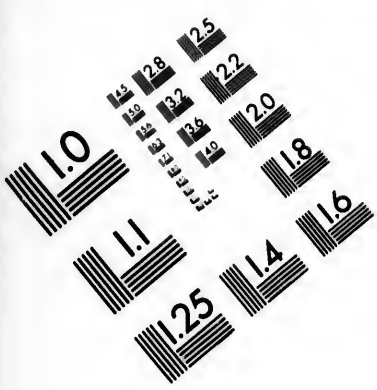

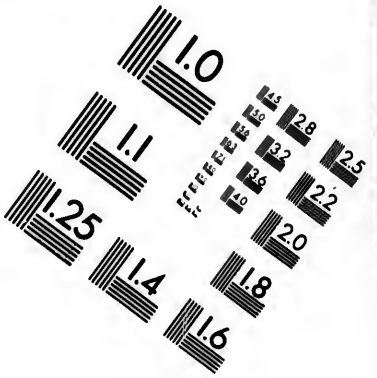

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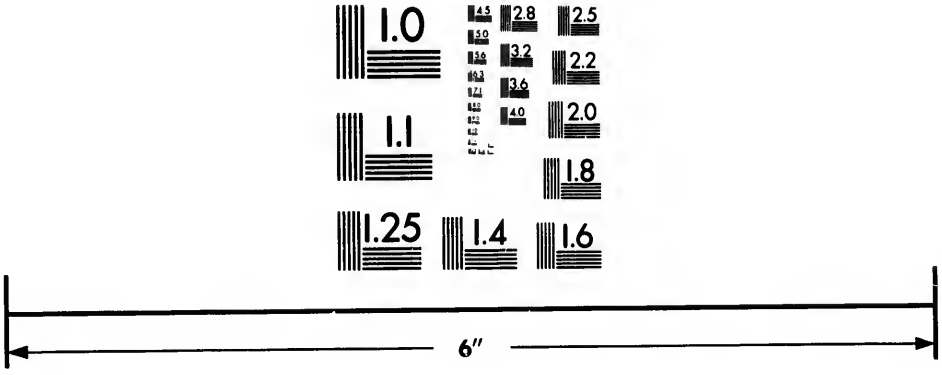

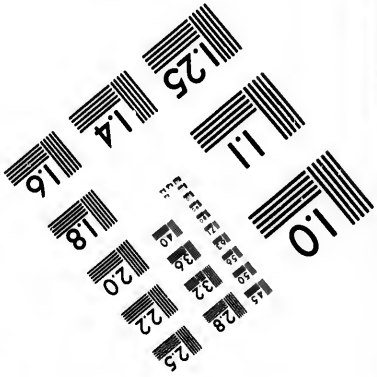

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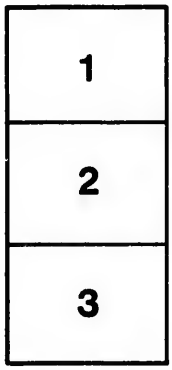

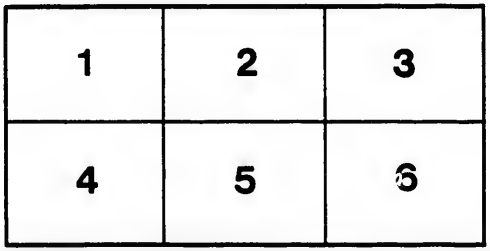

Letters to my Hospital Internes, Past and Present.

BY CASEY A. WOOD, M.D.
CHICAGO.

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Letters to my Hospital Internes, Past and Present.

By Casey A. Wood, M.D., of Chicago.

London, July 1, 1895.

Gentlemen:—Undoubtedly there are some forms of service which must ever leave the recipient in the debt of the donor. In looking back at the work done for me by you, during my attendance at Cook County Hospital, the Alexian Bros., the Emergency Hospital and the Hospital of the Post Graduate Medical School it occurred to me that I might at least acknowledge certain obligations of this kind by recounting some of my experiences during a short trip abroad. I shall endeavor to avoid the style of the medical guide book and beg to assure you that I will speak only of those men and those things that came under my own personal observation. I might also explain that, although this visit to the English and continental clinics has been a hurried one, its value to you is possibly somewhat enhanced by the fact that I had gone over more leisurely on two previous occasions, and at an interval of several years, practically the same ground.

