knows how!—he accomplished getting a diploma, stood all prescribed examinations, forced himself into the College of Physicians, and has grinned defiance ever since at Sir Amyas.

Erasmus was, on the whole well received by Dr. Frumpton; but there was one terrible moment in the interview when the latter learnt that the candidate had visited Sir Amyas first; but the shell which had wrecked Erasmus's chances with Sir Amyas seemed like to make his fortune with his rival, who told the story with embellishments all over the town. Dr. Frumpton was now Erasmus's declared friend. But again misfortune stepped in on the day just before the election when the late farrier was taking Erasmus round the hospital, and showing him his *summary clinics*. "Summary, indeed," wrote young Percy to his father; "when I saw the way in which this famous physician dealt with the lives of his poor patients I really grew sick, and could scarcely follow him." O'Brien the Irishman was brought in with a bruised leg; the surgeon was called. Dr. Frumpton said the leg must come off. Dr. Erasmus, partly out of sympathy and partly from medical observation, thought an attempt should be made to save the leg. A fierce quarrel ensued, which was ended by Erasmus taking the man away with him to lodgings and getting a young surgeon to look after him; and so ended Dr. Frumpton's patronage. Dr. Bland was elected, and O'Brien's leg was saved.

Dr. Erasmus reappears in Miss Edgeworth's second volume,⁵ and the passage which tells of O'Brien's practical gratitude is so much in her best style that it may be transcribed:

One morning, when Erasmus was just getting up, he heard a loud knock at his door, and in one and the same instant, pushing past his servant into his bedchamber, and to the foot of his bed, rushed O'Brien, breathless, and with a face perspiring joy—

"I axe your Honor's pardon, master, but it's what you're wanting down street in all haste. Here's an elegant case for ye, Doctor dear! That painter-jantleman down in the square there beyond that is not expected."

"Not expected!" said Erasmus.
"Ay, not expected, so put on ye with the speed of light—Where's his waistcoat?" continued he, turning to Dr. Percy's astonished servant—"and coat?—the top coat—and the wig—has he one?—Well! boots or shoes give him any way."

"But I don't clearly understand. . . . Pray did this gentleman send for me?" said Dr. Percy.

"Send for your Honor! Troth, he never thought of it—No, nor couldn't—how could he? and he in the way he was and is—But God bless ye! and never mind shaving, or another might get it afore we'd be back. Though there was none in it but myself when I left it—but still keep on buttoning for the life."

And so Dr. Erasmus is hurried off to attend O'Brien's master, the painter, who has had a fit—fortunately a slight one—from which he recovers. "Nature and Dr. Percy brought him through," Erasmus would not take any fee because he went unsent for by the patient; but at the painter's he meets again Mr. Gresham, the rich merchant, and through him he is introduced to high-class and remunerative practice. The conversation between Mr. Gresham and Erasmus, with O'Brien's dramatic interruption, is well told:

Mr. Gresham turned to Dr. Percy and said: "I am afraid, sir, that you lost your election at the hospital by your sincerity about a shell." Before Erasmus could answer—in less time than he could have thought it possible to take off a stocking, a great bare leg—O'Brien's leg, came between Mr. Gresham and Dr. Percy. "There's what lost him the election! saying that leg lost him the election—so it did, God for ever bless him! and reward him for it!"

But, after all, it may be asked, was Erasmus not getting on by patronage? Miss Edgeworth faces this somewhat fictitious difficulty quite fairly. The doctor is "struck by a delicacy which begins in the midst of his prosperity to make his pride uneasy;" he wonders if O'Brien's and Mr. Gresham's help is not patronage; and so he writes to his father to quiet his troubled spirit and to tell him if the assistance of friends is to be called patronage. Mr. Percy deals with what one can only regard as a hyperensitive conscience at considerable length in an answering letter; but in the end he states his meaning clearly by means of two illustrations: "If you had saved a Minister of State from breaking his neck, and he in return made you surgeon-general to our armies, without knowing whether you were qualified for that situation, I should call that

partial and pernicious patronage. But if you had cured a great man of a dangerous disease, and he afterwards exerted himself to recommend you as a physician to his friends and acquaintance, this I should consider as part of your fit reward." It is a fine question, however; and even in Mr. Percy's solution of this problem of conduct there is just a suspicion of dialectics.

