

## SCIENCE:

A WEEKLY NEWSPAPER OF ALL THE ARTS AND SCIENCES.

PUBLISHED BY

N. D. C. HODGES,

47 LAFAYETTE PLACE, NEW YORK.

SUBSCRIPTIONS.—United States and Canada.....\$3.50 a year.  
Great Britain and Europe..... 4.50 a year.

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Attention is called to the "Wants" column. All are invited to use it in soliciting information or seeking new positions. The name and address of applicants should be given in full, so that answers will go direct to them. The "Exchange" column is likewise open.

VOL. XVI. NEW YORK, NOVEMBER 14, 1890. No. 406.

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## HEALTH MATTERS.

## Treatment of Consumption.

FROM the *Lancet* of Aug. 30 we learn that Koch's views on the treatment of *phthisis pulmonalis* have received interesting support from the experience of a chemist, Herr Reuter, made public in April last at a full meeting of the Lower Austrian Industrial Union. Koch, it will be remembered, maintained at the Berlin congress, that, among the remedies capable of bringing the malady to a standstill, the salts of gold and silver are of the greatest value, and that among these the first place must be given to "cyan-gold." Reuter, who, as director of the great *fabriques* of metallic wares at home and abroad, paid particular attention to those in which the articles in question were galvanically gilded or silvered, observed that in the latter industry the employees who had consumptive or tubercular symptoms, some indeed who suffered from hemoptysis, found marked relief in their work, and continued to improve so rapidly that in a few weeks their return to health was assured. The favorable impression made on Reuter as to the curative effects of the gold and silver industry on phthisis, he found confirmed by the testimony of employees of every age in these establishments; men, young and old, who had the well-known symptoms of pulmonary consumption, even at an advanced stage, rapidly getting well as they continued from week to week at work. Further investigations strengthened that impression still more, till he had satisfied himself that for the disease in question a healing virtue resides in the prussic acid generated

particularly in those workshops where "cyan-metals" dissolved in "cyan-kalium" are used. Impressed by Koch's views, the Medical Association of Vienna has since bestowed special consideration on Reuter's experiences embodied in the paper read before the Lower Austrian Industrial Union last April, and, while admitting the confirmation given to those views by Reuter, it is of opinion that the honor of priority in discovering the efficacy of gold and silver salts in the treatment of *phthisis pulmonalis* belongs undoubtedly to the latter.

## Medical Treatment of Fractures.

In a graduation thesis in Havana an author discusses the advantage of prescribing various forms of phosphorus for patients suffering from fracture. As given in the *Lancet*, he carried out a series of experiments on dogs and fowls by breaking the femur by means of an osteoclast, and putting up the limb in splints. He then divided the patients into two groups, the first group being treated with phosphorus in various forms, the second being left without medication. The result was that the callus was more abundant and firmer in animals treated with phosphide of zinc than in those treated with phosphate of lime or than in those not treated at all. These results were confirmed by observations made in the surgical wards, where it was found that patients with fractures who took from a quarter to an eighth of a grain of phosphide of zinc daily made exceptionally good and rapid recoveries. The only unpleasant effects produced by this treatment were that one out of the eighteen patients on whom it was tried suffered from slight diarrhoea, and in one the pulse became slow and hard.

## The International Medical Congress at Rome.

Dr. Guido Baccelli, president of the Accademia Medica of Rome, and professor of clinical medicine at the Sapienza, took the chair at a recent meeting of the Società per il Bene Economico di Roma, to consider the means of insuring the success of the International Medical Congress to be held three years hence in the Eternal City. Among the adjuncts to that congress, as we learn from the *Lancet*, it was decided to form an international exposition of hygiene in connection with the sanitary department of the programme, and, with that object, to appeal to all the leading industrial and professional centres throughout the peninsula to contribute their best and latest additions to the "Armamentarium Hygienicum," so as to place Italy at as great an advantage as possible in the inevitable contrast between her own sanitary work and that of the other powers represented on the occasion. Florence, which has hitherto led the van in hygienic progress in Italy, has already promised her energetic co-operation; and other cities, like Turin and Milan, are expected to do likewise. Concurrently with the medical congress, an international exposition of the industries of all nations is also being organized; so that Rome will be the busy scene of quite a gathering of the peoples, on a scale she has not yet known since she ceased to be mistress of the world. The early summer months (May or the beginning of June), or the early autumn months (the latter half of September or the beginning of October) are likely to be those selected for the medical congress, all risk of malaria at either time being improbable.

## Color-Blindness among the Chinese.

Six hundred men and 600 women were examined by Dr. Thomson's stick of Berlin wool-tests. In this number, according to *The Medical Analectic and Epitome*, 20 color-blind were met (19 men and 1 woman). Of the 19 men, 13 were completely green-blind, 5 were completely red-blind, and 1 incompletely red-blind; the woman was completely green-blind. The 19 color-blind men were divided thus: 11 farmers, 2 teachers, 1 hospital assistant, 1 preacher, 1 mason, 1 boatman. There was almost a universal lack of discrimination between green and blue. The tests were not well adapted for proving what was suspected,—that many Chinese are violet blind.

