

Next, Professor Delboeuf had three steel bars made exactly alike, two of which were strongly magnetized, and the third not. He gave the boy a real magnet, and asked him whether he felt any thing. After an exploring glance of from thirty to forty seconds, the boy felt tingling sensations, then pain and the usual symptoms. The same was done with the other hand, and he was shown that the bar was a real magnet. Professor Delboeuf then drew the false magnet from his pocket and gave it to the boy: no effect followed. Then the third (true) magnet was given him, with the request that he should say whether it was a magnet or not. No contraction followed; and from now on, the boy had no clew as to the true or the false magnet. Fourteen trials were made, consisting simply in giving the boy a bar, and noting the result. In eleven of these trials he either exhibited the contraction when holding the false magnet, or failed to exhibit it when holding a true one; thus showing most conclusively that all the effects were self-induced, and suggested by his belief that a magnet was being applied. The same was repeated with another subject, with a like result.

Professor Delboeuf similarly tested the powers of the hypnoscope, which is simply a small hollow magnet to be held on the finger, and, when thus giving rise to peculiar sensations, is claimed to show that the holder is a good hypnotic subject. Three hypnoscopes were made exactly alike, only two of which were magnetized. Of fifteen university students, three claimed to feel glowing sensations from the instrument, and one of these felt it all the way up to the shoulder. Strangely enough, this young man held the false hypnoscope, and on trial proved to be the best subject. The conclusion drawn is, that the hypnoscope is useful in detecting hypnotic subjects, not because of any magnetic sensibility, but because persons of such a susceptible temperament as to imagine sensations from it furnish one of the chief requisites for passing into this condition.

Dr. Voisin indorses this same general view. He has repeated the noted Paris observations, in which the mere approach of an hermetically sealed vial containing a certain drug affects the hypnotized subject in the same way as a strong dose of the substance in the normal state. He finds that if the utmost precautions against talking to his assistants, and other modes of suggesting the expected effect, are taken, the result is negative, and concludes that in his subject a wonderfully shrewd appreciation of suggestions accounts for all that was exhibited. He finds, too, that the application of a magnet unknown to the subject had no effect, while she is extremely sensitive when she knows a magnet is about.

Dr. Bernheim has described some remarkable cases in which the mere suggestion of a certain idea in the waking state serves to impress this idea with a lifelike reality. His subjects are young men of neurotic temperaments in their ordinary waking condition. One patient was told that a certain physician attacked him on the street and picked his pocket. He at once accepted the tale, added details of time and place, and no amount of questioning would get him to give up the notion. Turning to another patient, Dr. Bernheim asked whether he knew any thing about it. The suggestion was sufficient. The subject of the attack had told the second patient all about it in the morning, and so on. The same delusion was passed on to several patients, and accepted. These observations show a connection between what occurs in the hypnotic state and the phenomena observed in weak-willed persons. The possession by a dominant idea imposed by another or suggested by circumstances is the common mark of many of these semi-abnormal states. They also show how easily such people can be utilized for base purposes; and Dr. Bernheim believes that the son of the sexton in the famous Tisza-Esler affair (who claimed to have seen through the keyhole the cruelties on which the trial was founded) was a case in point.

In this connection it may be added that there is a growing sense of the great danger to which this subject is liable at the hands of amateurs. Examples of its pernicious effects in individual cases are accumulating, and a most celebrated French alienist recently expressed himself thus: "Hypnotization is not as harmless as it has been made out to be: the hypnotic state is closely allied to the hysterical neurosis, and, like the latter, it may in some cases become markedly contagious. If medicine in the name of science and art has taken possession of hypnotism, it should keep it within the

strict limits of its own domain, using it as a powerful therapeutic agent, and never letting it pass into profane hands, where it is liable to be abused to the detriment of the public health.

## HEALTH MATTERS.

### Precautions against Cholera.

IN view of the possibility of an attack of cholera during the coming year, we deem it appropriate to quote below from the recommendations of the sanitary conference held at Washington in 1884, in anticipation of the arrival of cholera:—

*First*, That all surface wells should be closed at the earliest possible moment, and that great care should be taken that the water-supply of all cities, towns, and villages shall be of undoubted purity.

*Second*, That all privy-vaults should be abolished wherever water-closets can be supplied, and that, wherever the existence of such vaults is necessary, they should be rendered water-tight in such a manner as to prevent the saturation, not only of the ground surrounding them, but also of the materials of which they are built, and that the contents of such vaults should be kept constantly disinfected, and removed to a proper place at frequent intervals.

*Third*, That all stagnant ponds, when practicable, should be disinfected, and when possible the water removed by drainage or pumping, and the further accumulation prevented by filling with fresh earth, or other material free from garbage or other filth.

