursory showing, it must be acknowledged that science is of material use in farming, and it follows, as a matter of course, that the intending farmer should be

acquainted with some of its branches, for the true business of the farmer is to learn the changes which take place in nature, the reason of those changes, and the laws which govern them. The products he obtains are the reward of his labour, and according to his ability to use the materials and forces of nature, so will be his success. How then can he, who is ignorant of the materials with which he has to deal, and the unchangeable laws which govern them, hope to be successful?

We have spoken of the elements of science as being particularly useful to the agriculturist at home, or to the intending emigrant, but they are of immense value to others beside farmers. The mechanic will be something more than a part of the machine he constructs; he will learn to think and try to improve his work, and in one branch of farming—the dairy—improvements will be sure to follow on better education. The farmer is not so prosperous that he can neglect so important a branch of his business, yet the best has not been done with it.

We cannot grow the quantity of corn, even with science to help us, to supply all with a cheap loaf, but we can and ought to make nearly enough of the best butter to keep our markets supplied. Now that the butter-making question is being considered, no prejudice should be allowed to diminish the value of the lessons taught us by the high price of foreign butter. Still things change—why not the art of butter-making? Major Irwin said in an address at Carlisle—"In his young days the qualifications for a dairy-maid were a cool hand, a warm heart, and a wooden head. Now they had changed it, and it was

a cool head, a warm heart, and wooden hands; and the taste of the consumer had also changed. Before the introduction of well-flavoured, good-keeping Danish butter, the English markets kept up a very good price for theirs, which was neither well-flavoured nor good-keeping. When better butter came into the market, the English had to be sold at a lower price. Science has come to the assistance of the dairy-men, and a better system, founded on a scientific basis, is being inaugurated, we hope with success. It is opening out a new industry. Butter factories, both at home and in the colonies, are greatly on the increase.

SCIENCE WITH PRACTICE.

The first step, then, to ensure a fair amount of success as a farmer, is early teaching; and when the foundation is laid (where ability justifies the outlay) there should be a continuation of study in the more advanced institutions and colleges devoted to agriculture. There is always an amount of risk in farming, for there is one element over which we have no control—the weather, upon which depends the agricultural returns. But it may be safely asserted that be the weather good or bad, it will always be more advantageous to the farmer who has spent time, labour, and capital in a scientific manner than to him who has ignored the aid which science could afford him.

We believe the only useful education for a farmer is science with practice, which always should accompany each other, and that a scientific foundation is the only basis on which the future agriculturist can depend for success.

No. 8.

THE OPENING FOR TRAINED NURSES.

BY

Miss CLEMENTINA BLACK.

VIII.

THE OPENING FOR TRAINED NURSES.

WHAT are we to do with our girls? That is the question upon which I am asked to write—for the other branch of it is not in my department.

There are certain claims of a general kind which a girl, no less than a boy, may justly make upon those who have the care of their bringing-up. The first is that she may be made as healthy, as physically able, as her original constitution allows. Established good health is the very first of advantages in every kind of calling, for women no less than men. The lack of it debars a woman from many occupations, and from none more completely than from that of which I am now writing. The second claim is, to be made as mentally able as her natural gifts allow. A woman can be placed in no conceivable post in which solid mental training will not be of use to her. These two conditions (the possession of good health and the possession of sound mental training) cannot fail to be valuable in any or every calling that a woman may possibly take up, while they will be most valuable of all if, instead of the special duties of any calling, she fulfils the immeasurably varied duties of mother and housekeeper.

A WHOLESOME ASPIRATION.

A girl endowed with these gifts, coming to the age when a lad would take up his life-calling, may or may not be confronted with the necessity, in a material sense, of earning her own living, but I venture to say that she will certainly be possessed with a desire to do so in the moral sense. I mean that she will wish to do so much work in the world as will refund the expense of her own existence. She will not probably put it in that form, but that will be the substance of her aspirations, and if she is really healthy and really well educated, she will not be contented with anything less. It is a wholesome aspiration, and the conscious or unconscious thwarting of it has, perhaps, more to answer for in the way of ill-health, ill-temper, hysterics, and unhappiness than any combination of other causes. A woman who marries, superintends a household, and becomes a mother of children, does in the fullest sense earn her living. Not all women, however, have the opportunity of marrying in a way that suits them, and therefore it is a cruel thing to let a woman's future depend entirely upon the chance of her marrying. Some women will not marry at all, and of those who do, many will not marry within some years of the close of their school-time. For a woman who remains single, the loss of these early years of training may be irreparable; while in a woman who does eventually marry, the habit of idleness—or, let me rather say, of aimlessness—acquired during a prolonged interval without definite employment or object, may produce serious deterioration.

In short, definite employment during her single life makes a woman happier and more useful at the time, renders her less likely to enter on an unsuitable marriage, and more likely to bring to her married life that habit of real occupation so fatally lacking in many young women of the wealthier middle class. A girl, then, should have a definite employment—a calling in life—no less than a lad. That calling may very well be household management in her own family, or in another; but then it must be real household management, work whose amount and quality would, if need were, command payment in the outer market—not mere playing at work, as is the domestic usefulness of daughters in many a well-to-do household.

NURSING.

Of all the outside callings, none, perhaps, appeals to so many women as that of sick nursing. With the many reasons for this preference I need not deal; but I should like to point out that it affords an opening both to women who desire occupation without regard to payment, and to those who desire an occupation as a livelihood. Roughly speaking, the nursing of the poor is not an occupation at which a living can be made. The poor cannot themselves pay their nurses, and in cases where the actual cost of nursing them is defrayed from other sources, the nurses too often only receive enough to cover absolutely essential current expenses, but not to make any provision for old age or emergency. The nurse who desires to earn her livelihood, must, like the medical man, seek her training in the hospital and her practice in the world outside.

The "private patient" can and does pay a fair price for trained nursing, but in a large number of cases a considerable proportion of this price is absorbed by some institution which plays the part of middleman; and a nurse for whose services two guineas a week is paid may be in work forty weeks out of the fifty-two, and receive for her year's work, perhaps, £25, in addition to board and lodging, during her twelve weeks spent in the "Home." I cannot say that I feel a great deal of compassion for those who thus permit the larger part of their earnings to be diverted into the pockets of their agents. They are trained women, commanding a fair price in the open market, and they have an easy remedy in their own hands. But this is a point to be dealt with more fully later on.

TO BECOME A TRAINED NURSE.

A woman who wishes to become a trained nurse will begin by becoming a "probationer" at a hospital. It is best to see the hospital matron and learn precisely what will be the work and the conditions beforehand. Some of the work is of a sort usually required of housemaids, and I believe it is not very uncommon for romantically disposed young ladies to retire in disgust before the broom, the duster, and the tea-cloth. In most large hospitals probationers must be between twenty-five and thirty-five years of age; children's hospitals, however, and some provincial institutions receive them between twenty and thirty. In some hospitals a premium is required, in others none; in some, probationers receive some payment, generally about £10 for the first year, from the beginning;

while in some, paying probationers are received, and these, I am informed, are not required to do menial duties. A nurse, however, who could not or would not, at need, do everything that might be necessary in her patient's room, is obviously far inferior to one thoroughly expert in all details, and I should strongly urge any one who seriously means to be a good nurse to spare herself no step of the training. The length of training required varies at different hospitals; some give a certificate at the end of one year, others require two or three years' training. In some there are lectures and examinations. Probationers have to be in good health. In the hospital of which I happen to know most, applicants come for one month before they are definitely accepted, and during that month are observed carefully by nurses, sisters, and matron. At the end of the time the probationer's health is examined by a medical man who has had the benefit of these observations. Many applicants are rejected, and others are put on trial for a second month. These precautions are very necessary, for the work is really hard and the hours long. Probationers who stay become nurses, and nurses may become sisters and matrons. A sister has charge of a large ward, and is expected to superintend servants and keep accounts. A matron is the head of the whole staff of nurses and servants, and in small institutions is often head nurse as well.

REMUNERATION.

And what is the remuneration given in these various posts? That varies a good deal. In all hospitals lodging

is provided, in nearly all, full board, in some, full payment for washing, in some, a limited allowance for washing, in some, nothing. Many hospitals provide uniforms wholly or partially. Nurses usually receive (in London) a salary of £20 to £26 a year. The payments to sisters at the various London hospitals, as given in *The Hospital* of December 15, 1888, vary from £26 5s. a year at Westminster to (in a few instances) 30s. a week at St. Bartholomew's. This last-named hospital, however, is quoted as providing only partial board, of the uniform only dresses, and no washing, so that the writer is probably quite right in saying that the £30 given at Guy's, with full board, washing, and uniform, is really a higher payment. In provincial hospitals the figures are lower; one in the list before me appears to pay its sisters £8 a year, or considerably less than the wage of any experienced domestic servant. Two numbers of *The Hospital*, to which I have referred, contain a number of advertisements of vacancies for nurses; in none does the salary exceed £25, and it falls, in one case, as low as £12. The quality of food provided varies, I am inclined to think, a good deal. Much in this matter depends upon the individual steward or matron. Peculating stewards and careless matrons have existed and will exist again, and nurses and patients alike will suffer through their failings. Such nurses as I have known personally, however, have found the food good and sufficient in the hospitals to which they belonged, and I think this may be taken to be the case on the whole with all large hospitals that are freely visited by the public.