The London hospitals have not altered much since my last experience of them. The student has not much to gain from a short stay in the British capital, partly on account of the great distances that must be covered in going from hospital to hospital, and partly because the average Englishman does not take kindly to the stranger until he has become acquainted with him after a proper introduction. But for the man who will settle down for six months or a year and work hard, excellent teaching and numerous opportunities are at the disposal of the visitor. There are admirable post graduate courses, conducted by the best men in London, on all medical and surgical subjects, but it is rather fatiguing to hurry about from one hospital to

another, miles apart. Some day these isolated teachers may come together, as with us or as in Vienna, at a common center, and then London will compete on more than even terms with her continental rivals.

These objections do not apply with the same force to ophthalmology or otology. The student, advanced or otherwise, can hardly wish for more or better opportunities than are to be had at the Royal London Ophthalmic Hospital (Moorfields, E. C., three daily clinics, 9 A.M. to 3 P.M., operations eleven to seventeen and Westminster Ophthalmic, Charing Cross, 3 daily clinics, 1:30 to 4, operations two to three). I do not say that other excellent institutions do not also furnish numerous opportunities for work, because large daily clinics are held at the Central London Ophthalmic Hospital (Gray's Inn Road, W. C.) South London Ophthalmic Hospital (near the Elephant and Castle) and in connection with many of the general hospitals, but at the two special institutions first mentioned from forty thousand to fifty thousand new patients are yearly admitted. In that overwhelming tide of ophthalmic disease, fed by the whole country round about, every possible type and variation of ocular trouble can be studied. It is a comparatively easy matter to attach one's self at Moorfields to the service of Nettleship, Lang, Silcock, Morton, Gunn, Lawford or Couper, or at the Westminster Hospital to the clinics of Jaler, Hartridge, Cowell, Dodd, Donald, Gunn, Griffith and several others. After a month or two of probation it is possible to obtain almost complete charge of patients, to do minor operations and to discuss with the chief of the clinic, matters that arise in connection with the conduct of their cases. At Moorfields, instruction on the use of the ophthalmoscope (unusually good, each course six weeks, plenty of cases, fee 2 guineas) is given three times weekly by Gunn, Silcock and Lawford. Classes in refraction are conducted by Mr. Lang (excellent, one month each, 2 guineas) while Mr. Morton gives an instructive course (six weeks, 1 guinea, material from all the clinics) on external diseases of the eye every Friday at 1 P.M. These courses are held during the winter season and tickets are to be had from the secretary at the hospital.

For beginners, Mr. Phillips, the refraction assistant, conducts, when requested, private classes which are, in my opinion, superior to anything to be had on the continent. Indeed, all the continental clinics—especially those in Vienna—are conspicuously weak in courses devoted to the study of refractive errors and muscular anomalies. Mr. Morton also gives an excellent operative course (private, six lessons, 2½ guineas) which is very popular with students. Pigs' eyes and the mask are employed for operations on the globe; pigs' heads for operating on the extrinsic ocular muscles and the lids.

These excellencies in the way of instruction are completed by work in the laboratory under the supervision and help of a very genial man, Mr. Marshall. His predecessor, Treacher Collins, has done and is still doing a great deal of valuable original work and, mainly in consequence of his efforts, the museum possesses by far the best anatomic collection in the country.

I was interested in a plan for using the electric light in the examination of eye patients. As you are aware, my objection (which I had vainly endeavored to remove by various devices) to this light was the difficulty of quickly regulating its intensity so that it could be lowered or raised like gas. Mr. Lang has perfected a plan whereby this can be accomplished and we can now dispense with gas—a decided advance, especially on a hot summer's day in a stuffy dark room.

The study of otology and laryngology is not so satisfactory to the student in London as that of ophthalmology. The London Throat Hospital (Golden Square, clinics every afternoon and evening) with Wolvenden, Hovell and Bond, is perhaps the best known and where, all things considered, one gets nearest the patients—whose name is simply legion. To obtain privileges of any value in this direction it is, however, necessary to take out a ticket of attendance (3 guineas for six months, 5 guineas perpetual, from the secretary) and to wait for a vacancy on the staff of clinical assistants, if there be none at the time of registration.

Dr. Dundas Grant, Mr. Lennox Browne and others hold daily clinics, (beginning at 2 P.M. and lasting until evening,

fees 1 guinea a month) where the student may see a large number of ear, throat and nose cases. At irregular intervals lectures are given on otologic and laryngologic subjects. I fear it will be a long time before London is able to hold out inducements to students of otology, and the kindred specialties, equal to those so freely offered by Vienna or, though in a less degree, even by Berlin.

I regret that I was unable to attend the clinic of Mr. Jonathan Hutchinson—a name claimed equally by all departments of medicine and surgery. I am told that every London hospital, whether devoted to general surgery, ophthalmology, diseases of the lungs or what not, furnishes its quota of obscure cases for review by this truly remarkable man. Such fathers of our art should live forever, and one may well wish for a continuance of a life already so replete with useful years.

