shown in a model. The municipal healing and swimming baths of the town of Barmen are represented.

AUSTRIA.

In the Austrian building, which is near the buildings of Washington University, we find the Karlsbad exhibit. Superb albums show every detail of this famous health resort. Its popularity is shown by the fact that in 1861 the visitors numbered 3,200 and in 1903, 13,300. From May to September are the favorite months, July being the best in point of attendance. The total number of visitors has been nearly 55,000. In 1902 they gave 355,000 baths. Austria-Hungary furnished the most visitors, Germany next and the remaining European states next. America sent 2,396 in 1902. There was a large falling off in 1893. Even Karlsbad felt our business disasters of that year, when there was a loss of 60 per cent. in the number of American visitors, but last year was the largest and best year. All sorts of data regarding visitors are given and from photographs much can be learned. The Kaiserbad, Prince's bath, mud bath, dressing rooms, the superb Zander-hall; the apparatus for hydrotherapy and cold water cure; the douche table, the tubs, the steam bath, electric light bath, sprudel bath, the schlossbrunn, mühlbrunn, curhaus, military curhaus, salt works and waters exporting house are all shown.

BELGIUM.

Across from the Austrian building is the Belgian building. Before you enter you read something of the part Belgium has taken in the advancement of civilization. They are justly proud of the fact that the first General Congress of Hygiene was held in Brussels in 1854; the first International Congress on the Laws and Regulations of War, in 1874; and the first International Congress of Charity, in 1856. As you enter, the University of Ghent with its institutes of hygiene, of bacteriology and of legal medicine; the University of Liege, with its clinical hospital and the portraits of its professors, attract attention. The National League of Belgium Against Tuberculosis is represented here and the placard "Ne crachez pas par terre!" shows what they are doing in that direction.

TRAVEL NOTES.

I. TRAVEL AS A MEANS OF POST-GRADUATE MEDICAL EDUCATION.

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CHICAGO.

SAN FRANCISCO, July 7, 1904.

For the second time I am on a tour around the world—this time in an opposite direction from East to West, via India. I leave San Francisco on the steamer *Sierra*, July 7, and if I am spared the disease-producing effects of the tropical climate and not delayed by failing to make timely connections, I expect to reach New York on the *Kronprinz Wilhelm*, October 11. Three years ago I girdled the globe via Siberia in three months and twenty days. That trip was replete with information of all sorts, general and professional, and the pleasure of it was enhanced by the companionship of my friends, Prof. D. R. Brower and Drs. Martin and Frank.

I am very well aware of the fact that midsummer is the wrong time to undertake a journey through India, owing to the intensity of the heat, but I expect to receive at least a partial recompense for the expected sufferings incident to unfavorable climatic conditions by avoiding crowded hotels, cars and steamers, which so often detract from the pleasures and benefits of travel during the winter season, when the tourists elbow their way over this popular pathway around the world. This, at least, was my experience in visiting the Holy Land and Egypt during the summer months on a former occasion.

Beside, the duties of my college work are such as to preclude all possibility of seeing India at the most desirable time. My friends who had contemplated making this long journey with me have all, one after the other, decided otherwise, so I shall find myself alone for once from one end

of the world to the other. This isolation also has its advantages and charms. The time will belong to me exclusively and I shall dispose of it in the most profitable manner in studying the different places of greatest interest, the people, their customs and habits. I shall also devote special attention to matters pertaining to our profession and report from time to time to the readers of *THE JOURNAL* the results of my observations. Experience has taught me that in traveling in tropical countries the best means to counteract the baneful effects of heat is work, mental and physical. It is under the influence of prolonged heat that inactivity begets mental and physical languor, while exercise of body and mind increases the force of the enfeebled circulation and stimulates the organs of secretion and excretion to greater activity. Before leaving the Pacific Coast I desire to discuss very briefly the subject indicated by the title of this, my first communication, and in doing so I fully realize what Cicero said of letter-writing:

"We write differently when we think that those only to whom we write will read our letters, and in a different style when our letters will be seen by many."

My prospective letters mean letters to the over 31,000 subscribers of the official organ of the American Medical Association, many of whom I count among my most esteemed and intimate friends, hence my diffidence and uneasiness in beginning.

From time immemorial travel has been recognized as an important element in acquiring a general education and in obtaining proficiency in the professions, arts, sciences and trades.

It is the study of men and manners in different climes and varying social and political conditions that proves so useful in enlarging the views of life and weighing its possibilities. Horatius was fully aware of this when he wrote:

"The knowledge of men and manners is the first principle and fountain head of good writing."