*Fourth*, That great care should be exercised to keep at all times clear and free from obstruction all sewers into which passes the refuse from dwellings, factories, and other buildings, and that such examinations should be made as will detect imperfect plumbing in all buildings, and the defects immediately corrected. In this connection special attention is directed to the necessity for the thorough ventilation of all soil and waste pipes, and to the dangers connected with untrapped and unflushed soil-waste and overflow-pipes.

*Fifth*, That extraordinary care should be exercised in reference to all tenement-houses, lodging-houses, and in general all places where large numbers of human beings congregate; that no accumulation of garbage or other filth be permitted in cellars or yards; and that frequent and thorough cleaning and whitewashing of such structures be required; and that householders should frequently and thoroughly examine their yards, cellars, closets, and other out-of-the-way places, to see that no filth of any kind has been deposited there.

*Sixth*, That the food-supply be vigorously watched to exclude from the market all unwholesome meat, all milk adulterated or from diseased animals, and all unripe fruits and vegetables; and that cow-stables be kept at all times clean, well whitewashed, and free from all excremental accumulations.

*Seventh*, That all garbage, kitchen and household refuse, should be promptly removed from dwellings, stores, and other buildings, to a proper place, where it may be destroyed by fire, or otherwise disposed of in such manner as to occasion no nuisance.

*Eighth*, That such material should never be used in the filling of lots, or disposed of by throwing the same in streets or vacant property, where it may decompose and exhale offensive and deleterious gases.

*Ninth*, That the attention of the authorities of all institutions, both public and private, and of individuals as well, be drawn to the great importance of maintaining a habit of personal cleanliness in the persons under their charge, as being one of the most efficient means of warding off an attack of cholera, or, if it has once appeared, of greatly reducing its virulence and fatality.

*Tenth*, Should the cholera appear in any place in this country, the health authorities of the place should have immediate notice of the first cases, in order that prompt action may be taken for complete isolation and disinfection.

*Eleventh*, That all authorities of states, cities, or villages be urged to adopt measures which will result in the amelioration of all conditions such as have been referred to in the foregoing propositions, with the warning, that, in the opinion of this conference, such conditions, if permitted to continue, will greatly promote the spread of cholera when it comes, and with the assurance, that, if requisite

measures are promptly taken to remove them, the disease will be less likely to attack a community so prepared, and, if attacked, such a community will be better able to cope with the disease and to reduce its ravages to a minimum.

**PUBLIC HEALTH ASSOCIATION.**—The American Public Health Association will hold its fifteenth annual meeting at Memphis, Tenn., on Nov. 8, 9, 10, and 11. The following topics have been selected by the executive committee for consideration at the meeting: 1. The pollution of water-supplies; 2. The disposal of refuse matter of cities; 3. The disposal of refuse matter of villages, summer-resorts, and isolated tenements; 4. Animal diseases dangerous to man. The president, Dr. George M. Sternberg, will in his address refer to the results of his investigation of yellow-fever in Brazil and Mexico. In view of the possible existence of this disease at Tampa, Fla., referred to elsewhere, this subject will be of absorbing interest. The committee on disinfectants will present a report embodying the researches and experimental work of that committee during the past year. Clergymen, teachers, engineers, architects, builders, and all interested in the practical work of the association, are cordially invited to be present.

#### EXPLORATION AND TRAVEL.

##### Manchuria.

IN *Science* of May 6, 1887, we mentioned the journey of three enterprising Englishmen through Manchuria. In a lecture delivered before the Royal Geographical Society of London, Mr. James, one of the travellers, gave a sketch of the country they traversed, from which we take the following notes: The most interesting part of the journey was that in the Chang Pai Shan (the 'Long White Mountains'). These were supposed to be more than 10,000 feet high, but the measurements of the travellers show that the loftiest peak is not more than 8,025 feet high. They are supposed to be sacred to the ancestors of the reigning dynasty of China, and it is sacrilege to trespass on them. Nevertheless the country has been rapidly settled in recent times. The colonists have formed themselves into associations or guilds for protecting their life and property against robbers, who infest all parts of Manchuria; and in this they have been so successful that their territory is the only one enjoying perfect security. Here the travellers learned that the highest peak of the mountains is the Lao Pai Shan (or 'Old White Mountain'). The road to this point led through thick forests and over bogs which were absolutely impassable for any beast of burden whatsoever: therefore they had to leave their mules behind, and continue their march by foot. The peak rises from a grassy plateau dotted with trees, through which subterranean streams make their way. The ascent to the summit was not very difficult; and here a crater 350 feet deep was found, at the bottom of which there was a beautiful blue lake, from which, according to the legend, the Manchurians sprang. The white color of the mountain is due to the color of the disintegrated pumice of which it consists. The principal rivers of Manchuria have their source in the Chang Pai Shan.