This novel, a hundred years old though it be, deals with difficulties in professional behaviour which are quite modern, and whilst one hopes that physicians of the precise type of Sir Amyas Courtney and Dr. Frumpton are extinct, and that young men with a horror of sycophancy, with candour and independence of spirit, and with a fine and delicate sense of duty to patient and to brother practitioner, are pressing into the ranks of the great army of healers, one fears that there is still some evidence that patronage of the "partial and pernicious kind" is not yet dead, and that the puff, direct and indirect, is even now instrumental in advancing the incompetent whilst it retards the progress of the deserving and modest. It seems a safe thing to say that the grateful patient is the only proper patron for a skilful practitioner; but the situation becomes one of extreme complexity when, as in a recent novel by a popular authoress, the young medical man desires to marry the elderly and wealthy lady with frequently recurring attacks of angina, whose sufferings he has been able to relieve by modern medicaments of the vaso-dilator kind. It is a hard task, too, to discriminate between fair and unfair self-advertisement by articles, books, and speeches at medical meetings, and it is not much easier to decide what is honest criticism of another's theories and methods of treatment and what is unjust depreciation bordering upon detraction. No one wishes to have said about him what Goldsmith wrote:

Of praise a mere glutton, he swallowed what came,
And the puff of a dunce, he mistook it for fame.

But every one has a right to the just recognition which his talents, be they theoretical or practical, merit. If he will test them first by his conscience (which, it is to be hoped, is in good repair), then by the opinion his rival has of them, and if he will finally strike a mean between the two extremes (for extremes they are sure to be) he may hope to arrive at a pretty correct estimate.

A. HOSPITAL UNIT IN THE UNIVERSITY OF BUDAPEST.

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So much attention is at present concentrated on the question of making changes in the system of medical education in England, changes advocated by the recent Royal Commission, that a study at first hand of the conditions governing medical tuition in a great Continental university may be acceptable to the readers of a British journal devoted to medical interests. I have had a very recent opportunity of observing the practice in a hospital clinic in the University of Budapest more closely perhaps than is possible to the average visitor, for by the kind hospitality of the professor and director of the dermatological clinic in that university I lived in the clinic, and was allowed every opportunity of becoming acquainted with the working of its manifold activities.

Probably some of your readers will be as ignorant as I was before my visit as regards the position and importance of the University of Budapest. This university, the largest of the three universities at present established in Hungary, has over 8,000 students, of whom nearly 3,000 are medical students. In Hungary there are no other qualifying bodies than the university, so that all students of medicine must pass through a university to obtain a licence to practise. Before coming to the consideration of the Medical Faculty, which was my more immediate interest, I may premise that the university is under the control of the Minister of Education and a Senate of ten members, but is to a large extent actually governed by a Faculty Committee, consisting of all the professors, and a rector chosen in turn from each faculty. The income of the university is derived from private property in its possession, from fees of students, and from a

⁵ *Patronage*, vol. ii, p. 20, 1814.

Government grant. The revenue from the first two items averages three and a half million crowns a year, and the Government grant affords another three million crowns, so that the annual income of the university as a whole is approximately £230,000. The academic year comprises two semesters—the first from the middle of January to the middle of June, the second from the middle of September to the middle of December. The fee payable by the student for each semester is only 75 crowns—that is, about £3 2s. 6d., and for this fee all the teaching in all the faculties is open to him.

The professors are salaried, but not full-time officers, and their remuneration begins at 6,000 crowns (£250) which is increased every five years by 1,000 crowns until the professor has served twenty years, when these quinquennial increments cease. The commencing salary is increased by allowances for lodging, and for children while they are minors, and by certain examination fees, so that the average salary of a professor in the middle period of his service is about 10,000 crowns (£420). The professor is obliged to retire at the age of 70. His pension depends upon the duration of his service; after thirty-five years of professorial work the pension equals the salary at the date of retirement.

The professor is allowed as much private practice as may be compatible with his duties of lecturing. I could not learn that any attempt to limit the amount of private work had ever been made.

The Medical Faculty consists of the twenty-seven professors in possession of chairs. The buildings provided for the faculty are nearly all modern, and surprisingly fine and splendid. There are fifteen clinics, those having beds ranging in size from a content of 80 to 200 patients, and all with the proportionate accommodation for out-patients, laboratories, and other services. Food is supplied from kitchens outside the clinics and sent in daily according to requisition; there are means of heating food when necessary in each ward. Medicines, instruments, heating, lighting, laundry, and experimental animals are all supplied from the central administration.