Before machinery usurped the place of hand labor mechanics and tradesmen acquired their technical knowledge by serving as apprentices for a number of years under the supervision of an acknowledged master, and after having obtained the required proficiency they spent another year or two, their *wanderjahre*, in traveling from place to place in perfecting themselves in their vocation by familiarizing themselves with the practical work of different masters, before they considered themselves fully qualified to take their independent stations in life. In this manner they acquired a reliable knowledge of the details of their work, which no one master could impart. If travel and observation and practice under different masters in the acquirement of a thorough knowledge of the different trades are such important factors of success in the world of business, it must appear very evident that the same means are even more desirable and efficient in the study of medicine and in keeping pace with the wonderful advancements and improvements of the most progressive of all professions. In this age of research and discoveries, the science and the practice of medicine and surgery are undergoing revolutionary changes from day to day, and the ceaseless search for truth and facts makes it necessary for the modern practitioner to keep abreast with the latest and best pertaining to his calling.

In our day this means much. It was not so in the remote past, when the authority of writers of popular text-books remained unchallenged for centuries. We live in an age characterized by progressiveness, deep scientific investigation, free and sharp criticism. Theories advanced by one are overthrown by another unless they stand the crucial test of successful repetition by acknowledged leaders in the profession. What was new yesterday may become old and obsolete to-morrow. Scientific work is no longer confined to a few favored institutions; it may be seen in all parts of the civilized globe. Nations and institutions are now engaged in a laudable competition to excel in blazing new pathways through the still unexplored territories of scientific medicine. It is by the concerted, systematic, scientific investigators of disease in all climes and under varying conditions that we must look for more radical measures in the prevention and more successful

treatment of disease. There is no time in the life of a medical man when he feels more confident and competent to battle successfully with disease and perform the most difficult operations than on the day he leaves his alma mater, diploma in hand, ready to seek his place in the crowded ranks of his future profession. If the new aspirant for a liberal patronage is honest, it will not take him long to discover his shortcomings and crave for more knowledge. He will be made painfully aware of the fact that

"Because all the sick do not recover, therefore medicine is no art."—Cicero.

The completion of the study of medicine, even in the best equipped medical colleges and universities, furnishes at best but the foundation for the subsequent post-graduate education. If the foundation is firm and the building material contributed later substantial and in sufficient abundance, the resulting structure will resist fire, wind and storm, a lasting monument to the builder. If the foundation is defective and the building material not of the right sort, failure and disappointment will surely follow misdirected efforts, no matter how earnest and persistent they may have been. The successful physician and surgeon will be the one who, with the day of his graduation, enters on a rational, well-planned post-graduate course of the study of medicine and its allied sciences. This constitutes a life study. Without it the practice of medicine inevitably soon degenerates into a miserable trade. The reading of new textbooks and the best current medical literature, passive and active work in medical societies, local, national and international, laboratory work in the office and local hospitals, are well calculated to meet the needs of the ambitious, conscientious practitioner, but they will not suffice in giving him the best possible opportunities to keep in touch with the spirit and practice of the extraordinary age in which we live. Reading and seeing are two entirely different things. The eye is the great educator in technics of all kinds. It is one thing to read the description of a complicated operation; it is another thing to see it performed by the hands of a master. Textbooks, valuable as they are, are but poor substitutes for actual instructions and demonstrations in clinical and laboratory methods. Personal intercourse with prominent men in the profession imparts a stimulation for more earnest and more effective efforts not obtainable to the same extent in any other way.

A personal acquaintance with men who have earned a well-merited reputation in the advancement of our profession is a source of great gratification and excites a new interest in the work he has accomplished. The study of strange diseases in distant countries fills a gap which a college education and subsequent reading can not fill. An accurate knowledge of climatic conditions and their effects on health and disease can only be acquired by travel.

For the professional man, and especially for the physician, travel opens a field of learning and affords opportunities the importance of which can not be overestimated. In order that travel may yield the desired results, both physically and mentally, it must be carefully planned and properly conducted. The demands on the time and energies of an exacting, laborious practice are such that fatigue, bodily and mental, must follow sooner or later. Of all learned professions the medical is the one in greatest need and most deserving of a long, free-of-care annual vacation. It is hard to make the public believe this, but it is nevertheless true. During the summer months the complicated mechanism of the law comes to a standstill and the lawyers take their vacation without crippling their bank account to any considerable extent. The fashionable churches close their doors when the members of the congregations leave for their luxurious summer homes, and the rectors and preachers, with purses well filled with gold by their appreciative parishioners for their vacation expenses, leave the great cities and spend their allotted leisure weeks and months where they are sure to find rest, comfort and recreation. It is the physician who is expected to work from one end of the year to the other, ready for call by day and night, in sunshine and storm. It is the physician whose an-

nual income suffers when he leaves his practice for a much-needed outing. It is the physician who carries away with him the weight of his responsibilities to a greater extent than the members of any other profession when away from daily routine work. The public must be made to understand that medical men are entitled, above any other profession or class of men, to an annual vacation, and that such vacation, properly spent, will bring to their patients better service, and will be one of the most important factors in promoting the science of medicine, public hygiene and sanitation.