Many hospitals have nursing institutions attached to them, from which nurses are sent out to private patients. In these, as in other nursing homes or institutions, the nurses receive about £25 a year, together with board, lodging, &c., when they are not away nursing; while the institution receives for their services thirty shillings to three guineas a week. Nurses who have no private connection submit to this arrangement because they dread the risk of not securing patients. Nurses, however, who can live with their own families, and who have either a large circle of friends or a connection among medical men, may hope to make from £80 to £100 a year, besides full board during the time they are with patients. Moreover, a very important step in the interests of nurses has recently been made by some of their number. A fully trained nurse may now, if she chooses, belong to an institution where she will have a voice in the management, and where she will receive all that she earns except $7\frac{1}{2}$ per cent. The Nurses Co-operation in New Cavendish Street was started in February, 1891, amid a good deal of opposition from medical men and others interested in the various nursing institutions belonging to hospitals. The society is formed under the provisions of the Companies Act of 1862, according to which profits can only be distributed amongst nurses who join the society. The main feature of the Nurses Co-operation is its register. No nurse is placed upon this who has not had three years' training in a hospital. Any nurse applying is interviewed by the Lady Superintendent (herself an ex-matron and thoroughly experienced), and her claims

are considered by the committee at its next meeting, when she is enrolled if approved. The management is in the hands of a general committee, and of an executive committee of twelve elected from it, six at least being nurses. Each nurse arranges her own fees, but a guinea a week is the minimum, and two guineas a week is, in fact, the average. Each nurse receives whatever is paid for her services, minus $7\frac{1}{2}$ per cent., which goes to a common fund for the yearly working expenses. Any surplus at the year's end will be divided among the nurses, according to the decision of a general meeting. The rules are few and not vexatious; in one respect they differ from those of other institutions, and that is in requiring every nurse who has attended an infectious case to disinfect herself and her belongings not after, but before leaving the case. I am informed that the usual practice is for the nurse to be disinfected in the institution, not before her return to it. A period of quarantine is also required before the nurse goes out to another case. Board and residence for a few nurses can be had at New Cavendish Street, but there is need greatly to extend this accommodation, since many parents, especially those who live far from London, are afraid of their daughters living in lodgings, and this is perhaps one reason why so many nurses have submitted to the high percentages taken by institutions. I am glad to say that the Nurses Co-operation has flourished greatly in the few months of its existence. Early in May there were 103 nurses on its books, and every one of them was "out." A pile of telegrams asking for nurses stood on the Lady Superintendent's desk when

I called to see her, and another arrived during our short interview. The Co-operation has also male attendants, and masseurs and masseuses on its books.

VARIOUS OPENINGS FOR NURSES.

There are several special departments of nursing which may be taken up by women who may be inclined towards them. Of these the most varied, perhaps the most useful, and certainly the most arduous, is district or parish nursing. The payment in towns varies from £35 to £50 a year, in addition, generally, to board, lodging, uniform, and washing; while as a rule in the country the payment is rather higher, but rooms only are provided. Particulars can be obtained from the Metropolitan and National Nursing Association, Bloomsbury Square, W.C.

Army and Navy nursing is carried on by a staff of ladies, who are expected to be of good social position, and must have trained for three years in a good general hospital. They serve at various military stations, and may be sent to any seat of war. They earn from £30 to £50 a year, seniors who act as superintendents receiving £20 a year beyond; Lady Superintendents receive from £120 to £200 a year.

Workhouse and asylum nursing appears to be rather worse paid than hospital nursing in general, and is, on the whole, in the hands of a less educated and less trained class of women. Ladies to whom payment is not of primary importance, and who are mainly moved by a desire to do good, might find a field in the workhouse infirmary and the public lunatic asylum. Space forbids

me to go into the further branches of nursing—midwifery, monthly nursing, and massage. Persons desiring information cannot do better than spend 2s. 6d. upon *Burdett's Hospital Annual* (*Hospital* office, 140, Strand, W.C.), where they will find the addresses of the various associations and institutions. It also contains full particulars of the National Pension Fund for Nurses, by contribution to which any nurse can ensure a small income after a certain age.

GENERAL REVIEW.

Looking at trained nursing as a whole, it appears to have as a calling one or two especial features. It is not, as far as I can learn, overcrowded, and in this respect it differs from almost every other calling for women of which I know anything. As regards private nursing, it is, on the whole, well paid, but the profits are apt to be absorbed by nursing homes and institutions. A remedy for this, however, now exists in the Nurses Co-operation, and the competition of this self-managed association will no doubt before long reduce the percentages of the other institutions. Then will arise, I fear, another danger. Women to whom the earning of their own living is not a matter of necessity will begin, when the institutional tax is diminished, to reduce their charges to patients, and the institutions, when the additional pay no longer goes to their funds, will be eager to gain custom by such reductions.

Nurses who allow themselves to be used, to thus lower the earnings of their whole class of fellow-workers will act thus—from want of thought chiefly—in a very disloyal way.

It is such action as this on the part of women-workers in various branches that causes the whole rate of payment of women's work to be so miserably low, and that tends to ruin wages first, and quality of work next, in every men's calling into which women enter. There is plenty of nursing that cannot in the nature of things be adequately paid, and yet is sorely needed. Let the trained nurse who does not need to provide for her old age, devote herself to this, and let her feel that it would be a treachery to help in lowering payments to those of her fellow-workers for whom nursing has to be not only a vocation but a means of livelihood.

No. 9.

THE SCHOLASTIC PROFESSION FOR MEN.

BY

J. H. YOXALL.

(*President National Union of Teachers.*)

IX.

THE SCHOLASTIC PROFESSION FOR MEN.

I WILL sketch the scholastic profession for men as seen from the interior, the seamy side ; for the exterior view of it is somewhat deceptive. My aim is to show the parent, who may be contemplating schoolmastership as an occupation for his son, how the son would be likely to regard his position, if he became a teacher, in the after years. There is much need for a faithful presentment of the interior aspect of teaching as a life-work. The old idea was that schoolmastering was a light and easy avocation, suitable for any person not fit for anything else. In the past the presence of ill-health or lameness in a lad was held to be a heaven-sent hint to make him a teacher; and failure in any other position was almost a credential for "keeping school." Such ideas are now almost exploded, but even yet there is no occupation so lightly entered on, and therefore so fruitful of disappointment, as that of the schoolmaster. To a mere superficial view the teacher's position seems to be one with many advantages and few drawbacks; the public importance of the work blinds the eye to the private unimportance of the worker ; the shortness of the hours and the length of the holidays

obscure from view the inadequacy of the remuneration; the work is apparently so easy that few of the uninitiated suspect how really difficult and exhausting it is; and the highly respectable exterior of the schoolmaster does not betray his lack of independence of meddling and irritating outside control. And so much "mouth-honour" is rendered by press and platform to the high calling of training those who "own the coming years" that the rough-and-ready observer fails to note that a teacher, *as a teacher*, gains far less social consideration than by the dignity of his work he deserves.

THE QUALIFICATIONS FOR SCHOOLMASTERSHIP.

But the wise father, who is said proverbially to "know his own son," will less consider how the profession of teaching looks from the outside than how far the son is fitted to succeed in the profession; and will care less with what eyes the boy regards the occupation than in what light the man will view the position when he knows it by experience. The foremost considerations will probably be, "Will it be a step higher socially for my son?" and "will it be an advance pecuniarily for him?" Yet there are other and more important considerations to be kept in view. Chief of these is the fitness or unfitness of the lad for the work. It must be understood from the first that schoolmastering is not a suitable refuge either for the delicate lad or the "fool of the family." The physical tax which the successful teacher pays for his success is considerable; and the necessary mental tax is obvious. Robust health is almost essential; quickness, clearness,

and general power of mind are indispensable. A dull man or a weakly man may scramble and limp through life, no doubt, as a teacher; many are doing it to-day. But the scramble will be a wearisome heartbreaking affair, and all his life long, conscious of his inefficiency, the dull or weakly man will execrate the paternal mistake, which made him (*in name*, that is) a teacher. Few sights are more piteous than the hourly failure of the dull teacher to put things clearly, or the daily fag of the weakling, killing himself by fruitless labours, the Sisyphus of the modern school.

But health and brain-power are not all the requisites which go to make a successful teacher. Knowledge, "bookishness," and study are useless to the schoolmaster unless they are combined with "the art of putting things," the faculty of lucid explanation. Then there is patience—patience, the indispensable but uncommon quality. There should be also cheeriness of demeanour, freshness and gaiety of manner—the child-like heart in the adult breast. Most of all is the faculty of discipline, and it should be noticed that good health and overweening lung power are not infallible indices of the knack for control and discipline. Discipline is perhaps the chief requisite for a teacher; the calm, easy control over others, which is the indispensable condition to good work in schools, is to the teacher what the eye is to the artist, what a turn for figures is to the actuary, what self-possession and unfaltering fingers are to the surgeon. "Discipline," as it is called among teachers, the mastering and controlling power, seems purely a product of the individual's person-

ality; it is a capacity "born, not made," it cannot be made; it can only be slightly developed. A chief question for the father to ask himself is, therefore, "Has my son more than the common amount of individuality; and has he force and tact enough to impress his individuality on others?"

I may summarize the qualifications for a teacher as follows:—brain, health, patience, cheeriness, lucidity, individuality, tact, and management; endowed with these a lad may be certain of success as a teacher if he but work and persist, and bear himself honourably and blameless.

THE MEANING OF SUCCESS.

Let us now see what is meant by "success" as a teacher. I will not here dwell on the pleasure and satisfaction of honour derived from work rightly done, of a high duty fairly discharged, though these in themselves are success and reward to the teacher who values his vocation. But we must measure success by the common rule and standard—we must estimate it by £ s. d. What in the way of £ s. d., then, can the successful teacher command?

There are two great classes of schools: the public elementary day school, Government-inspected and State-aided, and the secondary school—all schools which lie between the public elementary school and the university. First let us consider the chances in the public elementary school.

There are 17,800 men teachers, fully certified and possessed of all the formal qualifications, at work in the

public elementary schools in England and Wales. Their salaries range from £45 or £50 to £400, and the neophyte will have about equal chances of sinking to a sovereign per week or rising to £200 per year. The average salary of the fully qualified master in such schools is £120. More than seven thousand masters receive less than £100 per year; and two hundred receive less than £50. We may estimate from the parent's point of view that success as a schoolmaster means a payment of more than the average salary. Well, there are less than four thousand teachers in public elementary schools who receive more than £150, and there are less than 1,600 who receive more than £200. Only 750 receive more than £250, only 350 receive more than £300. £400 may be taken as the maximum payment, which few indeed receive, and they only for a part of their lives as teachers. Beyond that £400 the most successful, most able, most worthy teacher cannot hope to go; and there are about ninety chances to one that any given teacher will never reach the £400 limit. Such are the rewards for the exhausting and much-interfered-with labours of the teachers in public elementary schools.

What, then, are the pecuniary prospects of the teachers in Secondary schools—the grammar schools, boarding schools, academies, seminaries, "colleges," &c.—that stud the land? Statistics on this head are not available, and only general statements are possible; but the student of the advertising lists which "scholastic agents," the middlemen of the profession, send out monthly, will find that hosts of assistant-masters will accept posts as ushers at £30 to £50 per annum, plus the usual board and resi-

dence, while even the Wrangler or first-class man in classics does not refuse a stipend of £200 to £250. The head-master of a minor grammar school may receive from £300 to £600 from the endowments and fees, eked out by the charges on residential scholars; but such posts are few. The teacher who is "head of a house" at a great public school may make £1,000 by his teaching and catering for boarding scholars; and the heads of the great schools such as Eton, Harrow, Winchester, Rugby, Mill Hill, &c., enjoy stipends running up into the thousands. But these are the great and rare prizes of the profession, often unattainable by "mere merit" without interest, few in number and tenaciously held. And most of the superior posts of the profession are tenable only by men in holy orders.