The dermatological clinic, in which I was especially interested, may serve as a type of the other clinics, and I am able to give a very detailed description of this by the kindness of the director, Professor Louis Nekam, whose friendship I have enjoyed since we met as post-graduate students in the University of Paris eighteen years ago. Professor Nekam is director of the clinic as well as professor, a combination which is usual in the case of professors having beds. The present dermatological clinic has been newly converted from its previous use as a surgical clinic, and the conversion is not quite completed. Originally consisting of three floors devoted to the in-patients, the middle floor under its present occupancy is given up entirely to housing the laboratory and magnificent library; to these is allotted no less a space than an area of 340 square metres. The ground and second floors are respectively devoted to male and female patients, 78 beds being available in all. Upon the ground floor there is a large out-patient department; and on the first floor there is a lecture theatre which can seat 300 students, all of whom can see the demonstration-screen on which projections of photographs and slides are made.

The clinical lecture is the keynote of teaching, as in most Continental clinics, and this duty is, in fact, the sole legal obligation of the professor, the performance of this service, in the absence of any other, justifying the retention of his post by the professor, as is actually the case with a very distinguished occupant of a chair in the University of Vienna. Five clinical lectures are given during the week by the professor, the material for these being most elaborately prepared by himself and his assistants. When the professor is also a director of a clinic with beds, there is, of course, much more responsibility upon his shoulders. Professor Nekam's personal hours are as follows:

- 8 a.m. to 9 a.m., visit in the wards.
- 9 a.m. to 11 a.m., out-patients.
- 11 a.m. to 12 noon, administrative duties.
- 12 to 1, clinical demonstration in the theatre.
- 2.30 to 4.30, private practice at his own house.
- 5.30 to 9 p.m., hours usually spent in the clinic in research and preparation of the morrow's clinical lecture.

Attendance during one semester at the dermatological lectures is a compulsory part of the medical curriculum.

and the average class for the lecture in the last semester numbered 570. Examinations are conducted by the professor, nominally with the dean and a Ministerial representative as assessors, but this is purely a matter of form; the assessors are seldom actually present at any part of the examination.

At the present time Professor Nekam has fourteen qualified doctors assisting him. I give the initials and special experience of each of these, and the duration of their service in the clinic:

1. Dr. B. K.; radiology and electrical treatment; 13 years.
2. Dr. T. H.; chief assistant in the out-patient department; 12 years.
3. Dr. E. N.; chief assistant in laboratory, photographer and histologist; 18 years.
4. Dr. E. H.; in charge of the out-patient dental department, open every day for cases restricted to the skin clinic. This department has been in use for one year.
5. Dr. E. S.; chief assistant in the administrative department and resident physician in charge of the female ward; 6 years.
6. Dr. B. K.; urologist; 6 years.
7. Dr. L. H.; resident physician in charge of men's ward; 6 years.
8. Dr. S. S.; second assistant in the out-patient department; 4 years.
9. Dr. A. M.; assistant in the out-patient department; 2 years.
10. Dr. F. G.; parasitologist and laboratory assistant; 1 year.
11. Dr. E. L.; chief assistant in the preparation of the clinical lecture; 1 year.
12. Dr. J. K.; assistant in the out-patient department; 1 year.
13. Dr. A. B.; assistant in the laboratory and artist; 1 year.
14. Dr. A. S.; army surgeon-major deputed by the Government to make a special study of syphilis; 3 to 4 years.

In addition to this fully qualified staff there are: An artist in charge of the wax model department; three women assistants in the laboratory; a machinist and electrician operating the projection apparatus in the theatre; and the usual staff of male and female nurses, ward maids, and other servants.

The qualified assistants are all appointed on the selection of the professor. Those receiving salaries are paid by the university. Their actual stipends are small, but they are afforded some opportunities of supplementing the official income by tutorial classes and by private practice; and the coveted award of the distinction of *Privat-docent*, which is also in the gift of the professor, is an additional inducement to prolonged service. There are 126 privat-docents in the Faculty of Medicine; 24 of these are dignified with the title of "professor extraordinary," but they have no chairs, and are not members of the Faculty of Medicine.