One of my missions in England was to investigate the subject of the color sense. In my opinion we have as yet, no theory that satisfactorily accounts for all t' e color phenomena, physiologic and pathologic, commonly met with, and I hoped to find light upon this obscure matter in the work of Mr. Lovibond of Salisbury, who has been engaged in investigating color values and "chromometry" for twenty years past. I have long felt the absurdity of scientific men using such terms as "canary yellow," "magenta," "grass green," "Prussian blue," etc., as their most definite expression of a color sensation. In his search for universal color standards, Mr. Lovibond was confronted with the difficulty of finding a *pure* white, but at last settled upon a compressed surface of finely powdered lime sulphate as giving the nearest approach to white. When colors are viewed through a tube or box, from which all light is excluded, the slightest difference between them can be readily observed if the colored objects be uniformly illuminated. This, the principle of Chribret's chromophotometer, enables the observer to add, in Mr. Lovibond's instrument uniformly graduated yellow, red and blue tinted test glasses to the white side of the apparatus until it exactly resembles the colored object under examination. When both objects appear exactly alike, the glasses added to the white side are the color measure of the color

or shade under examination. The result is always given in, and every color can be resolved into, terms of red, blue and yellow—according to the Lovibond scale. Thus a colored powder is found to be composed of 1.4 standard units of red, 0.9 standard units of blue and of yellow 3.7 units, or a certain fluid (beer, drinking water, oil) is found to be 0.8 red and 0.50 yellow.

Not only have we in this scheme a universal standard of color, but other uses to which the "tintometer" is put ought to interest every medical man. It has been found that the amount and kind of adulteration in most foods and commercial products, as well as the impurities commonly found in drinking water and other fluids can be determined by the deviation, measured by the tintometer, from the normal tint of the pure article. Instead of making a laborious and complicated *chemic* examination of the suspected compound, its color value is determined in a few minutes. Such a chromometric examination is usually found to answer all the purposes of a quantitative analysis. In this way the tintometer is now employed in England and to some extent abroad, by all sorts of commercial houses and it is also used with great success by the health departments of cities for the ready detection of impurities and adulterations in milk, water, beer and other foods. *The slightest departure from purity whether in food or in any other product, is at once shown by a measurable and corresponding variation in color.*

As scientific men the subject of color-music ought to interest you. The July number of the *Nineteenth Century* contains an article dealing with this matter—an attempt to convert musical tones into corresponding color harmonies. I remained one day longer in London that I might attend a concert in St. James' Hall where upon a large canvas beautiful displays of color combinations were given as an interpretation of the music rendered by a good orchestra. Just *how* this was accomplished I could not discover but, *a priori*, it does not seem opposed to our idea of the conservation of energy that sound waves and the cerebral sensations they produce should be convertible into those of color.

PARIS, July 14, 1895.

Owing to my acquaintance with the American medical colony in Paris, I was able with their courteous help, to gather many items of interest which would otherwise have taken a much longer time to collect. Drs. Evans of Chicago, Bergeson of Merrill, Wis., and Jehm-Prume of Montreal, are at work here and express themselves as greatly pleased with the opportunities for study in all departments of medicine and surgery. The fees, unlike Vienna, are quite nominal (often excellent courses are free) and every stranger (in contrast to London and Berlin) is welcomed without the least introductory formality.

A students' number of the *Presse médicale* is issued every December and is the best medical guide to Paris I could find and, although intended for undergraduates, is a help to the visitor.

The *Institut Pasteur* (Rue Dutot, 25, open to visitors at 11 A.M., apply to the concierge) was, as you know, built and endowed by subscriptions from all parts of the world and its most useful work, it seems to me, is done in the fine laboratories and research rooms of the main building. There are half a dozen of the former under the care of salaried chiefs of departments who also instruct students, and over twenty-four of the latter given up to advanced workers who are conducting original investigations. The general laboratory courses (50 francs for two months, most of the material free) are said to be the best in Europe. The research rooms are let for the insignificant sum of 50 francs a month and the Institute furnishes all the ordinary apparatus and materials

The animal rooms contain over one thousand birds, guinea pigs, rats, rabbits, etc. In this appropriate way does France make a generous return to those foreign countries that subscribed money for building the Institute. Pasteur has his private apartments in the buildings, but since the illness of the chief the management of the Institution has fallen entirely into the worthy and competent hands of Dr. Roux. The city of Paris presented them both with medals and a sum of money a few days ago.