The "private schoolmaster," head of a "private adventure school," in which he has embarked from £300 to £1,000 capital, may expect to make a fair interest on his capital, in addition to some remuneration for his labour, if he be skilful, respected, and industrious. But here again the lottery element enters; for one such success there are scores of failures. The average owner of such an adventure makes, perhaps, £150 clear per year. The fact that very many secondary teachers look with envy on the position of a Board schoolmaster who earns £250 per year, will show that right through the scholastic profession for men the rule is indifferent pay.

THE ENTRANCES.

The chief entrance to mastership in a public elementary

school lies through pupil teachership. There are side entrances, but so unsatisfactory are they that I will not dwell upon them. A suitable lad will find no difficulty in becoming a pupil teacher between the ages of thirteen and seventeen. As a rule pupil teachership lasts for four years. A lad must be properly indentured, and during the term of his indenture he will receive a nominal payment rising from about £10 to about £20. The expenses in books for study during that period will amount to about thirty shillings per year. At the end of his pupil teachership the youth will sit for examination at some training college, and, if successful, he will obtain a Queen's Scholarship. The Queen's Scholarship will entitle him to board, lodging, and tuition free for two years. But a condition to this is his acceptance at some recognized training college, and as about 2,300 candidates annually apply for less than 1,500 vacancies, only those on the upper part of the list in the order of merit can expect to enter such a college. And as nearly all the training colleges are denominational in creed and management, only those who subscribe to the tenets in vogue at any training college can expect to be admitted there. If admitted, the young man must spend something like £30 per year for two years on entrance fees, clothes, books, travelling expenses, and pocket money. He must further pass two strict examinations before he can become recognized as a certificated teacher, and three or four times during his preliminary career he must satisfy medical inspection.

Day training colleges, non-residential, have recently been established in several large towns, and the winner

of a Queen's Scholarship at one of the day training colleges is entitled to the educational advantages of the place plus a yearly sum of £25 in lieu of board and lodging.

The pupil teacher who finds himself "too low on the list" to enter a training college has two courses then open to him. He may serve in some school or other as an "ex-pupil" teacher at from £50 to £70 per year, and at the end of a year may try again at the Queen's Scholarship examination. Or he may give up the idea of a college training, and, while teaching by day as an "ex-pupil" teacher, may study at night until he is able to pass the certificate examination. Having done this last, he may compete with those who have passed through a training college, but he will do so under disadvantages, and it cannot be made too plain that only the lad who is in a position to pay the cost of residence at a training college is likely nowadays to succeed to the higher posts of the profession. Very many excellent teachers are now at work who have had no college training, but a recent regulation of the Education Department tends to discredit all who may so enter the profession in future.

The way into the secondary schools lies often through student-teacherships, but mainly, with the better class of secondary schools, through a university. Whether they enter as ordinary paying undergraduates, or as "sizars" by means of scholarships, large numbers of "'varsity men" are now turning their attention to teaching as a profession. The result is a crowding and elbowing, and a consequent

lowering of stipends. But there will always be a chance for a clever lad, who earns a scholarship of £60 to £80 per year for three or four years, to take a degree at Oxford or Cambridge, and become an assistant-master in a good secondary school. Exceptional ability as a student is needed to win such scholarships, and they are not many in number; yet it is quite possible, and not very uncommon, for a clever lad to keep himself after the age of seventeen or so by means of entrance scholarships and the further exhibitions open to "undergrads." Again, there is the method of unattached studentship. At a cost of £70 or £80 per year for four years a young man may reside at Oxford and Cambridge outside the colleges, and yet study in their lecture-rooms and pass their degree examinations. In one way or the other, however, the possession of an academic degree is essential to success in the secondary school. Among the teachers in elementary schools, too, the academic degree is now no unusual possession. In very many cases, both in the one class of school and the other, the degree is that of an examining university such as the London University or the Royal of Ireland. The existence of such examining universities affords a path to a degree on a much cheaper scale than the Oxford or Cambridge method.

THE EXITS.

These are many, in the elementary school area especially. An ill-tempered annual report from the Government Inspector, a cantankerous or spiteful School Board member or voluntary school manager, a failure to shop at the

"emporium" of the chairman of the small School Board, or to worship at the church of the clerical school-manager, may any of them cause a teacher's dismissal from his post. And a post once lost is not easily replaced. The life of a teacher in a public elementary school is too often a round of hard and ill-assisted work, harried by interference from officials who know little of the difficulties of the work, and care less for the comfort and dignity of the worker. A large percentage of teachers quit the work every year, some for the auctioneer's hammer, some for the church, some for the counter, some even for the (licensed) bar. Those who remain have no system of pensions to rely on in their old age, although they serve their country as truly as does the soldier, the civil servant, or the statesman. Secondary school-teachers often take holy orders, and, failing to succeed in schools, accept curacies or livings.

There is no proper system of promotion from one grade of school to another, and none for transforming the successful teacher into an inspector of schools. The teacher's life may be described as a rut, with few outlets and little reward at the end of it.

QUOTATIONS.

I will quote two passages bearing on the scholastic profession for men, and with them I end this brief and necessarily imperfect account of the profession. A prominent member of the Elementary School branch thus describes the "Seven Ages of the Certificated Teacher":—

"First, the monitor at fourpence a day; second, the pupil teacher with pay that merely finds him in clothes and books; third, the ex-pupil teacher at a pound a week, or so; fourth, the Queen's scholar at nothing a year and find himself; fifth, the certificated assistant with less than the wages of a mechanic; sixth, the middle-aged teacher worried to death on £120 a year; seventh, the lean and hopeless oldster, *sans* berth, *sans* savings, *sans* pension." Lest this should be thought a partial and prejudiced statement, let me add what a great daily paper recently published in a leading article:—"In these days of high pressure, and of those manifold examinations which are regarded by many persons as the end and aim of all school life, the master has not yet been cast who could for any greater length of time than now stand the strain of the work which is expected of him. It is a laudable custom to hold up to honour the profession of the schoolmaster. It is a custom, less laudable but far more common, to hold the man himself up to ridicule. The 'pedagogue' is always considered fair game. The masters in the great public schools have, it is true, a recognized position, but the private schoolmaster, honourable as his calling is declared to be, useful and important as it certainly is, is—unless exceptionally favourable circumstances have brought him to the front—no man. How any mortal in his senses can voluntarily adopt such a profession is a standing marvel."

No. 10.

MEDICINE FOR WOMEN.

BY

MRS. M. A. MARSHALL, M.D.

X.

MEDICINE FOR WOMEN.

The object of this paper is to answer the question, "What shall we do with our girls?" by trying to show that, at present, one of the best openings for women is in the profession and practice of medicine—best in the sense that it is a useful occupation, and that it provides full employment for all a woman's faculties both of heart and head. There are very few, if any, positions open to women where they can so soon make themselves independent as in the practice of medicine, either at home or in India, probably also in the colonies, especially in Australia. Hitherto India has claimed so many women doctors that at home the demand for fully qualified medical women to fill posts and vacancies has exceeded the supply. The Indian medical colleges are now educating a certain number of Indian ladies that they may ultimately practice among the native women, but it will be a long time before the vast field of India can be supplied from this source. In all probability, for many years to come, English women who have had a complete education in the medical schools at home, will be required in large numbers to fill important medical positions in India.

THE FIRST BEGINNINGS.

It is now more than twenty-two years since a small band of women in Edinburgh made the first joint and determined attempt to secure an education which would enable them to register themselves as practitioners of medicine. After five years of struggle to obtain from the Edinburgh University the education they required, the women were obliged to give up the battle there and go to London, or abroad, to obtain the necessary instruction. Yet from that date onward the movement has gone on widening and extending in a remarkably rapid manner, illustrating the truth of Mr. Stanfield's philosophic remarks made in reference to the whole subject of the Edinburgh struggle, that—"It is one of the lessons of the history of progress that when the time for a reform has come you cannot resist it, though, if you make the attempt, what you may do is to widen its character or precipitate its advent. Opponents, when the time has come, are not merely dragged at the chariot-wheels of progress—they help to turn them. The strongest force, whichever way it seems to work, does most to aid." In 1874, when the women students were driven away from Edinburgh, there was no school or hospital in the United Kingdom open to them. Now there are four separate medical schools for women—two of these in Edinburgh (where the battle seventeen years ago was apparently lost), one in Glasgow, and one in London. Women are now admitted to all the men's medical classes at the Royal College of Surgeons, Dublin; at the Queen's College, Belfast; and at St.

Mungo's College, Glasgow—following the example of the Paris and Swiss universities, where women are admitted to take the whole medical curriculum on exactly the same terms as men. The students from all the schools in this country enumerated above are eligible for examination by the following examining boards, who grant licenses to practice, viz., the King's and Queen's Colleges of Physicians, Ireland; the Royal College of Surgeons, Ireland; the conjoint Colleges of Physicians and Surgeons, Glasgow; the Society of Apothecaries, London.

Two universities in this country grant degrees in medicine to women; these are the University of London and the Royal University of Ireland.

The course of study for a university degree takes longer time and is more difficult, as the range of subjects on which the candidate is examined is wider than for a simple license. Any student who intends to take one of these degrees must conform to the special regulations from the outset of her studies, as the requirements are different in each case. Indeed, it is wise that in all cases the student should decide before beginning her studies which degree or diploma she will prepare for, and all details and directions can be got by application to the secretary of the school selected.

THE QUESTION OF EXPENSE.

The total expense of a medical education varies somewhat with the different schools. Speaking somewhat roughly, the whole course of lectures and hospital

instruction, with degree or diploma and the necessary outlay for books and instruments, costs £200; at least no student should undertake it without seeing her way to having this sum to expend upon her education. Personal expenses depend entirely on individual requirements and the arrangements made for board and lodging, &c., by each student. Intending students can learn from the secretaries of the schools all particulars as to scholarships, of which a good many are now offered. Those who wish to devote themselves to medical missionary work will frequently find that the religious society under which they propose to work will give help for the cost of their education.

Unless there are special considerations which determine the choice of a school, it is well that, where it is possible, the young women students should be placed so that they can live in comfortable homes, where their food, and, generally speaking, the hygiene of their surroundings is superintended for them. From the engrossing nature of the study they are engaged in, all questions of personal comfort and necessary domestic supervision are certain to be disregarded and neglected when it means time and strength taken from books and hospital work. The student who is freed from all claims on her time outside her work, and who has her home comforts well provided for, will be much more likely to go through her course with success and without any serious breakdown in health than those who are less happily situated. From the number of schools open to women, many who take up the study of medicine can now remain with their parents

in their own homes, and for a young girl this seems to us to be the ideal arrangement. For those who cannot do this there are, at least in London, special boarding-houses, also a college hall of residence, under a committee of council, with lady principals at the head, where only women students are received, and all arrangements are made with a view to their convenience, comfort, and general well-being.