The lecture theatre is beautifully lighted. Lining its walls are glass cases containing a remarkably complete collection of parasites and specimens of plants and finished pharmaceutical products. At the personal expense of the professor, who is a connoisseur of the fine arts, a series of paintings portraying past occupants of the chair and teachers of the subject, adorns the spaces between the severer exhibition of wax models of rare diseases of the skin. The adjacent library is certainly the finest collection of dermatological works that I have ever seen. The most valuable part of it—the incunabula and early printed books—are the gift to the clinic of the professor, who takes a pardonable pride in the frequent assertion which the fortunate man is in a position to make, that "Such and such a book is not in your British Museum Library."

The clinical lecture, which is the flower of all this intensive culture, is as complete and perfect an instrument for demonstration to large classes as can be devised. Cases of disease illustrating the lecture are brought down from the ward and out-patient department, where possible, and a large and exceptionally excellent collection of colour photographs, wax models, and histological sections is available for study; projections of these are thrown upon the screen by an instrument, the invention of the professor, which is a great improvement upon the epidiascope, for projections are given without darkening the room at all, and broad daylight in no way diminishes the sharpness of the picture.

It is true that the University of Budapest requires that the graduate, after obtaining his degree but before he is admitted to practice, shall attend for two semesters the practice of some optional clinics, of which there are six. It is also true that some facilities are offered for a small percentage of the students to attend before qualification the practice of the five privat-docents who are licensed

to teach dermatology in the Faculty of Medicine, the teaching being given outside the university clinic. But it is obvious that so large a body of students as attend the lecture can hardly come into direct relations with disease in the living patient, and this system of teaching, excellent though it is where large classes must be dealt with, does not seem to me entirely to compensate for the lack of the direct contact with the patient which is the keynote of our English training. On the other hand, there is no doubt that the system of ensuring a large and permanent body of skilled assistants offers opportunities for advancing knowledge which are absent from our starved schools of medicine. It must, however, be noted that the expense of the provision of these clinics is very large. The salaries of professors and assistants are about one-quarter to one-half as much as would be considered a minimum wage in London, and the expenses of living in Budapest are similarly less than in London. Yet the income which the university enjoys is much more than twice as large as the income which the Royal Commission regarded as adequate for the University of London, and which, small as it is, remains entirely unprovided, and indeed is little more than a pious aspiration.

MEDICAL EXPERIENCES IN THE ANTARCTIC.

On January 26th Surgeon Murray Levick, R.N., delivered a lecture on the experiences of Captain Scott's northern party, from a medical point of view, illustrated by a large number of beautiful slides, in the large hall of the Royal Society of Medicine, which was quite filled, Sir F. H. Champneys, President, in the chair.

Surgeon Levick said that the northern party consisted of six persons: Commander Campbell (in command), Surgeon Levick, Mr. Priestley, and three petty officers, R.N. They left New Zealand at the end of November, rather earlier in the season than former expeditions had set out. In the summer the sea ice broke up and went northward and accumulated, so that masses of block ice extended round the Antarctic Circle. Later it became somewhat thinned, and ships were able to get through. In December the party were in pack ice for five weeks. The *Fram* was met in the Bay of Whales. Captain Scott eventually made his winter quarters at the foot of Mount Erebus. Both ponies and dogs of the Siberian domestic breed were taken with the expedition; the dogs did most of the hauling, and formed the better means of transport, and it was possible that dogs only would be taken in future. It was found impossible to land stores owing to the precipitous front of the barrier.

At Cape Adair the only way of getting to the beach in the summer was by the sea; afterwards the party was frozen up and unable to get away. Here a hut was built out of the sections prepared and numbered. Owing to the great force of the prevailing winds—often 100 miles an hour—the hut had to be anchored by means of wire ropes attached to supports driven deeply into the ice. During the four months of darkness it was impossible to get away from the beach.

The clothing used for the spring—the time of very low temperatures and wind—consisted of thick woollen trousers and vest, a woollen jersey, and over these cotton wind-proof clothing. On the feet two or three pairs of socks were worn, and fur boots made of reindeer hide. A wind-proof helmet completed the attire. Often the wind compelled the wearing of a woollen nose-piece. The only way in which much of the snow-covered surface could be negotiated was on skis. The weather in this region was very treacherous, for though on setting out the day might be bright and promising, in twenty minutes the party would be in the midst of a blizzard. Once they were kept prisoners for four days in this way. The party were now some 220 miles from Cape Evans, and with only three weeks' full provisions began to be anxious about the coming of the ship according to arrangement.

