

dealing chiefly with questions affecting the teaching of modern languages. Among the latter was a suggestive treatment of the modern-language seminary system, by Prof. H. S. White of Cornell University.

The purpose of the seminary is to guide the student towards independent investigation; but, in order to do its work properly, the student must first have gone through a preliminary training of no inconsiderable character; and, in the second place, the seminary must be well equipped with the standard editions of the best authors, pamphlets, manuscripts, documents, photographic reproductions of important scenes and monuments, epigraphical material, and the like. In the method of teaching, all study of authors must be based upon a study of the times in which an author wrote.

Professor Kroeh of the Stevens Institute presented a paper on methods of teaching modern languages. After enumerating the various methods which have found followers, and discussing their merits and disadvantages, he pronounced himself in favor of the so-called 'natural method.' The basis of all languages, whether literary or scientific, is the phraseology of every-day life, and this can be learned only by imitation. The 'natural method' proceeds on this principle. But the imperfect training of the ear, or rather the total absence of such training in our schools, causes great difficulties in carrying out this method. The education of young people is still conducted almost exclusively through the eye by means of books. There is so little oral instruction, that the pupils not only do not hear accurately, but have to learn the art of paying attention.

One of the best papers, partaking of this general character, was that by Prof. Albert Smyth of the Philadelphia High School, on American literature in the classroom. "It is certainly discreditable to us that we have done so little towards a faithful and affectionate study of what is purely native and national in our American writings. The text-books, with one or two exceptions, designated for use in schools, show no critical utility and no sense of proportion. This is due to the neglect of the study in the higher classrooms. There are two objects to be reached by a proper attention to this branch: in the first place, it may be highly serviceable in education, because it, more than any other, admits of a complete severance of literature from philology; second, the study would ultimately assist in the development of that literature, and would discipline in it the critical faculty, for it must be admitted that America has not participated in the splendid progress of criticism in Europe during the last twenty years. We are poorest of all in criticism, and when we think of the high service the trained and faithful interpreters of poetry render to a nation, it would be hard for us to overrate the good results that may follow the extension of the English curriculum to include the genesis and brief history of American authorship. It is our precious property to hold the literature of our nation true to the higher ideals of life and its purpose."

There were two papers discussing dialects, by Professor Primer of Charleston, and Sheldon of Harvard University. The former dealt with 'Charleston's provincialisms,' also called 'Charlestonese' by the people in the South: the latter gave specimens of a Canadian French dialect spoken in Maine. In discussing the latter, Professor Elliott of the Johns Hopkins University spoke of the importance of such investigations at the present moment. In a generation or two, all traces of these old dialectical variations, whether in Canada or the South, will probably have disappeared, and, unless they are now accurately noted down from the lips of those speaking these dialects, they will be lost forever to scholars and students of dialectology.

Among the technical papers may be mentioned Professor Colitz's (of Bryn Mawr College) exhaustive essay on the origin of the so-called weak verbs in the Teutonic languages, and Dr. Goebel's review of Paul's 'Principles of *Sprachgeschichte*.' Professor Tolman of Ripon College, Wisconsin, read a paper on the style of Anglo-Saxon poetry. He compares the poetry to "a spirited horse, who takes a few bounds forward, and then stands prancing." Anglo-Saxon poetry is always more than lively, it is intense. Among the peculiarities of Anglo-Saxon poetry, the great scarcity of similes is worthy of note. On the other hand, as a kind of compensation for this defect, we have an abundance of striking poetical synonyms. For instance, the ocean is called such names as 'the

whale's home,' 'the fish's bath,' 'the swan's road,' 'the sail road,' 'the course of the floods,' 'the cup of the waves.' Another striking feature of this poetry is the idealization of the sensual and common. In conclusion, Professor Tolman said that he doubted whether the world has ever seen a purer literature than that covered by Anglo-Saxon poetry.