Among the most important work done at the Institute and the Children's Hospital is that in connection with diphtheria

—by Marmarek. He finds that the disease is not always the result of the diphtherica bacillus, so-called, alone, but that that microörganism is, in many cases, associated with others, notably the streptococcus, and the symptoms may be mixed phenomena due to a composite infection. In certain instances the systemic poisoning may be chiefly a streptococcus intoxication. If this be true, we have an explanation of the irregular action of Behring's heilserum; antitoxin is powerless in a case of diphtheria largely due to poisoning by the streptococcus. Marmarek consequently proposes not only to regulate the dose of antitoxin by the proportion of diphtheria bacilli present in the exudation, but to give doses of streptococcus toxins when that coccus is found. He expects to have the antidote ready for general use in a month or two.

Marmarek is of opinion that the chief danger to which the tubercular patient is exposed is a secondary infection of his lesions by streptococci.

I was also interested in the investigations of Cenarelli in typhoid fever. Most animals can not, under ordinary conditions be inoculated with the disease, but he found that this immunity practically disappears and that they exhibit all the characteristic lesions of enteric fever when they are ill-fed, kept in filthy, badly ventilated quarters or exposed for some time to sewer gas before receiving the typhoid poison. The inference is that human beings are much more likely to resist this form of intoxication if they live hygienically and in a healthy neighborhood—a doctrine taught by our fathers before the days of bacteriologic laboratories. There is a public hydrophobia clinic connected, as an outdoor department, with the Institute, where from eighty to ninety patients are daily treated; the average treatment lasts fifteen days and the method is just the same as that carried out in Chicago by our own Dr. Lagorio. By the way, Chicago is the only Pasteur station except, I think, Havana and New Orleans, marked on the large map of North America at the Institute. I could not discover why New York, with Gibier's station, had been omitted.

I saw the original Pasteur filter, invented by Chamberland, one of the department chiefs at the Institute, and am

inclined to think more highly of it than I did of those put on the Chicago market. It is used here for the separation (under pressure) of their toxins from the various microbes. As you are aware, the filter is practically a porcelain cup, dense enough to separate—to a bacteriologic demonstration—even the smallest organism from contaminated drinking water. I suspect, however, that regular boiling and cleansing of the porcelain cylinder and its attachments would be a useful proceeding in the case of a filter daily employed in the purification of Chicago water.

II.

PARIS, July 14, 1895.

Gentlemen:—Perhaps the most noticeable fact connected with the more prominent oculists of Paris is their foreign names and origin. We find several Germans, a Pole, a Greek, a Netherlander and even a Canadian graduate on such a list. Whatever else this may mean, it is at least evidence of the tolerant and cosmopolitan character of French surgery. Evidently, also, they have been asked by the French public, not where they were from, but what they knew about ophthalmology.

Probably the best known ophthalmologist in Paris is De Wecker (public clinic 55 Rue Chercher Midi, 4 P.M. daily; operations at 5 P.M.), one of the fathers of ophthalmology and justly celebrated as author, teacher and operator. He has always a large following of students and patients and is very courteous to strangers. He showed me his new glass-and-nickel steel operating chair, made on the model of one in which he said he had done 30,000 operations. He gave his own anesthetic on several occasions, not for want of an assistant but because he had "views" upon the subject of general anesthesia. De Wecker prefers the illumination from a small electric hand-lamp, while operating, to sunlight, as he thinks that the operator, his assistants and the onlookers can all see better. It seems to me that this is merely an example (and we find many of them among surgical appliances) of the adaptation of an instrument to the requirements of a particular surgeon. He finds that some form of instrument suits *him* better than any other and

forthwith discovers reasons why it should be adopted by the rest of the world. De Wecker is markedly short-sighted and is obliged to approach his own eyes to the patient's face while operating; consequently an electric lamp *is* better for all concerned when *he* is operating.