WHAT WOMEN HAVE ACHIEVED.

Upwards of one hundred women are now upon the British Medical Register, and they are, almost without exception, engaged in active medical work. Very many have gone to India; a certain number to work in connection with the medical branches of the various missionary societies at Ahmedabad, Poonah, Lahore, Benares, Lucknow, Madras, and Nagpoor; others to fill posts in hospitals and dispensaries in all parts of India under Lady Dufferin's scheme for "Supplying Female Medical Aid to the Women of India"; whilst a good many are in medical positions which are quite independent of all societies and associations, notably the ladies who hold posts in the Cama Hospital, Bombay—which is now under Government—and those in the hospital for women and children in Madras. These ladies, in addition to their hospital work, have large practices among both native and European families, and they are often called upon to make long journeys up-country to give medical advice and treatment to native ladies who have no women doctors with them. We must not omit to mention among

the workers two or three qualified women who are engaged in missionary work in China, and one who has been in very successful practice at the Cape for a good many years, and some others who have gone to the colonies. One lady has recently gone to Tasmania, engaged as assistant to a doctor who is in large practice there. This lady had previously held a similar post in the neighbourhood of London, where she had been assistant to a doctor who had large numbers of women-workers under his medical care.

IN INDIA.

Until recently India has seemed to offer to women doctors the best guarantee for getting immediate paid medical appointments; but, as time goes on, the medical posts which are open to women in England increase rapidly in number. At the present moment there are eight separate resident hospital appointments held by women in our own country, and one lady doctor is resident medical superintendent in "Babies' Castle," which is Dr. Barnardo's home for very young children. For those at the beginning of their medical career these resident posts give invaluable opportunities for acquiring experience in responsible work. Since October, 1887, Dr. Barnardo has employed a lady as medical inspector to the children boarded out from his Homes. These children are numbered by hundreds, and they are boarded in homes at wide distances apart. They are inspected as to their health and general well-being four times during their first year, and once every six months every

succeeding year during the whole period they are boarded out. This work has increased so much that two ladies are now necessary, and they have pretty constant employment, making long journeys from one place to another to visit and inspect the children, and then to send in detailed reports to Dr. Barnardo.

For a good many years now a lady doctor has been attached to one of the largest and most important of our girls' day schools in London as medical inspector. The importance of the supervision exerted in this way over the pupils can hardly be over-estimated. Their muscular development, the conditions of their spine and their eyesight are all tested. In the gymnasium attached to the school, courses of exercises are performed, under skilled supervision, specially prescribed for each girl, with a view to maintaining, or improving where it is necessary, the pupil's health. With the high standard of education now demanded in girls' schools, such a superintendence becomes almost imperative, so as to ensure that the strain in any particular case shall not be allowed to become too great for health, and we look forward to the adoption of similar precautions in all girls' high schools at no distant date. Through the action of the late Mr. Fawcett, when Postmaster-general, three women were appointed as medical superintendents of the female post-office clerks. These were the first medical posts in the civil service that were given to women, and the three who were first nominated still hold the same positions in London, Manchester, and Liverpool, where they are doing useful and honourable work.

AS GENERAL PRACTITIONERS.

Many of the qualified women have settled in medical practice in London and other towns in this country, and a considerable portion of them are doing hard and conscientious work as general practitioners amongst women and children. It is difficult to speak in any general way of the success of women doctors as measured by the amount of income they make. An unknown quantity forms too great a factor in the problem—so much depends upon the individual. The experience, however, of the last ten or twelve years, during which time so large a number of women have entered the profession, entitles us to say that, if a woman has good health and is well equipped by her studies and fitted by her training for medical work, and, above all, if she has the necessary gift of character, viz., self-reliance and courage, perseverance which will court rather than shirk hard work, along with that power of sympathy and that force of character which influence and give confidence to one's fellow-creatures, she will do well, will have plenty of responsible work to do, and will soon realize a good income. It must, however, always be borne in mind that with women, as with men, the first few years of medical practice are not, as a rule, remunerative. Hence it is important that women who take up medicine as a profession with a view to private practice, should have some provision which will enable them to live without heavy money cares during those first unproductive years. Parents have probably hardly yet realized that it may be as wise to incur prolonged expense to enable a daughter to

achieve a good position and income in the future, as it is in the case of a son. Those who go to India have sufficient from the first with every appointment to enable them at least to live without care. It cannot be doubted that the paid posts open to women doctors in this country will go on increasing in numbers. Already, as we have shown above, they are employed as inspectors of children who are boarded out in homes or gathered together in schools, as assistants to doctors who have large numbers of women under their charge, as residents in general hospitals in charge of the women's wards or in maternity hospitals, as medical officers of women's and children's dispensaries, and as medical superintendents of large numbers of female clerks. If the varied work already entrusted to them is done so well as to secure the approval and confidence of the public it must necessarily follow that many other openings will present themselves.

WORK OBVIOUSLY FOR WOMEN.

The medical charge of all communities and assemblages of women or girls, whether in factories or large shops, or in other occupations, in schools or in colleges, is obviously work that should be done by women. It is much to be hoped that the Local Government Board, following the example of Dr. Barnardo, may see its way to appoint women as inspectors of the children from the workhouses who are boarded out in families in the country, and of the girls' departments in the Metropolitan Asylum Schools. In these schools there are large numbers of girls congregated together under conditions which must demand

a woman's special knowledge and influence, along with medical supervision. The same is true of the maternity wards of workhouses, which hitherto have not been open to women doctors. The cases in many of these wards are numerous, and a large proportion of the patients are single women. It is a matter of general experience that such cases can be better dealt with by women than by men, while to the doctors themselves the experience to be gained there would be most valuable. In America, where the public have been for a longer time familiar with the idea of women practising medicine than we have been here, it is quite customary for a woman doctor to be at the head of the Female Department in State Lunatic Asylums, while a man doctor is in charge on the male side. The two departments are quite separate from each other. These ladies have from four hundred and upwards of female lunatics under their charge. This division of labour has been found to answer in many ways better than the older plan of having all the patients under one superintendence.

Why should we not learn from the Americans, and adopt a similar reform in this country?

SUMMARY.

In the statement we have given as to the actual work done at present, or to those extensions of the work which we have ventured to hope will be opened up to women in the future, there is nothing involved which to any unprejudiced mind can appear otherwise than as essentially womanly work: work to give full employment to all a woman's faculties of heart and head. Helping sick

women and children by every means in her power; watching over the health of young women employed in active business; overlooking the health of young girls in schools or families, and especially superintending individually those less fortunate children who have no homes and are provided for by the State; and caring for the women outcasts of society.

But there is another aspect of the question—the effect upon the young woman herself who takes up medicine as her work in life. She will, no doubt, have many toilsome days, and anxieties to bear in proportion to the responsible nature of her work; but through it all she will have the happiness of a larger, fuller life, with wider aims than if she had chosen the easier path of doing nothing and idling away her young days and energies. Above all, she will have the delightful consciousness of being useful to her fellow-women, of taking her share of the serious work of the world, and the satisfaction of making herself independent, so as to be able to stretch out a helping hand to those that need it.

No. 11.

THE POST OFFICE FOR WOMEN.

BY

MISS CLEMENTINA BLACK.

XI.

THE POST OFFICE FOR WOMEN.

THERE are at present between two and three thousand women employed in the chief offices of London, Edinburgh, and Dublin, besides many more in various provincial towns. The position of these, as compared with most women in the labour-market, is distinctly advantageous in respect to hours, pay, conditions, and superannuation; yet—and nothing shows more forcibly the disadvantages under which women, as such, labour—the salaries of these women are considerably below those given to men for similar work in the same departments. Thus, while a "first-class counterman and telegraphist" in London is paid £110 to £160 a year, and a "second-class counterman and telegraphist" from 12s. a week to £110 a year, a "first-class counterwoman and telegraphist" is paid from 30s. to 38s. a week, while a "second-class counterwoman and telegraphist" receives 10s. to 30s. The average pay of a woman is exceedingly poor in comparison with that of a man, yet while the competition for the men's posts is comparatively small, that for the women's is extremely keen; this is the one point of serious dis-

advantage about the Post Office as an occupation. There are limits of age, and the examinations, though they may be taken to occur about twice a year, are not at fixed periods, but depend a little—as they almost inevitably must—upon the occurrence of vacancies. A girl may have given time, and have paid for teaching, and may secure at the examination a very fair proportion of marks, but yet if she is, for instance, one of 605 candidates competing for 20 vacancies, it is obvious that she stands a considerable chance of not obtaining a place. By the time another examination comes she may be over the required age, and her opportunity is gone. The safest plan would seem to be for those who aim at clerkships to begin at the lower grade of sorters, because if a position in this branch is secured, the limit of age for the clerk's examination is extended, and even if the candidate fails to secure a sortership she has lost no time, since she can only enter for a sorter's examination between the ages of fifteen and eighteen, and for a clerk's examination between eighteen and twenty, while the requirements, though less severe in one case than the other, are so much of the same sort, that the training will be of help to her.

There are certain conditions common to all these examinations and appointments. All candidates have to be unmarried or widows; all appointments are resigned on marriage, and all candidates have to undergo a medical examination—which takes place after they have passed the competition—and to satisfy the Civil Service Commissioners on the point of character.

SORTERSHIPS.

Candidates must be between the ages of fifteen and eighteen years (in all these examinations there is an extension of age shown to any person who has served two full consecutive years in any Civil situation to which she was admitted with the certificate of the Civil Service Commissioners—but I own I fail to see how this can apply to the junior sorters). Every candidate for a sortership must "satisfy the authorities of the Post Office that she is not less than 4ft. 10in. in height without boots." There is an entrance fee of 5s. The subjects, all of which are essential, are :—1. Reading and Copying MS.; 2. Handwriting; 3. Spelling; 4. Arithmetic (first four rules, simple and compound); 5. Geography of the United Kingdom.