The proceedings were enlivened by spirited discussions. Before the sessions closed, the convention heard the report of a committee appointed to consider the question of petitioning Congress for a removal of the tariff on foreign books. The committee favored a personal presentation of the subject before the proper Congressional committee, and gave the following as the reasons why the tariff should be removed:—

"The revenue derived from the tax is very inconsiderable, and is wholly unnecessary to the maintenance of government. The theory of protection to domestic industry does not enter into the question. American authors do not desire protection for the reason that books are not merchandise and do not compete with one another. Buyers of books are not governed as ordinary buyers by consideration of price, but by consideration of taste or personal fancy and of special availability for special ends. One book is bought in preference to another, not because it is cheaper, but because it is better. The tax upon foreign books bears heavily upon the class which is least able to meet the financial burden; viz., the professors, teachers, and students. Foreign works, whether in English, French, or German, are absolutely indispensable to these people, and we regard such a tax as is now put upon them as directly harmful to the cause of knowledge and culture of our country. By this book-tariff the 'tools' of our profession are made unnecessarily expensive."

After the election of officers, headed by James Russell Lowell as president, the association adjourned, to meet again during the current year in Cincinnati. The delegates were entertained during their stay by the Historical Association, the Penn Club, and the University of Pennsylvania.

SCARLET-FEVER REPORT.¹—III.

R. STANSBURY SUTTON, M.D., LL.D., Pittsburgh, Penn., says, "I know to a certainty, that, when I was a general practitioner, I conveyed the disease from a babe who died, to an adult woman who recovered. I recall an instance where the little patient played with the cat. The cat carried the infection to other children in a neighboring house, they having caught and played with it, stroking its fur."

Adolph Koenig, M.D., Pittsburgh, Penn., cites the case of a physician who visited his home during his attendance on a course of medical lectures, some hundreds of miles distant. While at home he came in contact with a younger brother suffering from scarlet-fever. About one week after his return to college he was attacked with scarlatinous sore throat, accompanied with fever, and lasting a number of days. He is decidedly in favor of compulsory reports to be made to boards of health, the State to assume the expense; and the legally qualified physician is the only person capable of making such a report. Laymen would undoubtedly often confound other eruptive fever with scarlet-fever.

J. F. Kennedy, M.D., Des Moines, Io., secretary State Board of Health, reports a fatal case of scarlet-fever in the family of a washerwoman, traced to infected clothing. He regards the disease as communicable from the patient until desquamation has fully taken place, the patient thoroughly bathed, and his person and clothing disinfected. From thirty to thirty-five days would be about the period of danger, dating from the beginning of the attack. A case was reported to the State Board of Health in which scarlet-fever was alleged to have broken out in a family, having been contracted from a dress which had been worn two years previously by a child who at that time died of the fever. Attending physicians should be required to report all the facts connected with each case of the disease that comes under their care, especially the cause and source of infection. Dr. Kennedy says, "I have for several years, in cases of scarlet-fever and diphtheria, used as a prophylactic zinc ferri chlor. and glycerine, equal parts, and giving according to age, to all exposed, from ten to forty drops in water every three or

¹ Continued from *Science* of Jan. 6, 1888.

four hours. I give the iron as a germicide, believing it equally effective in scarlet-fever and diphtheria. I would respectfully refer you to 'Health Exhibition Literature' of the Epidemiological Society of Great Britain, the publications of the American Public Health Association, to reports of State boards of health, to Ziemsen's Encyclopædia on scarlatina, and to articles in the *American Journal of Medical Science*.

Jerome Cochran, M.D., Montgomery, Ala., State health-officer, says, "Our law requires all cases to be reported (1) by the physician in charge; (2) if there is no physician, by the head of the family. We have boards of health in all of our counties, and isolation and disinfection are practised. Isolation and disinfection properly done would go far to prevent its spread. Absolute isolation would, I think, prevent it absolutely."

J. W. Parsons, M.D., Portsmouth, N.H., believes that scarlet-fever has arisen *de novo*, on the ground that after due inquiry no source of infection could be discovered. He thinks that heads of families, as being most interested, should be required to make reports of cases to health boards, and not physicians, who already have enough of such gratuitous work to perform.