I saw Panas, another well-known oculist (professor in the University, Hotel Dieu, fifty-nine beds for eye patients, entrance off the Place Notre Dame, noon daily, operations 2 P.M.), and the man who advocates the substitution of biniodid of mercury for sublimate as an antiseptic in surgery, on the ground that it is less irritating than, is quite as good a germicide as, and can be more effectually employed in one-half the dose of mercuric chlorid. Lately he has been in the habit of using the iodid dissolved in sterilized olive (or almond) oil as an antiseptic application to the lids and lashes (and for hypodermic injection in general medication) before operating for cataract. The ocular region generally is thoroughly cleansed the evening before the operation and the oil applied. The eye is then bandaged until the moment of operation. Laboratory experiments have proved that the conjunctival sac and the lid edges contain fewer pathogenic bacteria after this treatment than when any other plan is followed; also the evidences of ocular hyperemia are few or wanting. During the operation he uses a large Graefe knife and cuts through one-half the corneal circumference. His extractions are without iridectomy and he does not hesitate to employ what appeared to me to be a good deal of force and much manipulation in replacing the iris, using a large scoop-like repositor. But this rough treatment, he says, is never followed by iritis. He has given up the use of the syringe for washing out the anterior chamber after removal of the cataract, since employing the iodid oil solution. The presence of pathogenic microbes is what he fears in producing ocular inflammation rather than traumatism (*e. g.*, the use of the iris repositor) or foreign bodies in the anterior chamber—such as lens matter and capsular remains after cataract extraction. He uses eserin ointment 1 per cent. after the operation for cataract, then iodoform dressing, both eyes being bandaged for three days.

Some of the English operators, Lang, for example, always

examine the eye twelve hours after such operations, as in their experience prolapse of the iris occurs, if at all, within that time. They also say that the prolapse is more easily dealt with then than later.

After enucleation, Panas sutures the conjunctiva and puts in rubber drainage, thereby securing a better socket for the artificial eye.

I saw a good many cases dressed with iodoform in all the clinics, and I can not help thinking that the French nose is after all less susceptible to that odorous application than are our American olfactories; you will remember that even the poorest public patient objects, with us, to iodoform dressings when applied to the nasal region.

In the clinic of Abadie (172 Boulevard St. Germain, 1 to 4 daily, operations at 3) I saw the chief give a subconjunctival injection of one drop of a weak eserin solution immediately after removal of cataract. He did his extraction without iridectomy, like almost all the French operators—as opposed to the English surgeons, of whom it may be said that the converse is true. Abadie, for cataract extraction, uses an eye speculum with the spring turned toward the nose, having previously cleansed the conjunctival sac with cotton-covered retractors. This latter proceeding recommended itself to me since reading Gasparini's report, in which he showed that the useful action of certain fluids (borated solutions, sterilized water, weak bichlorid mixtures, etc.), employed in irrigating the eye, depends not so much upon their germicidal powers as upon the stream of water acting as a mechanical agent in detaching and washing away the colonies of cocci.

Abadie's first assistant kindly showed us a number of syphilitic patients whom he was treating after the method of Marcelli, of Milan, by the intravenous injection of mercuric cyanid. When employed in the usual hypodermic manner the following is the formula commonly prescribed:

Cyanid of mercury	1 grm.
Muriate of cocain	0.50 ctgr.
Distilled water	100 grms.

Of this, 1 cubic centimeter every two days. The cocain is omitted when the injection is made *intravenous, i. e.*, into any

of the superficial veins of the arm, and a centigram is given at one dose every two days. A special syringe is used, there is very little pain and I saw no disagreeable after-effects. Abadie claims from this treatment much better and earlier results than when mercury is given by inunction or by any other method.

The Quinze-Vingts, probably so-called because it had 300 beds when first founded, is one of the oldest hospitals in Paris and has connected with it the largest indoor eye hospital in the world—the *Clinique Nationale d' Ophthalmologie* (Rue de Charenton, 28, daily clinics, 11 to 12, operations at 1 P.M.) with 190 beds and a very large dispensary practice. Prominent on its staff of surgeons is A. Trousseau, a member of that family illustrious in the annals of French medicine. He is a very genial man and received us with great kindness. I have never seen a more rapid operator in any department of surgery. The way in which cataracts were removed, squints straightened and lid operations performed was simply amazing.

The Gilet de Grandmont operation for congenital ptosis was done in two minutes, while cataracts were extracted in about twenty seconds! For the latter, which were without iridectomy, he used only a Graefe knife like the English operator Critchett. Separating the lids with his left thumb and forefinger, he quickly punctured the cornea, used the point of the advancing knife as a cystotome, made his counter-puncture, completed the incision, pressed upon the lower third of the cornea with the back of the knife, and before one could say "Jack Robinson," the opaque lens lay upon the cheek. I saw him do half a dozen such operations, with good immediate results, inside of fifteen minutes. A starch bandage was applied in all the cases. To this hospital are also attached Valude (operates every Thursday at 2 P.M.), Kalt, who sutures the corneal wound after cataract extraction to prevent hernia of the iris, and others. Regular instruction in ophthalmology, illustrated by cases from the vast supply of clinical material at hand, is given by members of the staff and is practically free to all comers. The assistants in this hospital have unusual opportunities for doing major operations upon the eye. They are chosen by competitive

examination and the appointments are eagerly sought after.