Where and how shall the physician spend his vacation?

"Travel, in the younger sort, is a part of education; in the elder, a part of experience."—Bacon.

The physician who has the interests of his patients and profession at heart will not be content, like most professional and business men, to spend his precious vacation time in idleness at some fashionable seashore or mountain resort or to imbibe the questionable pleasures of city life. The working time of a professional career is too short to waste time by idleness or dissipation. Rest to him means work of the right kind. What wears a busy doctor out is not the physical work he does, but the care and sense of responsibility it carries with it. The greatest pleasure to him is to see others work, and the sweetest rest a freedom from care. Brain fatigue is more frequently caused by care, real or imaginary, than overwork. A man in average health can do an incredible amount of congenial work, but it is care that furrows the face and blanches the hair prematurely.

Relieved of care the physician on his vacation is in the best possible mood to reap the benefits of the work of others near and far. The visits to laboratories, hospitals and museums, the personal contact with colleagues in different countries, the inspection of new instruments, the practical work in the operating room and laboratory will become to him fascinating and instructive object lessons. The genuine feeling of fraternity among medical men throughout the entire world will insure to the earnest and honest seeker of knowledge a most friendly reception, provided the visitor conducts himself properly. The American, born in a land where the idea of equality among men is pre-eminent, in order not to give unintentional offense, must adapt himself to the customs of the countries he visits, and thereby secure the good-will and friendship of those whose work he is privileged to see.

In Europe the matter of titles conferred by the governments on medical men is confusing to the American visitor. Fortunately our forefathers guarded against anything reminding one of royalty to take foothold on our soil. In Europe and any of the European possessions and Japan a titled person must be recognized and treated as such. The title professor there means much more than with us, for the reason that it can not be made use of without being granted by the government. A professor must, therefore, not be addressed as doctor, as is customary in our country, where the freshman medical student does not hesitate to make use of this common and familiar term in addressing his teachers, and if he comes from some rural districts, where physicians are too familiar with their clients and neighbors, he may be bold enough to shorten the word to "doc."

As soon as a European professor is honored by a government title he has a decided preference for the latter, hence, if he is a lord, sir, excellency, geheimrath, baron, pasha, bey, etc., he expects to be addressed by the titles with which he has been honored.

Another thing the traveling physician should always be mindful of, and that is not to pester the teacher or operator with unnecessary questions. Many of these men we meet are very busy, and their temper is sometimes ruffled by overwork. The assistants, less burdened with responsibilities, are always glad to give the required information if approached properly and at an opportune time. The firing of questions, often of an irrelevant nature, at a busy overburdened professional man, is in exceedingly bad taste, and can hardly fail to excite his displeasure. The physician away from his cares and strenuous duties should not undertake to teach or to in-

struct, but should devote all available time to add to his knowledge by seeing, hearing and reading. The visiting physician must become a well-squeezed sponge, ready and eager to absorb, slow in offering advice and in exhibiting his operative skill. The display of technical skill in strange hospitals and clinics should be discouraged, as the operator labors under the great disadvantages of doing his work with unfamiliar instruments and strange assistants, and for these and other obvious reasons can not do himself and his patient justice. The traveling post-graduate medical student, unless he intends to devote considerable time to laboratory work, should not remain at any one place for any length of time. It does not take long to become familiar with methods of teaching and details of operative technic. It is more profitable, and certainly more interesting, to see ten men operate ten times each than to see any one man operate a hundred times. Travel, as a means of post-graduate medical education, does not necessarily imply that the time should be spent in great medical centers, as is too often the case. Some of the very best medical and surgical work is now being done beyond the shadows of medical schools and great metropolitan hospitals. We often learn more of the real merit of a surgeon who is thrown entirely on his resources in some remote, small, isolated city, whose instrument supply is limited, assistants few and perhaps inexperienced, than when we witness the operations by recognized masters in the palatial hospitals, supplied with everything that modern surgery could possibly suggest, and assisted by a large staff of well-trained, experienced resident surgeons.