George H. Rohé, M.D., professor of dermatology in the College of Physicians and Surgeons, Baltimore, says, "I have never seen any evidence which seemed to me to establish the *de novo* origin of scarlet-fever at the present time. In 1877, I was medical attendant to a poor family, in which there were three children, — a boy of eleven, a girl about eight, and another younger child. The boy contracted scarlet-fever, it was supposed, at school. The other children were both attacked a few days later. Two out of the three died. In this case isolation was impracticable, as the family (of six) lived in two rooms. In 1882 an almost identically similar instance occurred in my practice. A girl of six was taken ill with scarlet-fever, and several days thereafter two younger children, aged four and two respectively, were also attacked within twenty-four hours of each other. The youngest child succumbed to the disease. Isolation was attempted in this instance when the first child was taken sick, but the stupidity of the parents rendered all attempts at prevention nugatory."

Dr. Rohé accepts the general professional opinion that from six to eight weeks should be allowed to pass before the period of danger of infection can be said to be over. He is convinced that thorough and repeated disinfection of the surface of the patient would decidedly reduce the period of infectiveness of the patient, and has so expressed himself in his address on State medicine (see *Journal American Medical Association*, July 2, 1887). He further says, "All cases of scarlet-fever (and all other infectious diseases) should be promptly reported, as soon as the diagnosis is made, to the health authorities. These reports should be made by the attending physician, in order (1) to have a prompt report, (2) to avoid false and malicious accusations, which would be easy if this duty were left to irresponsible persons. Further, a neglect of this duty, if it devolved upon the householder, might cause disastrous results, and afterward give rise to disputes and questions of veracity between the physician and the patient's family. This duty of compulsory notification, if imposed upon physicians, should, however, be made as easy as possible, and should not involve any expense to the practitioner. The question of compensation for such service is one open to debate. No member of the legal profession, whether an official or not, will perform any service for the State without exacting a fee. There is no equitable reason why a physician should be required to act otherwise. Both sickness and death notices furnished to the authorities should be paid for by the latter. It seems to me the duties of boards of health, if notified of the existence of contagious diseases, and when empowered by law, would be to secure the isolation of the patient, disinfection of apartments after recovery or death, private funerals, notification of school-officers if children from the infected house are attending school, supplying disinfectants, and, whenever necessary, invoke the aid of school authorities to close schools. In addition to the public measures mentioned, personal disinfection of the body of the patient, by daily sponging with an effective solution of chlorinated soda or thymol, or inunction with a disinfecting unguent or oil, with immediate disinfection of all discharges and bed-linen, would, I feel sure, result in a marked restriction in the disease. I believe isola-

tion hospitals would aid materially in restricting this disease. Proper instruction of the public (and, I may add, of the medical profession) would be a strong help to practical sanitarians. There are even health officials known to me who might profit from such instruction. I do not think the prophylactic administration of remedies would accomplish much good. Avoiding contact with the infective material is the best and surest means of prevention." For information touching the communication of bovine scarlet-fever to man, Dr. Rohé refers to the reports of Mr. W. H. Power and Dr. E. Klein in the *Practitioner*.

T. B. Heimstreet, M.D., Troy, N.Y., thinks that cases of scarlet-fever should be reported to health boards by medical attendants, and that these boards should prevent the attendance at school of other children of the same family in which the disease exists, and should disinfect the apartments, etc.

George Glenn Wood, M.D., Muncy, Penn., writes, "My plan of preventing the spread of scarlet-fever would be to establish one or more scarlet-fever hospitals, according to size of city, on the same plan that small-pox is managed. Inasmuch as the large cities are the usual hot-beds for this, as all infectious diseases, and its suppression there would mean the escape of rural cities and towns, the proper management would be to stamp it out at the former places. If, then, scarlet-fever patients were instantly removed, and quarantined in such special hospitals, there attended by the family physician if desired, and nursed by parent, friends, or professional nurse, advantages would occur not only to patient, but to other members of same family, and the public at large. Of course, to be effectual, the whole matter must be compulsory."