The examination papers published show that this examination is not in itself a very stiff one. Candidates had twenty addresses in MS. set before them to copy in half-an-hour. Then in another half-hour they had to copy as much as they could of a report (apparently printed) on the railways of Jamaica, including many figures; I should think a swift and accurate copyist might perhaps have done the whole. The dictation was one which any girl at a High School should have been able to write without a single error. The first arithmetic paper was also such as a girl at a good school ought to have been able to pass without any special preparation. The second arithmetic paper consists of long sums of addition of money; and here, I feel, comes in a need of special pre-

paration. Any person whose brain is made (like the present writer's, alas!) with an ability for comprehending arithmetical theory but a woeful inability to carry out accurately any prolonged arithmetical operations, will need to devote a long time of practice in arriving at precision and speed in these long additions—known in the slang of the Coach and the Department as "Tots." The geography paper is considerably the stiffest of the series, and any girl who wanted to make sure of passing in it would have to be well up in the geography of the United Kingdom.

Sorters, when they pass into work, are chiefly busy in sorting and arranging papers which have to do with the business of the various departments. They work eight hours, from half-past eight to five. They begin at 12s. a week, rising by an annual increase of 1s. a week to 20s. First-class sorters receive 21s., rising by increases of 1s. 6d. to 30s. Promotions to vacancies in the higher class depend on merit. There were at the end of last year 25 first-class, and 229 second-class sorters in London. As I have said before, sorters who have been working for two years secure an extension of age if they try for clerkships.

CLERKSHIPS.

These are the posts which are the most desirable and which offer the best openings. The women clerks of the Post Office work in comfortable offices, they are provided with convenient dressing-rooms and lavatories, the department going so far as to furnish each lady with a

special towel, as well as her share of the nation's soap and water. In one branch, to my knowledge, and I believe in all, there is a dining-room and kitchen. This arrangement is the more necessary because the mid-day interval is only half-an-hour. The hours are in some departments six, in some seven, a day. A month's holiday is allowed, besides Bank-holidays, and the salary begins at £65 a year for second-class clerks, rising to £130 for first-class, and £190 for principal clerks; while the assistant superintendents—of whom, however, there are but five—receive from £200 to £240, and the three superintendents £250 to £400. Post Office clerks who have served forty years are entitled to a full pension equal to two-thirds—or, as the Act of Parliament says, forty-sixtieths—of their salary; while any one retiring after ten years is entitled to ten-sixtieths, after eleven to eleven-sixtieths, and so on. A young woman who should obtain at twenty a second-class clerkship, would begin by earning £65 a year, and go on by yearly advances of £3, till at thirty she would probably be earning £92. I say probably, because there are slight differences in different departments. Second-class clerks do not rise beyond £80 in the branches which only work six hours, but then there is the chance of becoming a first-class clerk, and the salary would in that case increase by £5 a year. Supposing our candidate, then, to make £92 a year, and to marry at thirty, having served the department ten years, she would be entitled to a yearly allowance of ten-sixtieths of £92, or—as far as that arithmetical weakness confessed above allows me to

calculate—£15 6s. 8d. This is not, perhaps, a very great addition to a woman's income, but few indeed are the private employers under whom it could be earned. The real comfort of the pension comes in in the case of those who remain at work the whole forty years. A woman who has done this would probably have reached the highest salary as a first-class clerk—£130—even if she had not risen to be a principal clerk, and would be entitled to a pension of £86 odd for the rest of her life. An income of £130 a year followed by one of £86 on retirement is not very magnificent, but there are very few positions, indeed, in which a woman can be sure of earning so much in so easy a way, and with so little demand for special ability. Of course, a woman must be careful, competent, and business-like to fill these posts; but the standard required is one to which any fairly educated and intelligent girl can bring herself if she chooses. The position is not brilliant, but it is safe and comfortable, and exceedingly respectable. The work is, as its name implies, entirely clerical; but, of course, it varies slightly in different departments, and in some includes a considerable amount of account keeping. The branches in London which employ female clerks are the Postal Order Branch, the Clearing House Branch, the Returned Letter Office, and the Savings' Bank Department. This last-named department is understood to be gradually increasing its female staff as vacancies arise, and it seems probable that in other branches there will be at least no diminution. The subjects required in the examination for clerkships are the same as those required for

sorterships, but the standard is higher, and English composition, "with special reference to grammatical accuracy and English history," are added. The fee is 2s. 6d.

The arithmetic goes into decimals, but is not by any means alarmingly abstruse. The subjects set for English composition were at the first examination of last year, "Employments for women now and in former times;" "A journey round my garden;" or, "The poetry of Longfellow;" and at the second examination, "Mary Queen of Scots;" "The heroines of Scott;" or "A letter to a friend describing a strike." The geography (which is not in this examination confined to the United Kingdom, but travels from China to Peru) looks as if it would require a good deal of preparation, and so does the history. Still, where the subjects demanded are so few, the examination should present no very serious difficulties—except, of course, that the eagerness of the competition makes the securing of a place almost hopeless unless the candidate can make pretty sure of securing a very large proportion of marks.

TELEGRAPH LEARNERS.

Telegraph learners have to be from fifteen to eighteen years old. After passing the examination, they have to attend the Post Office Telegraph School. This course generally lasts three months. They are paid nothing during this time, and are liable to be rejected if they show no aptitude for the work; not everybody, it appears, can be trained to become a telegraphist. After obtaining a certificate, they begin a period of probation in which

they earn 10s. a week, rising to 12s., when they are certificated as fully competent to transmit public messages, and to 14s. when competent to take charge of an instrument. From this they rise to 30s., and if promoted from the second class to the first, 38s. There are also supervisorships of the upper and lower section, in which the salaries vary from £90 to £140, and to several of which other allowances are attached, but these are not numerous. The examination is very similar to that of the sorters, with the addition of a "spaced dictation," written on paper ruled in even divisions like a telegraph form. For all these examinations there is an organized system of preparation, and candidates who do not feel equal to the task of self-preparation can take advantage of some of the many classes of private teachers. Quite a literature of special handbooks, questions, examination papers, spelling and dictation books, exist for the guidance of persons desiring to obtain these and other Civil Service appointments. There are now three weekly newspapers and four monthly magazines wholly devoted to the interests of the Civil Service competitor. The "Civil Service Year Book," published by Shepherd and St. John, St. Bride Street, E.C., contains regulations, the examination papers of the previous year, and a host of advertisements of teachers and examiners, among which candidates can choose for themselves. There is also a Government publication, costing 1s., which gives the rules and regulations respecting examinations for the Home and Indian Civil Service, and a great many other Government appointments. It does not give the salaries attached to these

appointments, nor does it explain how many clerks, &c., there are of each description; but it explains whether the appointments are by nomination, by open or limited competition, what fees are required, and what qualifications are necessary. This little book shows that the Government of England has in its pay quite a considerable squadron of female employees of all sorts, who obtain their various appointments by recommendation. In the Post Office itself, for instance, there are housekeepers, charwomen, and needlewomen; in many departments there are women engaged in bookbinding, "folders," and "sewers"—the British Museum employing a very considerable number.

Then there are housekeepers and matrons to various public buildings. There is, for instance, a lady who occupies the impressive position of Housekeeper to the House of Lords, and the Lord Great Chamberlain's Office, but the House of Commons, which one would suppose equally in need of domestic guardianship, does not appear to be provided with any such functionary. The discovery of this deficiency will no doubt satisfy all practical persons as to the explanations (sought hitherto in so many directions) of the greater prevalence of influenza in the House of Commons during the visit of the epidemic.

One other position in the Post Office is always filled by a woman—that of Female Medical Officer, held by a duly qualified lady practitioner.

No. 12.

CIVIL SERVICE APPOINTMENTS.—I.

EXCISE AND CUSTOMS.

BY

GEORGE MURPHY.

XII.

CIVIL SERVICE APPOINTMENTS.—I.

It is proposed in this chapter to give such information concerning the Excise and Customs as will enable parents to determine whether a career in either department would be desirable for their boys; and, in the event of an affirmative decision, to point out the course to be adopted to ensure success at the examinations.

There are some advantages attached to Civil Service appointments not usually obtained in other situations. Two of the most striking are permanency of employment (subject only to good conduct) and provision for old age, as well as compensation for injury sustained in discharge of duty, by means of a system of superannuation allowances. The Excise and Customs have these advantages in common with other branches, but they possess two others which they share only with a few. These are that the education essential to success need not necessarily be expensive, and that no previous experience of any kind whatever is required.

EXCISE.

EXAMINATIONS.

To obtain admission to the Excise is rather difficult. This arises not so much from the subjects set for examination as from the severity of the competition. The candidate must be nineteen and under twenty-two years of age, and to a man of that age the subjects ought to be simple enough, even although the high qualifying standard necessitates a thorough knowledge of them. It is nevertheless a fact that at all the examinations more than half of the candidates fail to qualify. A sight of the actual papers is better than any description of them, and those interested should obtain them, as a set can be obtained through any bookseller for sixpence.

As the examination is competitive only a certain number of the qualified candidates can succeed. This number varies according to the necessities of the department; it may be 20 at one examination and 120 at another. What adds to the difficulty is that very often the number of qualified candidates is largest when the vacancies are fewest. In November, 1886, with 50 vacancies there were only 181 qualified candidates; while in November, 1888, with only 20 vacancies, they numbered 387. The average candidate cannot do better than place himself under the care of a competent "coach." Private study in most cases is study misdirected; and results show that the knowledge acquired in the ordinary grammar school or college is of very little use at an Excise examination.

The "coach," on the other hand, is embued with the spirit of the examination; he is familiar with all the papers that have been set; he knows the fads and the quirks of the examiners, and his experience tells him the method of work and style of answering that pay best. He cannot give the candidate brains, but he can teach him to use the brains he has to the best advantage.

PRELIMINARY TRAINING.

The successful candidate is sent to a distillery for six weeks to learn the routine of his future duties. He is taught, among other things, how to survey distilleries, breweries, and tobacco manufactories; and he learns cask gauging and the uses of the slide rule, hydrometer and saccharometer. He is supplied with books containing the regulations which govern all transactions between the Excise and the public, and he is supposed in the time to acquire a fair knowledge of their contents. At the end of this period he passes an examination before the Collector, and then emerges from the ordeal a full-fledged assistant.

As an assistant the nature of his duties is agreeable or otherwise, according to his temperament. He is attached to a collection, and is employed within its limits in doing duties for absent officers. A month in one place, a fortnight in another, constantly moving about, he gains considerable experience not only of his duties but of the world and its ways, and particularly of the ways of the "genus" landlady. His salary is £50 a year rising by £5 yearly to £85. When employed he is paid in addition an officiating allowance of 2s. a day (Sundays included) in a first-class

station, and 3s. a day (to cover travelling) in a second-class station. When he reaches £85 a year officiating allowances cease, and he becomes a second-class officer (unattached) with a salary of £115, rising by £7 10s. to £150. An assistant with less than five years' service is allowed fourteen working days as private leave in the year. The unattached officer when his turn comes is sent to take sole charge of a country station. His duties need not be described, as those of a first-class officer are similar, and they will be dealt with in due course. Stations vary considerably in size, those in manufacturing districts where the population is dense being smaller than those in agricultural districts with a scattered population.