The chief interest of the lecture centred in the difficulties encountered by the party and their manœuvres to eke out their scanty provisions. Nothing could be erected to withstand the force of the wind, and the only resource was to burrow into hard-blown snow. After great labour a habitation measuring about 12 ft. by 4 ft. by 5 ft. 6 in. was chiselled out of blue ice, and a small corner was set apart for cooking. The feet frequently

became frost-bitten, chiefly the great toe and between the toes. The victim had either to take off his footgear or walk off rapidly in the hope of re-establishing the circulation. At one period the members of the party were eating nothing but seal meat and one biscuit a day; it was very difficult to get accustomed to the blubber owing to its strong flavour. The party found they could not satisfy their hunger on lean meat, however much of it they consumed. They were constantly hungry, and gradually became weaker. Seal's blubber was used as oil for light—a yellow smoky flame—and a teased-out piece of rope for a wick, which had to be snuffed every five minutes. Heat for cooking was derived from dropping blubber on to bones and keeping it alight. The fare was later varied by killing and eating some seventy attenuated old penguins. When the temperature fell below -10° or -15° the meat had to be chopped off by means of a geological chisel hammer. The result of eating so much seal meat was that the members of the party had some very unpleasant symptoms. Then they had 60 per cent. blubber and 40 per cent. meat. Carbohydrates were very seriously missed. They had the misfortune to run out of salt, and felt a strong craving for it, which was partly satisfied by using salt-water ice from the sea. Directly after this was started an epidemic of diarrhoea broke out. They stopped the ice salt and used up the small remaining stock of salt and the epidemic subsided, but it was renewed when the ice was again used. The conditions in which the members of the party found themselves were eminently conducive to scurvy except in the matter of food—uncomfortable and depressing surroundings, very little exercise, and very bad air—but the party did not suffer from that disease, showing that people did not have scurvy so long as they lived on fresh meat. When first consuming large quantities of seal meat the urine contained large quantities of uric acid, and hence pain ensued on micturition, due to the crystals. Some members also suffered from enuresis in their sleeping bags at night, so that in the morning those bags were soaked and frozen hard. The desire to micturate was very acute, even when there was but small need for the act, so that there was not time to adjust the wind-proof clothes, and the evacuation took place in the sleeping bag. These symptoms were improved by low diet. Later still there was serious constipation, with the result that several had anal fissures, and sometimes hæmorrhages occurred. A member might be absent for defæcation forty minutes, and come back suffering much pain, which lasted some hours. Several seals having been killed, large quantities of meat were eaten, and the symptoms returned. They then boiled the meat for at least half an hour, and the symptoms again disappeared. If for any reason the meat was underdone, there was a reappearance of uric acid and the other discomforts. It seemed likely that the symptoms were due to large quantities of protein passing through the intestines without being assimilated. In the cramped igloo there were three doors to shut out all winds, and these were made as nearly as possible air-tight. For a time the roof was composed simply of snow, through which air passed fairly quickly, and it was by this channel the oxygen consumed by the party reached them. But later the warmth from the interior partly thawed and subsequently glazed this roof, and then the atmosphere became so vitiated that the blubber lamp would not burn, and even a match soon went out. Six men had been lying perfectly still in a very confined space, yet had been comfortable, without even a headache. This he attributed to the stimulant effect of the intense cold; they could scarcely have lived in such an atmosphere if the temperature had been definitely higher. One member of the party had to leave several times a night, yet he continued going cheerfully during the whole time. Later on every member of the party suffered from ptomaine poisoning. The meat at this time was soft enough to cut with a knife, and there was only one tin available, with no facilities for cleaning it. Diarrhoea was common, and some had several attacks of it.

The party lived for seven months under those conditions; for five months they were in good health, but afterwards the troubles described arose, and it was decided to leave the igloo. For three weeks before the start on September 30th all the members of the party did Swedish exercises in view of the long journey before them, and by the time they had to leave they were fitter than they expected to be.