Lincoln R. Stone, M.D., Newton, Mass., says, "I can hardly say that cases can arise *de novo*, but a few years ago, in July, in a farmhouse during haying, a case occurred where no case had been known for years. There had been no intercourse with other people, no other case known in town. The house was situated on top of a high hill, half a mile from any family. The patient was a young child about three years old. There was no other case in the house, though young children in the family. Most careful inquiry could throw no light on the case: it seemed almost *de novo*." He reports a case where a blanket, used by a child before and during an attack of scarlet-fever, by some accident or carelessness, was not cleansed or destroyed after recovery, and a child, a relative, visiting, played with the blanket and had a severe attack.

D. W. Hand, M.D., St. Paul, Minn., member of the State Board of Health, thinks that placards should be placed on the houses where scarlet-fever exists, so as to give the public notice of the infection. He knows of several instances where strict isolation and disinfection have confined the disease to one child in a family.

A. J. Howe, M.D., Cincinnati, O., in reference to the *de novo* origin of scarlet-fever, says, "I do so believe, but may be mistaken. My belief is based on the fact that typhus, erysipelas, and diphtheria do arise *de novo*, under influences which develop zymotic poison. Possibly scarlet-fever virus is too strictly specific to come from any thing but the scarlatina germ." Dr. Howe relates the following incident: "A gentleman of my acquaintance, living in the country, brought a child, a boy five years old, from a city fifty miles distant. On the way, when near home, he stopped at a schoolhouse a few minutes during recess, and several of the pupils gathered around the little stranger. The next morning I was professionally called to the child, and found him violently sick with scarlet-fever. In eight days from that time, thirteen out of twenty-seven of the school-children were down with scarlet-fever. There had not been a scarlatina case within five miles for three years." He recalls another instance in which a wadded hood, that of a child which died of scarlet-fever, was the bearer of the disease to a child in the country, to whom the garment was given. In this case the article retained the infective virus two months, — March and April.

J. Howard Morgan, M.D., Westerly, R.I., reports, "I have now under care eleven cases in one family, who are convalescing from scarlet-fever of rather mild type, the first three of which (viz., the youngest three of the family) began to sicken seven days after the coming of their grandmother to visit the family, from a place some six miles away, where she had been attending for a week or two another grandchild who had 'sore throat and the same sort of rash,'

but was not sick enough to necessitate calling a physician. The grandmother wore nearly the same clothing while on her visit that she had when attending this previous case. The other eight cases of the eleven probably took the disease from the first three, since, owing to the size of family and their circumstances, satisfactory isolation could not be had; and I know of no other cases in the vicinity."

Dr. Morgan recommends to disinfect discharges from bowels, bladder, and throat by adding an equal volume of solution of corrosive sublimate (1 to 500); to anoint the skin daily during desquamation stage, so as to diminish the risk from fine scales of epidermis floating in the air; to bathe frequently the skin during that stage, and to disinfect the water so used by adding an equal volume of the corrosive-sublimate solution; to disinfect bedding, clothing, etc., by soaking in a solution of corrosive sublimate (1 to 1,000) or by prolonged boiling in water; to disinfect rooms, etc., by burning dust and sweepings, washing wood-work, etc., with corrosive-sublimate solution (.1 to 1,000), and by thorough fumigation with sulphur-fumes finally; to forbid nurses or members of the family attending the sick to mingle with others without first disinfecting their hands, etc., and changing their garments worn in contact with the sick; lastly, to forbid public funerals for those dying of scarlet-fever. He further says, "Where I have succeeded in having these measures carried out, I have never known the disease to spread further. Beyond thorough ventilation of apartments, and disinfection as above recommended, only such measures as are calculated to promote health and bodily vigor will be of any service to prevent the well from contracting the disease when exposed to it. The use of belladonna, camphor, etc., as preventives, I believe to be utterly valueless, except, perchance, for the *mental* effect upon those having exaggerated fears of the disease. Aside from the cases usually cited in text-books, a case of interest was reported in the London *Lancet* of April 11, 1868, I believe. A domestic servant died of scarlet-fever of very malignant type, after which the doctor gave directions for the most vigilant care in purifying the room and its contents, bedding, clothing, etc.; all which directions were strictly carried out, except with regard to the blankets, which, as the young and newly married mistress objected to the conversion of new blankets into old ones by the process of scouring, were put away uncleansed in a wardrobe in a vacant room. 'Fourteen months afterwards, this young housekeeper, expecting her first confinement, whilst providing a temporary bed in her room for the accommodation of her monthly nurse, took these identical blankets from their resting-place as a part of the covering for it. About a fortnight after making this provision, her labor not having come on in the interval, I was requested to visit her. I found her under scarlet-fever of the most severe form. In four days parturition commenced, and she died from exhaustion in half an hour after the birth of her child.'"