AT WORK.

Generally speaking, the officer is responsible for the due collection of all Excise revenue in his station, and for the enforcement of all Excise laws. He is paid a travelling allowance of £40 a year, if he has to keep a horse, but if there are facilities for travelling by rail or otherwise an estimated sum is fixed. In addition, he is granted an allowance not exceeding 7s. 6d. a week towards covering expense incurred through absence from home. He is allowed twenty-one working days as private leave in the year. On a favourable report from the collector, and after a severe scrutiny of his books at the chief office, the officer is appointed in turn to the first class. He has no choice as to the locality of his new appointment. He may be sent from Cornwall to Inverness, or from Connemara to London. His new duties may be congenial or

the reverse, as, owing to the diversity of Excise duties, there is an abundance of both kinds. Contented or not, he must remain in his new sphere for twelve months, but after that period he may go wherever he chooses (at his own expense) if there is a vacancy, and if he is the senior applicant; or he may exchange with an officer of the same rank. The duties of the Excise officer are multifarious. They embrace the collection of revenue from licences of all kinds, and some notion of the variety of licences may be gathered from the enumeration of a few. For instance, there are gun, game, dog, armorial bearings, carriage and male servant licences, and those of spirit dealers and retailers, beer dealers and retailers, plate dealers, hawkers, auctioneers, retailers of methylated spirits, &c.; also, with a view to protecting the revenue, the officer carefully watches the operations of tobacco and snuff manufacturers, brewers, rectifiers and compounders, users of stills, makers of methylated spirits, and distillers. He must possess an accurate knowledge of the law and practice relating to all and each of these traders. When engaged in distillery work he may be employed at any hour of the day or night, as the traders' operations demand his presence. In the larger distilleries where there are two or more officers, each in succession is responsible for a "course" of eight hours; and similarly in the larger breweries. In bonded warehouses he is employed in receiving and sending out British and Foreign spirits, wines, tobacco, and other dutiable goods. He also superintends and checks various operations conducted in bond. In warehouse his hours are supposed to be regular

(from 8 a.m. to 4 p.m.), but as a rule they are longer. In a general station his responsibility never ceases. His hours are very uncertain and not at all regular. Three hours may suffice to do the business of one day, and ten hours may not be enough for the next. Where there are breweries, most of the business is done in the early morning and late at night; and it is necessary that this should be so, owing to the nature of brewing operations. The salary of a first-class officer is £160 by £7 10s. to £200 and then by £10 to £250. The annual leave is twenty-four working days.

PROMOTION.

Before obtaining promotion a departmental examination has to be undergone. The proportion of higher appointments to the number of men who enter the service being one to seven, it follows that only one in seven can pass beyond the position of first-class officer. Before the recent rise in salaries competition was very severe, but since then the tendency is in the other direction, as many officers seem to prefer a fixed residence with £250 a year to a larger salary coupled with the wandering life of the expectant supervisor, and the worries and anxieties of the supervisorship. Expectant supervisors are employed in doing duty for absent supervisors, or in examining books at the chief office. They receive an allowance of £60 a year when employed in a second-class district and of £40 in a first-class district where there is not so much travelling. Expectant supervisors are appointed in turn to be second-class supervisors. Supervisors check all

calculations made by officers, and see that officers perform the duties required of them. They are the chief intermediaries between the Board of Inland Revenue and the public. They have a great responsibility, and their duties demand the exercise of discretion and judgment. The salary of a supervisor (second class) is £260 by £10 to £300. There is an allowance of £55 a year where a horse is necessary, or of an estimated sum where there are easy means of travelling by rail or otherwise. To cover expense incurred through absence from home there is a further allowance not exceeding £1 a week. The annual leave allowed is twenty-four working days. Supervisors of the second class are appointed on petition to vacancies in the first class. There is no difference in the duties. The salary is £310 by £10 to £400, and the annual leave is thirty working days.

INSPECTORS.

Another examination is necessary before promotion to the rank of Inspector (second class). The examination consists in the treatment of questions of a technical and administrative character, and candidates must display an intimate knowledge of the principles of taxation.

Inspectors (second class) pay surprise visits to districts all over the country, and officiate for absent Collectors. The salary is £400 by £10 to £450. Promotion (without examination) from this rank is usually to that of Collector (second class). The Collector is the channel through which all Inland Revenue monies reach the Treasury. In his office accounts are kept of receipts from various

sources, and of remittances to the chief office. He exercises a disciplinary influence over the supervisors and officers in his collection, and is responsible for its proper working.

The salary of a Collector (second class) is £480 by £15 to £540, and then by £20 to £650; and that of a Collector (first class) £700 by £20 to £800. The annual leave allowed is thirty-six working days.

First-class Inspectors are usually chosen from the ranks of the Collectors. The Inspectors are the advisers of the Board on all practical questions, and are necessarily able men of great experience. The salary is £550 by £20 to £650. There are three superintending inspectors with salaries ranging from £700 to £800, and the chief inspector whose salary is £1,200 per annum.

INDOOR BRANCH.

There is an indoor branch in the Excise which consists of the clerks to the collectors. These appointments are open to members of the outdoor branch of four years' service, who pass an examination principally in Excise topography and book-keeping. The duties are purely clerical, and consist mainly of correspondence, account keeping, the issuing of licences, &c.

The junior grade consists of clerical assistants and officers with salaries of £100 by £5 to £150, and then by £7 10s. to £250.

The senior grade is that of clerical supervisor. The salary of the second class is £260 by £10 to £300; and of the first class £310 by £10 to £400.

Assistants of Excise of one year's service may compete among themselves for studentships in the laboratory, Somerset House. There are each year about eight vacancies, and the competition is sometimes keen. The successful men receive, at the public expense, an excellent chemical education. Beyond the education received there are no special inducements to compete. Some laboratory-trained men have obtained excellent situations outside the Service, and others have competed successfully for valuable appointments in the Patent Office. The only drawback is that those who leave the Service for situations elsewhere have to refund a fixed sum to cover the cost of their chemical education.

CUSTOMS.

The examination for situations in the Customs is also competitive. Young men nineteen years of age and under twenty-five are eligible, but there are certain physical qualifications insisted on. The nature of the duties demands that officers should be robust and have no defect of vision.

From closely observing recent examinations, it is obvious that the standard has been considerably raised. Many people are of opinion that with the exceptions of higher arithmetic (confined to the Excise) and of *précis* (added to the Customs), identical papers will be set to Excise and Customs candidates. As the examinations are upon the same date, some writers profess to see in the coincidence a tendency to the amalgamation of the examinations, to

pave the way to that of both departments. Owing to the altered conditions, it would be unsafe to draw lessons for future guidance from the circumstances of past examinations, but it may be taken for granted that at least one-half of the competitors will fail to qualify, and that at least 75 per cent. of the number of marks will be necessary to secure a place among the chosen few. The advice given to Excise candidates preparing for examinations, applies with equal force to Customs candidates. The duties of officers of Customs, broadly speaking, are directly connected with vessels and their cargoes. Officers board vessels from foreign ports on their way to docks, and keep strict guard over them until the cargoes are unloaded and accounts taken where necessary. They watch by night as well as by day, and they may be on one vessel for several days. Sleeping accommodation (often of a very rough nature) is by law provided for them. Superior officers visit the vessels at uncertain periods to ensure proper vigilance. The wearing of a uniform is compulsory; it is of blue cloth, and is provided by the department. Some officers are employed in superintending the shipment of goods on outward vessels, but the majority are occupied about the quays and in warehouses near the docks. When engaged on boarding duty there are no regular hours, but in warehouses, &c., the hours are from 8 a.m. to 4 p.m., any overtime being paid for by the merchant in whose interest they are being detained. The salary of a second-class officer is £55 by £2 10s. to £80, and that of a first-class officer is £85 by £2 10s. to £100.

The Chancellor of the Exchequer recently made personal inquiry into certain alleged grievances; notably the anomaly of the "acting system," or the employing of inferior to do the duty of superior officers without the salary and emoluments of the latter. The result was the abolition of the system, the removal of other grievances, and the creation of an increased number of superior posts. Officers of the first class are promoted to be examining officers, either by selection or examination—in fact, selection plays a more prominent part than is palatable to the majority of the officers.

The duties of examining officers are various. They board and rummage vessels on arrival from abroad; they examine and pass passengers' luggage; they certify to the shipment of export goods; they test imported goods, weigh packages of tea, tobacco, &c., and gauge casks of spirits and wines on arrival. In warehouse their duties are similar to those of the Excise officer, as the same warehousing code applies to transactions under both departments. The salary of an examining officer (second class) is £110 by £7 10s. to £220, and (first class) £220 by £10 to £300.

Surveyors occupy a position analogous to that of supervisors in the Excise. They are chosen from among the examining officers. Each surveyor has a staff of examining and outdoor officers under his immediate supervision, and his principal duty is to check the accuracy of their operations. The salary ranges from £300 to £550.

Inspectors in London and collectors in the outports

have duties similar to those of inspectors and collectors of the Excise, and surveyors-general are a similar body to Excise first-class inspectors. The salaries of collectors vary with the port and range from £250 to £1,200. Inspectors receive £600 to £650, and surveyors-general £800 to £1,000.

Some one has said that the rawest French recruit carries in his knapsack a possible Marshal's baton. The spirit of this remark applies with even more truth to the humblest Excise or Customs official. In his own department each may legitimately hope to reach the highest position by diligence, ability, and attention to duty.

No. 13.

CIVIL SERVICE APPOINTMENTS.—II.

SURVEYORS OF TAXES, AND SECOND DIVISION CLERKS.

BY

"A CIVIL SERVANT."

XIII.

CIVIL SERVICE APPOINTMENTS.—II.

SECOND DIVISION CLERKS.

It is now twenty-one years since the system of open competition was established, and fifteen years since a Lower Division of the Civil Service was constituted. Even in the shorter period it would be thought that a fair knowledge of Service matters would be in the possession of the public, that such things as the competitive ordeal and the pay and prospects of the successful candidates would be commonplace matters of knowledge. To judge from the questions asked in Civil Service newspapers and in the papers issued by the "coaches," this is very far from being the case, and my own experience confirms the opinion that there does prevail on the subject a good deal of ignorance. The purpose of this chapter, therefore, is to point out, as regards Second Division appointments, the difficulties of the competition, and show how best to overcome them, and give such other information as will be of service to intending competitors and their friends.