In our country and abroad magnificent little hospitals are being built in the smaller cities and large villages in which the patients receive excellent nursing and the very best medical and surgical service. Some of these places in our own country have recently become famous for the excellency of the surgery practiced. Among these Rochester, Minn., and Oshkosh, Wis., deserve special mention. The Mayo brothers at Rochester control the lion's share of the surgery of the west, and their hospital in the little prairie city of not more than 5,000 inhabitants has become a Mecca for the surgeons not only from this country but from abroad. There is no other hospital on this side of the Atlantic in which so many important operations are performed daily as in this one. It would be difficult for any one to visit St. Mary's Hospital, Oshkosh, a city of 30,000 inhabitants, in which Dr. C. W. Oviatt does his surgical and gynecologic work, and find him perform less than three or four major operations, any day of the year. These are by no means isolated instances, there are many other comparatively small cities in which the traveling physician will find excellent physicians and surgeons from whose example and practice he will carry away many new ideas, suggestions and hints of scientific and practical importance. The clinical teacher is not necessarily the best physician or surgeon, as much of his time and talent are consumed for the benefit of his students. It is the man with a solid, scientific foundation, endowed with a keen, practical sense, studious and devoted to his work, who generally scores the greatest success. Travel from place to place has this one great advantage, that the traveler does not become one-sided nor too much influenced by the views and practice of any one man. The traveler must know how to discriminate, what to reject and what to adopt. We often learn more from shadows than light and from mistakes than a correct technic. The privileged visitor must be slow in criticism and grateful for the opportunities he is given to familiarize himself with methods employed by men in various parts of the world. Let him travel from place to place, cultivate the personal acquaintance of his professional colleagues near and far and learn from them all he can and remember that

"The use of traveling is to regulate the imagination by reality, and instead of thinking how things may be, to see them as they are."—Johnson.

Many men with brilliant minds and endowed with the purest and noblest ambitions to succeed in their calling fail in reaching the intended mark because they did not keep in touch with the outside world. In the practice of medicine isolation is a

dangerous thing because it engenders a routine practice from which it is impossible to escape in late attempts. The observation of the work of others, the interchange of ideas and experiences constitute a course of post-graduate education which can not be supplanted by the greatest diligence in reading and hard laboratory work. The young doctor should take short vacations, and with advancing age the length of vacations and scope of travel should increase. Away from trouble, free from care, the wandering physician will find between his hospital visits, laboratory investigations and museum studies most profitable opportunities to dip deep into the great and inexhaustible book of nature. I can hardly conceive of a physician who loves and values his profession who should not take the deepest interest in medical geography and everything that pertains to it. The physician can not help making man, under the most varying conditions, climatic and social, a life study. He can not resist the allurements of the vegetable and animal kingdom under most diverse conditions of climate and soil. Away from the bedside and operating room, out of reach of the moaning, of the suffering and the anxious faces of the parents and friends of the afflicted, he will instinctively turn to the more pleasant phases of life and study and admire the wonderful works of the Supreme Creator of all things, animate and inanimate. Away from toil the sun will appear to him brighter, the stars nearer and more brilliant, the flowers more beautiful, the foliage and sward greener, the song of birds more cheerful, the babbling of brooks more gentle and the language of the talking ocean sweeter than when eye and ear are engaged by the afflictions of his suffering clientele. Let the overburdened, careworn physician remember when away from care and anxiety

"We place a happy life in tranquility of mind."—Cicero.

(To be continued.)

Criticism of the Mosquito Theory of Yellow Fever.—N. Vergueiro analyzes the article by Ribas and also the report of the French Yellow Fever Commission (see pages 983, 1057 and 1369), and states that his extensive experience and observation at S. Paulo and elsewhere in Brazil have demonstrated that their premises are erroneous. He is one of the collaborators of the *Revista Medica de S. Paulo* and his article on the subject is contained in Nos. 3 to 6 inclusive. He does not accept the mosquito theory of the origin of the yellow fever, and states that the bite of a *Stegomyia fasciata* infected with blood from a yellow fever patient causes a disease, but it is an infection *sui generis*, extremely benign and never fatal, and it is not yellow fever. This infection does not confer immunity to yellow fever later. He ascribes the focus of yellow fever infection to the filthy subsoil of certain localities, although in exceptional instances objects may be contaminated and convey infection. The holds of ships are liable to unite conditions similar to those found in filthy subsoils, and thus afford opportunities for a focus of yellow fever to develop. Yellow fever is acquired at night, he says, and out of doors. Infection from the stegomyia is acquired inside the house. This mild pseudo-yellow fever derived from the bite of an infected mosquito explains the cases that have been assumed to be recurrences of yellow fever. The predilection of the stegomyia for localities where the subsoil is contaminated explains the frequent coincidence of these mosquitoes and epidemics of the icteroid type. The greater or lesser number of mosquitoes of this species present during a yellow fever epidemic in various localities and at different times in the same locality, explains the great differences in the death rate of different epidemics, as the cases of the infection *sui generis* from the mosquito bites are confounded with those of true yellow fever. Whenever the climatic conditions forbid the presence of the stegomyia, an epidemic of yellow fever developing on a contaminated subsoil without the stegomyia inevitably affords an unusually high mortality, and there are no instances of the supposed recurrences. He sustains all these assertions by data personally collected from various localities.