James P. Marsh, M.D., Green Island, N.Y., gives the following from his case-book: "Feb. 3, 1887, Miss M., aged eighteen, came down with scarlatina, which ran a moderately severe course. On Feb. 11, 1887, her nephew, aged five years, came down with the disease, which ran a mild course. Through the whole of his aunt's illness, he was constantly in the room with her, from certain circumstances isolation being impossible. At no time after the beginning of her illness was he out of doors, hence there was no other source of exposure." Dr. Marsh refers to the following articles: 'Practical Considerations Regarding the Acute Infectious Fevers, especially Scarlet-Fever' (*Gaillard's Monthly*, vol. xi. p. 427), 'The Source of Infection and Limits as to the Time of Infection of Scarlet-Fever and Measles' (*New York Medical Record*, vol. xxvii. p. 612), 'Duration of Contagiousness after Scarlet-Fever' (*Transactions of the New York State Medical Association*, vol. i. p. 73), 'Duration of the Infectious Period of Scarlatina' (*New York Medical Journal*, vol. xiv. p. 278).

A. Vanderveer, M.D., Albany, N.Y., reports that healthy children carried in a carriage that had the day before contained cases of scarlet-fever, sickened with the disease in due time.

Winslow Anderson, M.D., San Francisco, Cal., writes that on several occasions, when his patients have been visited while suffering with scarlet-fever, the visitors have carried the disease several miles, and communicated it to children.

Thomas F. Wood, M.D., Wilmington, Del., says, "My children played in a room where some clothing was being quarantined because of a suspicious eruptive disease which was too light to be called scarlet-fever. The boy who came first in contact with the clothes was seized, and two others took it from him."

A. R. Hopkins, M.D., Buffalo, N.Y., relates an instance in which a child, ill with the disease, sent a book from its bed to a neighbor's, the only direct communication between the houses or families. The disease followed the book in five days. In another instance a stuffed chair from a nursery where the disease had been present six months before, was sent by express to a house miles away, where no fever was, or had been, in years. The disease followed the chair in less than two weeks.

Samuel B. Ward, M.D., Albany, N.Y., says, "Many cases have occurred in my practice where one child in a family would catch the disease from some known exposure, outside the house, and within a week other children in the house would take it from the one first affected. N. W., aged eight, was taken with the fever. Three or four days later, A. W., her sister, aged six, took it, the two having slept together before the first was taken ill. The baby, aged two years, was promptly isolated, and escaped for six weeks. Through the carelessness of a nurse he then one day ran down stairs—or rather crept down—into his sick sister's room, came down three days afterwards with the disease, and died of it. E. K. aged five, and L. K. aged three, were attacked at nearly the same time with scarlet-fever. The baby, aged eighteen months, was spending the day with a friend when the discovery was made, and did not return home for two months. In the mean time the other two children recovered. The utmost care was taken with the disinfection of the house by burning large quantities of sulphur with all openings closed, scrubbing the wood-work and floors with bichloride of mercury, leaving all windows open for twenty-four hours after fumigation, washing all bedding and clothing in carbolic acid, etc. After the house was thoroughly warmed again,—it was in winter,—the baby was brought home, took sick with the fever within a week, and died of it. Could the wall-paper have retained the contagion? It was thoroughly swept down, but not removed."