It may be within the reader's recollection that a commission, presided over by Sir Matthew White-Ridley,

made certain recommendations to improve the organization of the Civil Service. Last year most of these recommendations were embodied in an Order in Council, and they have given general satisfaction.

The name "Lower" Division, was changed, for sentimental reasons, to "Second" Division, and the other principal changes consisted in the abolition of triennial increments, duty-pay, and the six hours' day. The improvement effected was in the substitution of a superior scale of salaries with annual increments, coupled with promise of promotion to the Upper Division as the reward of meritorious services. The length of the working day was provisionally fixed at seven hours by a Treasury minute of 1889, and the Order in Council made that length of day compulsory on future entrants. There are no situations in the Civil Service for which competition is more keen than for those of the Second Division. The cause is that not only is success worth contending for, but that the scope of the examination is within the capacity of young men of average intelligence and slender means. The limits of age are seventeen years and twenty, but in order to succeed it is not essential that a lad should be kept at school until he is of the required age. As a rule, the majority of those who pass are in some regular employment previous to the examination, but they study hard under competent direction during their leisure time.

Of course if parents can afford to train a lad solely with a view to pass the examination, the chance of success is enhanced, but I think it would be wise to

have congenial employment to fall back upon in the event of failure. It should not be forgotten that the cleverest cannot count upon success in an open competition. In fact one of the mysteries of the open competitive system is that at every examination numbers of clever, well-prepared youths fail to pass while others known to be their inferiors succeed.

COURSE OF STUDY.

The best course a candidate can adopt is to read and work under the direction of a "coach" who knows his business. To attend his class and have the benefit of oral teaching is better than to be guided by correspondence, but competent guidance of any kind is certainly to be preferred to the desultory and useless reading and working which are the inevitable accompaniments of unassisted private study. The next best thing to trained assistance is the possession of good text-books. Taking the subjects in the orthodox order, the candidate will find the following works to be of immense service to him. For examination purposes there are none better. 1. Handwriting: Vere Foster's Civil Service Copy Books. 2. Orthography: Sullivan's Spelling Book Superseded. 3. Arithmetic: Harcourt's Tots, L. J. Ryan's Sets, Brook-Smith's Arithmetic, and Haugh's Higher Arithmetic. 4. Copying Manuscript: Johnson's Specimens, or Clark's. 5. English Composition: W. Stewart Thomson's Practical Guide to English Composition and Essay-Writing. 6. Geography: Meiklejohn's Modern Geography, Johnston's Unrivalled Atlas, and

Sullivan's Geography Generalized. 7. Indexing or Docketing: Hunter's. 8. Digesting Returns into Summaries: Tildesley and Co.'s, or Skerry's Practical Papers. 9. English History: Ross's Manual, and Green's Short History of the English People, with Tait's Analysis. 10. Book-keeping: Hunter's, and Hamilton and Ball's.

EXAMINATIONS.

There is a preliminary examination in Handwriting, Orthography, Arithmetic, and English Composition. At this examination the qualifying standard is very high, as may be inferred from the failures which range from 50 to over 60 per cent.

The successful candidates compete at the final examination for a certain number of places. The number varies according to the estimated needs of the several departments.

This final competition is severe even when the places competed for are numerous, and of course it is still more severe when the vacancies are few. For instance, during the year 1886, 1,929 candidates competed for 202 places, while at the examination held in April, 1891, the places numbered 104 and the candidates 626. An examination was held quite recently at which 130 places were for competition. When such exceptional numbers as the above are announced, from 700 to 800 candidates are generally attracted to compete. At an examination held early in 1891, the first candidate in the open competition scored 1,910 marks out of a possible 2,600, and the lowest successful candidate scored 1,778 marks. It will be

seen from this that it is just possible to "squeeze in" with an all-round score of about 70 per cent. It should be borne in mind, however, that 70 per cent. in one examination may be equivalent to 80 per cent. in another, as the scoring is seriously affected by the difficulty of the questions and the attainments of the competitors.

APPOINTMENTS AND DUTIES.

Successful candidates are allowed to name the departments in which they would prefer to serve, and these preferences are given effect to as far as is compatible with the exigencies of the public service.

Second Division clerks are employed in about 60 offices or departments in their numerous sub-divisions. The appointments during June, 1891, will aptly illustrate this diversity of employment. There were made in that month 25 appointments, distributed as follows:—Admiralty, 1; Civil Service Commissions, 1; Dublin Metropolitan Police Courts, 1; Inland Revenue, 1; National Education Office, Ireland, 1; Post Office, 12; Public Works Loan Board, 1; Science and Art Department, 4; Board of Trade, 2; War Office, 1.

The work done by the Second Division clerks is simply the routine clerical work of the office he is engaged in. That work is of almost infinite variety, but its distinctive character is that of the department. In the War Office it is different from that of the Admiralty, while that of the Post Office differs from both.

His duties are generally well defined, and there is plenty for him to do. The head of the department in

his zeal for economy, which is the Treasury test for administrative ability, takes care that the offices are not overmanned. I am aware that the popular conception of the Civil Service clerk is that of a young man who smokes his cigar and reads his newspaper in the office, and who draws his salary for killing time effectually if lazily. The truth is that a Second Division clerk is made to do quite as much work in the day as a clerk in any commercial office in England.

SALARIES.

The scale of salaries, with daily attendance seven hours, is now as follows :—

£70 rising by annual increments of £5 to £100. Then £100 by £7 10s. to £190. Then £190 by £10 to £250. There is also a higher grade with salaries of £250 by £10 to £350. The receipt of the annual increment is made dependent upon the good conduct of the clerk. This is a disciplinary provision, but the necessary annual certificate is seldom withheld. There are, it will be seen, three barriers to be passed before the clerk can enter the higher grade. In the first place the clerk cannot pass beyond £100 unless his superiors report in a satisfactory manner as to his competence, character, and diligence. In the second place he must remain at £190 unless in their opinion he is competent to perform work of a superior and more advanced character. Thus, as far as £250, promotion is as a rule by seniority, the clerk possessing the necessary qualifications. Beyond £250, however, merit only is the passport,

seniority being completely ignored. Therefore it is only a thoroughly well-conducted clerk who can pass into the higher grade. After a service of eight years a clerk may be promoted to the Upper Division. He will be selected on account of exceptional ability or of special fitness for some particular post. This is only reasonable, and this recommendation, as much as anything else, distinguishes the Ridley from the Playfair Commission. Under the previous (or Playfair) system the anomalous state of things obtained, that of two clerks engaged in the same room on similar work, one (the Higher Division clerk) with probably less experience obtained twice the salary of the other. Certainly the one passed an examination of a higher educational standard, but the recent promotions of men who entered under the Lower Division scheme serve to prove that there is in their ranks a sufficiently large number of men who possess the ability to fill with credit any position in their department.

The annual leave for the first five years is fourteen days, and subsequently twenty-one days. There is a half-holiday on alternate Saturdays, and there are the usual public holidays. The superannuation allowance is a minimum of one-sixth and a maximum of two-thirds of the average salary received during the three years preceding superannuation. It is calculated at the rate of one-sixtieth for every year of service between ten years and forty. Thus a Second Division clerk of forty years' service, who had reached in the ordinary course the salary of £350, would receive a retiring allowance of £233 6s. 8d. a year.

SURVEYORS OF TAXES.

It is not certain that the method at present in vogue of filling the position of Surveyor of Taxes is final. Many people are of opinion that it is only experimental, as have been previous methods. There is no branch of the Civil Service which has been so much experimented on in the matter of filling vacancies. The present senior surveyors entered as members of the Higher Division. In 1881 the position was thrown open to assistants of Excise who succeeded in passing a stiff examination in Euclid, Algebra, Latin, French or German, book-keeping, and the Political Economy of Taxation. In 1888 the present system was adopted. Vacancies are now filled by Second Division clerks in the Inland Revenue department who have completed ten years' service. When a clerk has had nine years' service he may petition the Board to be promoted to Assistant Surveyor of Taxes. He must have served at least a year in a surveyor's office, and the extent of his experience in taxes business has to be mentioned in his petition. His superior officer makes a report on his "health, general conduct, and official qualifications." The claims of all those who are qualified in accordance with these regulations are carefully considered, and those whose claims are recognized compete amongst themselves in an elementary examination in taxes law. If a clerk passes satisfactorily he will be specially recommended by the Board, and the Treasury will appoint him to the coveted position. Therefore the outsider who wishes

to become a Surveyor of Taxes under present conditions must first of all pass the examination of Second Division clerk, and contrive to be appointed to some of the offices of the Inland Revenue department. After that his course will be in conformity with the regulations outlined above.

REWARDS AND WORK.

The classification and salaries are as follows :—45 assistant surveyors (2nd section), £100 by £10 to £180; 84 assistant surveyors (2nd section), £200 by £12 to £250; 65 third-class surveyors (1st section), £260 by £12 to £375; 55 second-class surveyors, £425 by £15 to £475; 29 first class (2nd section), £500 by £20 to £550; 11 first class (1st section), £500 by £20 to £600.

Before an assistant surveyor can become a surveyor he has to pass an intricate examination in the law and practice relating to taxes. Promotion to the second and first class is solely by selection on the ground of "proved capacity and efficiency."

The public is pretty familiar with the duties of a Surveyor of Taxes, so that no detailed description is necessary here. In general terms, he is responsible in his district for the proper assessment and collection of Income Tax, Land Tax, and Inhabited House Duty. A surveyor to succeed must possess tact and business shrewdness, and be courteous in his dealings with the public. He bears an enormous responsibility, which the nature of his work does not tend to lighten, as it is both arduous and worrying. Assistance is sometimes neces-

sary, and where it is private clerks are employed. To obtain the assistance of a trained and really useful clerk, the surveyor, out of his own pocket, has to add to the Government allowance to the extent of ten or twenty shillings a week. This is a great grievance, and it is undoubtedly a blot upon the administration of the taxes branch.

Superannuation allowances are upon the same scale as those of Second Division clerks. Thus a first-class surveyor of forty years' service would retire upon £400 a year.

No. 14.

CIVIL SERVICE APPOINTMENTS.—III.

TELEGRAPH LEARNERS, BOY CLERKS AND COPYISTS.

BY

GEORGE MURPHY.

XIV.

CIVIL SERVICE APPOINTMENTS.—III.

MALE TELEGRAPH LEARNERS.