Landolt (12 to 2, at his clinic, Rue St. Andre' des Arts, 17) is the ophthalmologist who has translated into simpler language those complicated formulæ connected with physiologic optics to be found in the exhaustive treatises of Helmholtz and Donders. Indeed, most of the smaller works and text-book chapters on the refraction of the eye, that have appeared during the past ten years, have been copied from his masterpiece, " On the Refraction and Accommodation of the Eye." He is still a young man and speaks and writes admirable English. Every American visitor or student may count upon receiving a cordial welcome from him. I regard his early and smaller work on the "Examination of the Eye" as the best thing of the kind yet published. Unfortunately, it has been out of print for several years and so far, the author has not seen fit to re-write it.

The *Hospice de la Salpétriere*, combination of hospital, poorhouse and lunatic asylum with its 3,800 beds for women has attached to it, as surgeon oculist, Dr. Parinaud (his own clinic in the *Avenue de Clichy*, No. 50, is held daily) who is probably best known as an authority on hysterical amblyopia and on the relations of the eye to nervous diseases generally. I saw several of his cataract cases where the corneal incision was made, without subsequent iridectomy, within the clear cornea in such a manner (he claimed) as to insure early healing of the wound and to form a sort of corneal dam against extrusion of the iris. His clinic is a very interesting and instructive one and might, with benefit, be attended by every medical visitor to Paris. He speaks little or no English. Parinaud's first assistant, Morac, has also written extensively on subjects of special interest to the neurologist.

The personality of Galezowski, one of the oldest and best known oculists in the French capital (Rue Dauphine, 41, daily 1 to 3, operates 3 to 4) rises superior to one's judgment of him as an ophthalmologist. He has by far the largest private clinic in Paris and probably as large a student following as any other teacher. In his overcrowded and far from (surgically) clean operating room, aseptic conditions can not possibly be obtained nor was there, so far as I could

learn, that attention given to the measurement of refractive errors or the correction of muscular anomalies which one sees in some French and in most English dispensaries. Still there is a peculiar fascination about the man and his teachings that seems very attractive to students and patients. At the same time one can not help wondering whether the enthusiastic hopes of these patients are more frequently realized than are the calmer prognoses extended to the *clientèle* of other dispensaries. The crowd at Galezowski's seems as large and expectant as when I first visited Paris in 1886. I do not intend by these words to depreciate the work which Galezowski has done for medicine generally, because that is valuable and forms a part of modern ophthalmology.

This ophthalmologic sketch would be incomplete without a reference to Dr. George J. Bull (4, Rue de la Paix, 2 to 4 daily) an American graduate, who has won a place in the front rank of Parisian oculists. He was associated for a number of years with Javal of ophthalmometer fame and that instrument probably owes more to Bull than he is willing to admit. At any rate his compatriots in medicine will always find him willing to advise them as to the best way to get about the Paris hospitals.

I regret that I was unable to visit Meyer, Oswalt, Darier or d'Espagnet as I intended, and will, consequently, say nothing about them, but the man who is interested in diseases of the eye ought, when time permits, look them all up.

Since I last visited this city, several surgical instrument makers and dealers in optical apparatus have come to the front. In addition to the well known firms of Collin, Nachet and Lüer (now at No. 6, Rue Antoine-Dubois) I have had satisfactory dealings with Roulot, 58 Quai *des orfeores* and Major et Genisson, Rue Racine 23. As the question of surgical appliances so frequently arises in the case of the medical traveler, let me give it to you as my opinion that London still retains her old preëminence as the place to buy most cutting instruments, but that in other respects New York excels. With the exception of certain *souvenirs de voyage*, which one picks up in every city, and the knives and scissors of London, I would not now buy a franc, a gulden or a

mark's worth of office furniture. It can be better and almost as cheaply purchased in our own country. I believe that we shall be able, before many years, to say the same thing about our medical instruction. At least such is the impression made upon me, by comparing what I have, so far, seen of French, German and English methods. In my next letter I hope to give you my experiences of some Dutch and German hospitals.

III.

UTRECHT, July 22, 1895.

No better situation could have been chosen for the largest Dutch ophthalmic hospital than Utrecht. The city is about the geographical center of Holland and is the seat of a university founded in 1636 whose medical department is attended by a large number of students. Ophthalmology, as well as other branches of medicine, owes much to the Utrecht school.