Dr. Ward encloses to us a letter which he has received, and which sufficiently explains itself: "The case you refer to, in your note to me, was that of my daughter, who, in the summer of 1874, after a sojourn of seven weeks at the cottage occupied by my family, and while still there, broke out with scarlet-fever. She had not been away from the place from her arrival there up to the time she was attacked. There was no other case of scarlet-fever at the hotel, or in the cottages connected with it, during that summer. It seems that the family—friends of ours—occupying the cottage contiguous to the one occupied by my family, had, during the winter and spring months just preceding, suffered severely with *scarlatina maligna*, losing one child from among those attacked. In the month of August, about the middle of the month, it is usual to experience at this place a cold storm, generally of three days' duration, when heavy winter clothes are necessary to comfort. Our friends in the cottage contiguous, being habitués of the place, like ourselves, were well provided in this respect, and, during the prevalence of the storm of that year, clad themselves and their children in their winter garments. Dr. Budd, professor in the Medical School of the University of New York City, now deceased, who attended my daughter, had no doubt that my daughter contracted the disease from absorbing the germs quiescent in the woollen winter garments of the children of our friends, with whom my daughter was a constant playmate. The disease in her case, however, though well defined and the eruption profuse, proved a light one, I being able to bring her home on the eleventh day from the first appearance of the disease, without any unfavorable resulting consequences. During the continuance of the illness, every window in my cottage was kept open, save those in my daughter's room, both night and day; the door of her room remaining likewise open, thus admitting freely the sea-wind, whether violent or mild. At one period of her illness there was an incursion of mosquitoes, continuing for several days, so dense that lamps were not lit, and guests moved around or sat about with handkerchiefs upon their heads; the curious fact of which circumstance, however, was the fact that

though every room in my cottage was thick with mosquitoes, excepting that of my daughter, there were only two of these insects at any time observed in her room during the whole period of her illness."

W. W. Johnston, M.D., Washington, D.C., says, "In my own family one case of scarlet-fever occurred: other children escaped. In another family of eight children, isolation and disinfection prevented the spread of the disease, but such instances are numerous."

Charles W. Covernton, M.D., Toronto, Can., ex-president Provincial Board of Health, and Peter H. Bryce, M.D., Toronto, Can., secretary of the Provincial Board of Health, relate an instance where each succeeding member of the family took it at intervals of three or four days. At the period when desquamation of the first was beginning, a younger took a mild form of the disease. A few days afterwards conjunctivitis of both eyes appeared, ending rapidly in the destruction of sight. The disease afterward extended to the middle, with perforation, of tympanum, etc. Thereafter the disease attacked the knee and elbow joints, with intense suppuration and inflammation, ending in their destruction. The child died on the twelfth day. There were some four or five children in all. In the family of one of these physicians, a Cambridge student had a book which he was studying at the time of the seizure with scarlatina. After his death, said book, with others that had been open in the sick-chamber, were packed up and sent to the latter's family in London, where they were placed in a garret. Ten years after, a younger brother at Cambridge sent for these works. Shortly after receiving them, he took scarlatina and died. No other exposure to the disease was known.

Dr. Bryce, in speaking of the methods to be adopted in preventing the spread of the fever, refers to an experience he had five years ago, in the following language: "A child in a family in which there were five children was taken with scarlet-fever. It and its mother were put in an upper room, and the lobby cut off by a curtain antisepticized with a solution of corrosive sublimate. The soiled articles of clothing, etc., were placed in the same solution, and the remnants of food were burned in the fireplace of the room. Seclusion was perfect. At conclusion of desquamation every thing was disinfected. No second case occurred in the family. Dr. Bryce thinks the period of infection is not less than forty days.

EXPLORATION AND TRAVEL.

TRANSVAAL.—The railroad from Delagoa Bay to Transvaal, which was mentioned in *Science*, No. 245, has been opened from Lorenzo Marques to the boundary of the Portuguese Possessions. It is somewhat difficult to form a correct idea of the state of affairs in that region, as all news comes from English journals, and as the English are in constant fear of an increase of Boer, German, or Portuguese influence in South Africa. The Boers, of course, make strenuous efforts to open a route to the sea independent of the English, who threaten to swallow up the republics. This aim has been achieved by the new railroad, the greater part of which runs through Transvaal, and is in the hands of the Boers, while the part now opened is in the hands of American capitalists. The opening of this railroad, which was represented by English travellers as improbable, will result in a rapid development of the natural resources of the Transvaal. Although a strong influx of Englishmen into those countries may be expected, it is not probable that they will swamp the Boer element, which has so long resisted the incessant attacks of the English.