To become a male telegraph learner is not a very difficult thing, as the examination is of the most elementary description and is well within the capacity of a sixth standard boy. The examination, unlike most others, is not made more severe by competition, for although stated to be competitive, when one considers that there are usually not more than twice as many effective competitors as appointments, it is easily seen that the competition is only nominal. Of course many more candidates present themselves for examination than there are appointments, but as the great majority of these fail in one or more of the simple subjects, they need not be taken into account. In July, 1888, 558 candidates competed, but as 338 did not qualify, there only remained 170 competitors for the 40 advertised places. In July, 1889, there were 40 places again vacant, and 457 candidates presented themselves for examination, but of these only 132 qualified. At the last London examination there were 55 vacant appointments—20 for the central office, and 35 for the

district offices; 272 candidates were attracted to compete, but the large proportion of 186 failed in one or more of the subjects, and as 10 candidates withdrew from the examination, there remained only 76 competitors for 55 places. In this instance all the effective competitors but 21 obtained places. At this examination the first candidate scored 89 per cent. of the maximum number of marks, the twentieth 75 per cent., and the fifty-fifth 65 per cent.

The examinations are not confined to London. There are occasional examinations in Dublin and Edinburgh. In July, 1889 (one of the examinations already referred to), there were six vacancies in Dublin and ten in Edinburgh. For the six Dublin places there were 129 candidates, but only 33 qualified; while for the ten Edinburgh places 48 qualified out of 120 candidates.

At the last examination there were 25 Dublin appointments, but no Edinburgh ones; 124 candidates were examined, of whom 73 failed to qualify, so that the effective competitors numbered only 51. The first candidate scored 85 per cent., and the last successful candidate 71 per cent. The limits of age are fourteen and eighteen years, and a fee of 1s. is required from every candidate attending an examination.

There is no preliminary examination, and the subjects are:—(1) Writing and Dictation; (2) Handwriting; (3) Arithmetic (first four rules simple and compound); (4) Elementary Geography of the United Kingdom.

In arithmetic there are about fourteen questions to be solved in an hour. Ten of these are usually in the first

four rules, the other four being of a miscellaneous character. The mixed questions are of average difficulty, the following being a fair specimen: "Of two clocks, one gains five seconds in three days, and the other loses a second a day. If they were together at noon on the 1st of January, what would be the difference in their readings on the 1st of April?" Barnard Smith's Arithmetic is sufficiently advanced for telegraph learners. The test in orthography consists of two dictation exercises, each occupying half an hour. These exercises are often taken from the pages of Scott and Macaulay. At any rate, the boy who can spell correctly every word in the works of these authors, need not fear failure. There is also what is called a spaced dictation. A sheet of paper is divided by lines into seventy-five spaces of the size of those on a telegraph form, and one word only must be written in each space. Handwriting is of the utmost importance, and the style known as the "Civil Service" obtains most marks. Vere Foster's Civil Service Copybooks are excellent for practice. The principal test for handwriting at the examination is in the copying of a tabular statement, so that Skerry's "Coyping Tabular Statements" ought to be in the hands of every intending candidate.

The examination in geography is elementary, and is confined to the geography of the United Kingdom. There are six questions to be answered in an hour, and the following is a fair sample: "What railways are most important as connecting London with the following towns? Name two important intermediate stations on each line. (1) Dover; (2) Exeter; (3) Cambridge; (4) Northamp-

ton." Anderson's Geography is suitable for this examination, but Meiklejohn's Modern Geography is the best.

Successful candidates have to attend the Post Office Telegraph School to receive instruction in telegraphy. They have not to pay anything for instruction, nor do they receive any pay while being instructed. They have thus to wait three months before obtaining 12s. a week, which is the commencing salary of a probationer. The salary of even 12s. a week is not certain, for before obtaining it a certificate must be earned from the Telegraph School, and failing the certificate there is no appointment.

On appointment the scale of pay is 12s. a week, advancing through intermediate salaries to 14s. and 16s. a week to £45 per year. He obtains 14s. a week when certified to be competent to send public messages, and 16s. a week when able to take sole charge of a telegraph instrument. From £45 a year the advance is by £5 a year to £100. The salary of a first-class telegraphist is £110 by £6 to £140; and that of a senior telegraphist £150 by £8 to £190. There are two classes of telegraphists, viz., those who form part of the permanent Civil Service and those who do not. A permanent telegraphist is entitled to superannuation at the rate of one-sixtieth of his salary for every year of service between ten years and forty. The temporary telegraphist may be discharged at a moment's notice, compensation being given at the rate of one month's pay for every year of service. The permanent telegraphists are recruited from amongst the others as vacancies occur.

These situations of male telegraph learner are not to be confounded with those of the telegraphists in the provincial offices throughout the country. The latter situations are commonly obtained by influence through the local postmasters, in whose patronage they usually are, and the examination for them is elementary and qualifying, not competitive.

The main body of telegraphists are employed in the central office, London, although numbers are employed in the district offices. The situation of male telegraph learner is more suitable for youths resident in London, Dublin, and Edinburgh than for any others. My opinion is that a youth should not compete at all for this situation unless his parents or other relatives reside in the capital in which he is likely to be employed. But this is a matter to be determined by parents themselves, their judgment being assisted by a knowledge of the facts as here detailed.

BOY CLERKS.

A well-educated lad of about fourteen years of age who intends to compete for a permanent Civil Service appointment, would be well advised to undergo a special preparation with a view to pass to be a boy clerk. There are several good reasons why he should do this. If successful, his salary is sufficient for his support, and his hours being short and regular his leisure may be occupied in studying for the position he is ambitious to obtain. The very nature of his duties is in itself a preparation, and from his official surroundings he unconsciously picks up many

a hint which will serve him in good stead in the examination hall. It is almost worth a lad's while to become a boy clerk, if only to obtain practice in handwriting, and to acquire the genuine Civil Service style from some of his senior associates. A great advantage possessed by the boy clerk of two years' service and upwards is that of being able to deduct five years from his actual age to bring him within the limits of age to compete for any other Civil Service position. For instance, let us assume that a boy clerk has been unable to obtain a permanent footing in the Civil Service, and that on reaching twenty years of age his services have been dispensed with. Such an one is still able to compete for the situation of Second Division clerk until he is twenty-five years of age, for that of assistant of Excise until he is twenty-seven, and for that of outdoor officer of Customs until he is thirty. He has thus so many chances of becoming a permanent Civil servant that he must be indeed a "duffer" if he does not ultimately succeed. But the greatest privilege of all is the reservation of a certain number of Second Division appointments to be competed for amongst the boy clerks themselves. When an examination is announced for a number of Second Division clerkships, the boy clerks who compete have the first claim to the vacancies to the extent of one appointment for every four competing boy clerks. Many boy clerks have obtained appointments on account of this privilege whose scoring would not have secured them a place in the open competition. In addition to these advantages boy clerks are excused the preliminary examination which in itself is no small matter

considering the high standard necessary to qualify, the failures averaging about 60 per cent. The boy clerks who succeed in the Second Division examination are also privileged in the matter of early appointment. The appointments are made alternately from the open competition list and the limited list, so that the lowest among the successful boy clerks is appointed much sooner than the lowest among the others. The limits of age are fifteen years and seventeen years, and the fee payable is 10s.

The subjects of examination are :—(1) Handwriting ; (2) Orthography ; (3) Arithmetic (including vulgar and decimal fractions) ; (4) Copying Manuscripts (to test accuracy); (5) English Composition ; (6) Geography. Text-books to be recommended are :—(1) Vere Foster's Civil Service Copybooks, and Skerry's Copying Tabular Statements ; (2) Sullivan's Spelling Book Superseded ; (3) Harcourt's Tots, L. J. Ryan's Sets, Brook-Smith's Arithmetic, and Haugh's Higher Arithmetic ; (4) Clarke's Copying Manuscripts ; (5) Currie's English Composition ; (6) Meiklejohn's Modern Geography, and Johnston's Unrivalled Atlas. In handwriting, most marks are given to the Civil Service style. The test in orthography consists of two dictation exercises and of the spelling as shown by other papers. The arithmetic is divided into two parts, the time allowed for each part being $1\frac{1}{2}$ hours. In the first there are twenty-two questions, mainly consisting of easy vulgar and decimal fractions ; in the second there are six miscellaneous and difficult questions. The exercises in copying manuscripts are usually of a crabbed character, involved and almost unreadable. The candidate has the choice of three subjects

for composition. The theme is usually a simple one, as "Describe a walking tour," or "Give your notion of a hero." The geography paper is the most difficult of all, and few candidates ever score more than 50 per cent. in this subject. In January, 1890, the first successful candidate scored just 52 per cent. There is a preliminary examination which usually results in disqualifying about one-half of the competitors. There remain as a rule from two to four hundred effective candidates for the advertised places. The competition of course is severe in inverse proportion to the number of vacancies, but even when the number is large (over 100) it takes about 70 per cent. of the marks obtainable to secure a place. In January, 1890, there were 103 places; the first candidate scored 80 per cent. and the 103rd 68 per cent. The salary commences at 14s. a week and rises by 1s. a week every year, the leave in the year being about fourteen days. It should be remembered that service as a boy clerk does not count towards a pension. The appointment is a temporary one, the clerk being discharged, without compensation, when he reaches twenty years of age. It will be readily seen that very few clerks remain until they attain that age, as, owing to the many facilities afforded them, they generally succeed in obtaining some permanent Civil Service appointment.

COPYISTS.

The only available opening under this new head now, is that of temporary boy copyist. It is not probable that any more examinations for writers (or men copyists) will

be held, and it is not certain that those for boy copyists will long continue. The tendency is to have as few non-pensionable and temporary appointments as possible. There are a large number of boy copyists employed in the meantime, and as often as an examination is announced the opportunity should be taken advantage of to obtain footing in the Civil Service. The rule as to being able to deduct five years from the actual age is applicable to boy copyists. Most of the advantages enjoyed by the boy clerks are also shared by the boy copyists, the principal exception being that there are no reserved places for limited competition. The examination is an easy one, consisting of handwriting, orthography, and elementary arithmetic. The limits of age are fourteen and eighteen years, and no copyist is retained as such after reaching twenty years of age. The pay is 4d. an hour, increased ½d. an hour at the end of every year. A boy copyist is allowed holidays, with pay, in the proportion of one day for every twenty-four days employed, the annual leave not to exceed twelve days. There is no pension, neither is there any compensation upon discharge.

Owing to the advantages attached to the position, there are usually from three to seven competitors for every vacant place. During the year 1890 there were 387 appointments and 1,097 candidates. The withdrawals and removals during the year were 275. The number of boy copyists on the register is 804, and of these 705 are actively employed.

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