It was the celebrated treatise of Donders on physiologic optics (translated into English) that opened the way for a clear understanding of the refraction of the ocular media, the mode of accommodation and the action of the extrinsic ocular muscles. All these and many other important matters have been elucidated by his worthy successor, Prof. H. Snellen. Two years ago the building of the new ophthalmic hospital (*Nederlandsch Gasthuis voor ooglijders 49 Bleijenburgstraat*, seventy beds with over five thousand outdoor patients and five hundred operations yearly—daily clinic 8 to 12, operations at 11) was opened. This is a very handsome eye hospital with wide corridors, high ceilings and cheerful indoor walks for the patients. It is built so that there is plenty of light where a good illumination is required, while convalescents can go about in covered ways suited to their condition. In this building Snellen gives the regular university courses for students. Here, too, other teaching is done by the Professor's sons, Drs. H. J. and W. Snellen and the other assistants. All the operators follow the Professor's example in making the corneal incision (in cataract extraction) extend slightly underneath the conjunctiva. Snellen thinks that if this is done so as

to avoid the sclera, that no bleeding will take place into the anterior chamber and so render the subsequent steps of the operation uncertain and difficult. This is, as you know, the chief objection to the conjunctival flaps. Its chief advantage is that such a wound heals in a few hours and binds the edges of the cornea closely together. When he does an iridectomy, as part of cataract removal, he favors the preliminary operation and performs it some six weeks before. When there is increased intra-ocular tension, a sluggish pupil, posterior synechiæ or an unripe lens he would advise it. At the time of the operation a 4 per cent. solution of pilocarpin is instilled, instead of eserin which is often very painful and irritating. After dressing the eye, subsequent to any operation where the eyeball has been opened, a thin oval aluminum shield (about 4 x 3 inches) is placed over the ocular region and this is kept in place by adhesive straps. The patient is now carried to bed on a litter made of poles and side-pieces run through folds made in the under operating sheet. He is allowed to sit up the next day, when the lids are also opened for examination.

I was courteously allowed to examine a large number of cataract cases operated upon at various dates, and was greatly pleased with their appearance and the absence of complications. The Dutch people are notoriously clean and live in well-ventilated houses. I was consequently not surprised to learn that they are pretty free of diseases of the lids and conjunctiva. Dr. Snellen informed me that in Utrecht, with a population of 100,000, he sees barely 6 or 7 cases of trachoma yearly. On the other hand, among members of the large Jewish colony in Amsterdam (most of whom work in factories and live in dirty, ill-ventilated tenements) granular lids has been endemic for over a century, and has apparently resisted all attempts to eradicate it.

Professor Snellen is at present engaged in perfecting the ophthalmometer and believes that the University optician (office in the Physiologic Institute) has succeeded in grinding the prisms and other lenses connected with the instrument with a precision not attained by Parisians or other workers. He also showed me a new scheme for testing the color vision of railway employes. This consists, essentially

of illuminated colored discs of glass which are exposed for a second or less, to the view of the person under examination, by means of the rubber ball and shutter used in the ordinary photographic camera. The size of the disc and its distance from the eye correspond to the visual angle for which the Snellen test types are arranged. The short exposure and artificially illuminated test color make it more difficult for the color-blind person to escape detection than when the Holgren wools are alone employed. Moreover, the Snellen apparatus can be used at night time and the illumination does not vary, as does that of any other method that depends upon daylight.

It seems to me that at least a portion of the post-graduate student's stay in Europe might profitably be spent in one or more of the smaller university towns like Utrecht. He would in this way escape the over-crowded clinics of larger cities like Vienna, and be able to get nearer both patients and teachers. It is true that in the case of Utrecht, for example, the average student does not know and would not care to give time to the study of Dutch, but since both Professor Snellen and his assistants speak admirable English, and many of the patients understand a little German, this drawback is not a serious one. I think, also, that it is a mistake for the student of German medicine to give *all* his time to Berlin and Vienna, where he often has to take his chances with the members of a large class in getting partial views of operations between the heads and over the shoulders of numerous assistants who crowd about the operating table. In smaller places, like Prague, Königsberg, Göttingen, Kiel, Buda-Pesth, etc., the American student will generally have the advantage of personal instruction from as good teachers as he will find in Vienna, and will secure advantages and opportunities which he can not hope for even in the much-vaunted and more costly courses of the Austrian capital.

IV.

BERLIN, July 30, 1895.

There have been remarkably few changes in the *personnel* of the Berlin medical faculty during the past eight years. It would require more space than I have at my disposal

even to mention all the celebrities at whose feet students, both graduate and undergraduate, might sit at this great teaching center. I renewed my acquaintance with so many of them as I could find in town. This is, however, the time of the midsummer vacation which every North German keeps who can.