ZANZIBAR.—The Sultan of Zanzibar, whose territories have been reduced to a narrow strip of coast-line by recent treaties, has leased his rights on the African coast between Wanga, at the mouth of the Uмба, and Vitu, to the British East African Association. As he has made a similar contract with the German East African Association, his rule is practically limited to the islands of Zanzibar and Pemba and several parts of the coast that are of little importance. The part of the coast leased to the British Association includes the whole coast-line between the line of demarcation between German and British influence and the German district of Vitu. It is said that vigorous attempts will be made to open a route from the coast to the Victoria Nyanza.

FARINI AND CHAVANNE.—Dr. Hans Schinz, who made a long

and interesting journey in South Africa, undertakes to expose Farini, who claimed to have accomplished a long and hazardous journey to Lake Ngami. He gives convincing proof that Farini, who wrote a large volume on his adventures, never entered the Kalahari, and never came into those remote regions in which he claims to have made important explorations. Several passages in his book had excited the suspicion of scientists; and Schinz gives now, in two letters to *Petermann's Mittheilungen*, conclusive proof that his adventures and discoveries are one great fraud. The work of another African traveller, J. Chavanne, has been justly and severely criticised. Chavanne travelled for some time on the Kongo, and published the results of his observations in a magnificent volume, which is now shown to be largely an audacious plagiarism on other publications on the Kongo, particularly Pechuel-Loesche's important work. Part of Chavanne's own observations are shown to be untrustworthy. Dr. von Danckelmann, who criticised Chavanne, and Schinz, must be congratulated for their courage in exposing these scientific impostors. Nothing should be more rigidly demanded from travellers than truth and a strict distinction between their own observations and those of others. Those infringing these rules cannot be too severely criticised.

THE OBANGI.—Captain van Gèle, who attempted to reach the Welle from the falls of the Itimbiri last summer, but gave up his plan on account of the difficulty of obtaining food at that point, left Leopoldville on Oct. 2 on board the 'En Avant.' He proposed to ascend the Obangi, and thus to ascertain its connection with the Welle. It will be remembered that Grenfell succeeded in ascending the rapids of Zongo, which prevented Van Gèle from exploring the upper part of the river. After having passed these rapids, Van Gèle hopes to find navigable water and to reach the Welle. As it is doubtful whether the Obangi receives a large tributary from the east which may be identical with the Welle, he will carefully examine the left bank of the river, and explore important tributaries which he may discover (*Mouv. géogr.*).

MENTAL SCIENCE.

Re-Action Time for Sensations of Temperature.

IN a recent number of *Pflüger's Archiv* of physiology, Vintschgau and Steinach give a preliminary report of a series of experiments upon the time necessary to perceive a sensation of heat, of cold, or of contact with the skin in various parts of the body. The time necessary for the mere feeling of contact on the middle of the forehead was for Vintschgau .119, and for Steinach .107, of a second. The time of feeling a contact upon the right cheek was .119 and .101 of a second respectively; and similar numbers for the volar and dorsal surface of the left hand are .126, .128, and .133 and .111 of a second. The results of their experiments upon the time it takes to perceive a sensation of cold and of warmth are given in the table below:—

	COLD.		HEAT.	
	Vintschgau. (2.2°-4.8° C.)	Steinach. (2°-2.8° C.)	Vintschgau. (48°-49° C.)	Steinach. (45°-49° C.)
Right temple.....	.160	.116	.166	.132
Left temple.....	.170	.124	.185	.138
Middle of forehead...	.143	.116	.144	.128
Right cheek.....	.143	.114	.154	.117
Left cheek.....	.151	.116	.158	.146
Volar surface of hand.				
At middle joint of finger.....	.186	.152	.205	.173
Near the ulna.....	.206	.186	.208	.206
On ball of thumb....	.185	.194	.251	.175
Dorsal surface of hand				
Near the ulnar side	.208	.179	.246	.199
Near radial side....	.204	.170	.233	.196