**THE WELLE.**—We may expect that the problem of the Welle, which has baffled geographers for a long time, will soon be solved. *Le Mouvement Geographique* says that the government of the Kongo Free State has charged Captain Van Gèle with the exploration of this river. The results of Van Gèle's ascent of the Obangi in the 'Henry Reed' are shown in the sketch-map in *Science*, No. 233. As the rapids of this river hindered his further progress, another route had to be adopted, and Van Gèle has decided to take that of the Itimbiri (Lubi). The sketch-map shows that the rapids of the Lubi are only about thirty miles distant from the Welle, and that Junker's Alikobo, the most western point reached by him, is only a few days' march from that point. Van Gèle's expedition started on July 1, in the 'Henry Reed' and 'A. I. A.', to ascend the Lubi, and proposed to cross the country in a north-westerly direction. Having reached the Welle, he intended to follow it to its mouth, and thus to ascertain whether it is identical with the Obangi or not.

**DELAGOA BAY.**—Consul H. E. O'Neill gives some interesting information on the state of affairs in Delagoa Bay in the August number of the Proceedings of the Royal Geographical Society. As

two important routes to the mining districts of Transvaal start from Delagoa Bay, the latter place has gained considerable importance. Though it belongs to the Portuguese, British trade is rapidly extending over this part of the coast. Upon the roads from Lorenzo Marques, which is situated on Delagoa Bay, to the interior, Englishmen are establishing themselves, and begin to monopolize the trade with the Swazi country. Over the inner frontier English gold-diggers are advancing into Portuguese territory, and many claims have already been registered in the secretariat of the government of Lorenzo Marques. The natives form one of the chief channels for the spread of English influences throughout this district. They work for a number of years in the English colonies, and then return with what money they have earned. Thus English money has become the currency of the country. The Portuguese are working on a railway from Lorenzo Marques to Barberton; but the work is advancing very slowly, and it will probably be a long time before it will be completed. Delagoa Bay is the first point at which actual contact has taken place between the British and Portuguese in South Africa; and it will be interesting to see how the latter, who have confined themselves for more than three centuries to the shores of the bay, will resist, or adapt themselves to, the vigorous life that characterizes the former.

**THE SAMOA ISLANDS.**—It will be remembered that in 1886 the United States, England, and Germany sent special commissioners to the Samoa Islands in order to settle the troubles that had arisen from the lively competition of these nations. It was proposed to submit the report of this commission to a conference. The Samoan troubles date from the attempt of the German Government to grant a subvention to a German firm which had plantations in Samoa. At that time the Americans, particularly Colonel Steinberger, made strenuous efforts to give a firm basis to the American influence on the islands, and made a treaty with King Malietoa. The Germans made a treaty with the same king in 1884, while the British consul tried to bring about an annexation of the islands by the colony of New Zealand. In course of time King Malietoa began to favor the Americans, and therefore the Germans supported his adversary, Tamasese. A short time ago the Germans, while the work of the commissioners was still going on, sent four men-of-war to Apia in order to demand compensation for certain plunderings. As Malietoa refused to pay, five hundred men were landed, and Tamasese was declared king of Samoa. Malietoa, who first intended to resist, followed the advice of the American and British consul, and submitted. It has been said that it is proposed to divide the islands among the three powers, but this seems improbable. The islands are at the present time of great importance, but this will be still more the case when the canal through the American isthmus is open, as they form an important station between Australia and America.

#### BOOK-REVIEWS.

*The Social Question.* BY J. H. OERTER. New York, E. Glaeser.

DR. OERTER has produced a small volume on the social question, which is all the more interesting because it is from the hand of a theologian. It does not derive any special authority from this fact, but it is indicative of what that profession is beginning to realize in its capacity of public teaching. It signifies the ultimate, although perhaps gradual, emancipation from traditional speculations that have no relation to the present sphere of human conduct and duty. Theological speculation, like poetry, may have a place in our fancies and ideals; it may even exercise a very wholesome influence in stimulating thought and action upon higher planes: but it must not set itself up for fact, nor ignore the existence of facts. No class of teachers needs a knowledge of social questions, facts, and forces more than the ministry, and we are glad to know that the number is increasing of those who find time and interest for studies vital to the moral growth of the future. Dr. Oerter's book is one of a number which enable us to measure the possibilities of the ministerial profession in forwarding the cool consideration of scientific facts. Dr. Strong's 'Our Country,' although a missionary appeal, and Heber Newton's 'Study of Social Questions,' form a kind of companion issue with this in point of general thought. They are not large and thorough treatises from men who have