Virchow is still working away, pretty much as usual. His celebrated early morning (*Pathologisches Institut, Charité*, Mon., Wed. and Sat., 8 to 10 A.M) demonstrations in pathologic anatomy and microscopy is just ended but will begin again, like all the other university classes, with the winter semester about the middle of October and last until March. Virchow's former assistant, now Professor Israël—well known friend of the American—also gives courses on pathology in the same place.

Berlin, when the convenience of the post-graduate student and the opportunities for study are concerned, is, to my mind, superior to London, while equivalent courses are much less expensive than those of Vienna. In the latter city every thing medical practically centers about the large *Allgemeine Krankenhaus;* there is no running about to distant hospitals or lecture rooms for instruction or to witness operations. Both the regular University lectures and the other Vienna courses (which go on month after month with little change) on the same or allied subjects, are generally so arranged that one can constantly pursue even a single line of study without much conflict of lecture hours. The proportion of teachers who speak English is probably greater in Vienna than in either Paris or Berlin.

Although Vienna is perhaps the best place for the student who has but a short time for study abroad, yet Berlin and other German cities occasionally offer superior advantages in most departments of medicine to the physician or surgeon who can remain for a year or two. A prolonged stay will enable him to learn the language thoroughly and he will be better able to mentally digest what he sees and hears. He will also cultivate the acquaintance of teachers (a numerous class here) who follow their particular studies with an eye single to the service of science—not always casting furtive glances at the pocket books of the class before them. The

University issues an admirable calendar (to be had at every book store) and time table of lectures—a pamphlet that will be appreciated by those who have studied in London and Paris. Armed with this, and having chosen a centrally located lodging somewhere near the *Charité*, he can profitably set to work at almost any time. Berlin should, however, be avoided by the new arrival during the months of July, August and September unless he has previously arranged to act as *locum tenens* for some assistant or chief of clinic who has gone for the usual holiday. Moreover, unless he wishes to follow some special advanced course or courses it would be wise for him to begin at the commencement of one of the semesters (the next begins October 26), or one of the *Ferien curse*—vacation courses—for practicing physicians. The latter can not be too highly praised and should be attended by every post-graduate student who can conveniently reach Berlin toward the end of September. Full information regarding each course with the address of the clinic where it is held, name of teacher, honorarium, etc., is given in an announcement to be found in most medical bookstores or at the "Langenbeck house" (*10 Ziegelstrasse*).

The lecturers and instructors in the *Ferien* courses are not confined to the professors and *privat docenten* of the University—although these are in the majority—so that several competent and popular instructors outside the sacred precincts are afforded an opportunity to display their merits.

As many of these courses are limited, an early application is usually desirable before September 30, when certain of them begin. They all come to an end on October 26, each single course lasting four weeks. The fees are usually 40 marks ($10) but range from 20 marks—*e.g.*, Westphal's class in mental diseases, limited to five, twice a week—to 150 marks for Baginsky's practical course in otology, limited to three, and held daily. No department or departmental subsection of medicine or surgery seems to be forgotten in this scheme. For instance, there are thirteen courses, no two of which cover the same ground, in bacteriology, normal and pathologic anatomy; seventeen in internal medicine; eleven on the eye and ear; eight on gynecology and obstetrics; two on physiology; six on medical jurisprudence, toxicology and

hygiene; eight on nervous diseases and electro-therapy; five on general surgery; fourteen on diseases of the ear, nose and throat; seven on syphilis, skin diseases and diseases of the genito-urinary organs, and one on medical photography.

Berlin has for us rather a melancholy interest in presenting most of the sanitary advantages that our large towns lack, and but few hygienic shortcomings, of which American cities furnish such conspicuous examples. Every medical visitor should inspect as part of his studies, the extensive municipal slaughter houses and their laboratories, where *every* animal is examined, macro- and microscopically before its flesh is used for food. And woe unto the butcher who dares expose for sale a carcass lacking the proper sign of examination! He should also inquire into the system by which a *daily* and thorough (I had almost said non-political) examination is made of the milk sold within the city limits, and by which a careful search is instituted for adulterations in other forms of food. These matters are fully gone into by Meyer in a little book (*Das Gesetz betreffend den Verkehr mit Nahrungsmitteln*) published by Springer in Berlin. During this study of municipal hygiene, he will find that smallpox is practically unknown in Berlin and that everybody is, without exception, vaccinated. Finally, not to further expand this letter, he will discover that the sewage of the town does not pollute the Sprey, but is pumped out to, and spread upon a municipal farm of some 1,200 acres where it is used as a fertilizer. This estate is thus made to pay, over and above current expenses, more than 3 per cent. on the original outlay for the land.