## Possible Dangers of Hypnotism.

As long ago as 1784 some of the dangers of hypnotism were pointed out by De Puységur, a pupil of Mesmer. The danger to which he referred more particularly was the criminal use which

an unprincipled person might make of the ascendancy gained over the subject. These warnings, frequently repeated, are not without reason, as the annals of crimes committed during the last sixty years abundantly prove.

But these are not the only sources of danger; for experience has abundantly shown that the subject himself may be prompted to commit theft and other species of crime after emerging from the hypnotic condition. This fact has become the subject of special judicial enactment in several countries.

Finally, the repeated hypnotization of the subject is liable to be followed by more or less dangerous consequences to himself. Inordinate emotionality, impairment of volition, and a tendency to become spontaneously hypnotized, or at least excessively drowsy, are some of the more obvious features of this post-hypnotic condition. Dr. J. Leonard Corning has at the present time under his care, as we learn from the *Medical Record* of Nov. 8, a gentleman who exhibits this neurosis—for neurosis it certainly is—in a striking manner. He is a man of rare gifts, he has maintained and still enjoys a high position in the community, and yet his mental decrepitude is so obvious that it is a matter of astonishment that he has been able to disguise its source so long. Currently he is regarded as a sufferer from mental overwork, and Dr. Corning confesses that he should have had great difficulty in arriving at the true nature of his difficulties, had the patient not confessed that he had been hypnotized scores of times, and that his present infirmity had come on as the direct result of these abuses, for abuses they certainly were.

Such a person as this is, of course, exposed to manifold dangers; for he had become so susceptible, that not only is it possible for any one to hypnotize him, but he is able without further assistance to induce in himself the sleep-like state.

Here, then, are the more manifest dangers of hypnotism.

#### LETTERS TO THE EDITOR.

*\*\*\* Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

*The editor will be glad to publish any queries consonant with the character of the journal.*

*On request, twenty copies of the number containing his communication will be furnished free to any correspondent.*

#### Origin of Right-handedness.

PROFESSOR BALDWIN, in *Science* for Oct. 31, gives some interesting observations of his own on the development of right-handedness in an infant. He thinks the fact that the right hand began to be used in preference to the left only when the movement required an effort, is an argument in favor of those "feelings of innervation" whose existence many psychologists disbelieve, and challenges me (as a disbeliever) to explain the phenomena in any other way.

Why, asks Professor Baldwin, should the baby prefer her right hand for strong movements, unless previous experiences of using both hands had left behind them the sense that the nervous discharge that actuated the right one was stronger than that which actuated the left?

I admit that this is a possible way of explaining the facts; but yet, if a memory of the previous superior effectiveness of the right hand is what determines now the choice of it for these movements, it does not seem in any way clear that the memory in question need be of the *effluent* current of discharge (the printer has made Professor Baldwin say "afferent" instead of "effluent"). Why may it not be of the greater promptitude, security, and ease of the right hand's movement, as apprehended in an *afferent* way, during previous performances? Professor Baldwin gives no grounds for his rejection of this equally possible alternative. But to my mind it is by no means evident that memories of any sort of past performances play a part in the preference accorded to the right hand. On any theory we have to suppose antecedently to all memory a natural prepotency in the paths of discharge into the right arm. Professor Baldwin's own idea, that discharges into this arm leave images of their superior strength behind, implies that they *have* greater strength to begin with. Why, now, with this organic peculiarity, may they not also have

greater readiness to discharge when the stimulus reaches a certain amount? He who conceives of the mechanism of all these early movements as in principle the same as that of reflex action, ought, if he bears in mind the extraordinarily elaborate way in which different stimuli are correlated in the organism with different paths of discharge, to have no difficulty in believing the nerves which ran down into the right arm to be, on the whole, the most permeable paths of exit from the brain of such currents as run in from objects offered to the baby at a certain distance off. Grasping at such objects was the sort of performance which Professor Baldwin seems most to have observed. It is obviously an instinctive or semi-reflex act; and I should much rather explain it directly by connate paths alone, than by connate paths *plus* memories *plus* choice, after Professor Baldwin's fashion.

I must therefore conclude that Professor Baldwin's observations fail, in my opinion, to throw any positive light at all on the vexed question of whether we feel our motor-nerve currents as they pass out of our brain. In themselves, however, these observations seem very interesting as showing how strong stimuli may produce more definitely localized re-actions than weaker ones. The baby grasped at bright colors with the right hand almost exclusively.

WILLIAM JAMES.

Harvard University, Nov. 5.

#### Mount St. Elias.

As the National Geographic Society will shortly discuss the most recent observations on Mount St. Elias, with the full data of Messrs. Russell and Kerr as a basis, I have determined to refrain from taking any part in the newspaper discussion in regard to the height of this mountain or the respective value to be assigned to the different sets of observations due to different observers. This is the only scientific method to pursue; and it is due to those well qualified and energetic explorers that their results, when they are finally made known, should form the basis of discussion, rather than opinions, surmises, or guesses prior to their final computations. The only thing which can be definitely stated at present is that they are of the opinion that the mountain is lower than the height of late accepted for it, and the very rough preliminary computation of their observations appears to sustain this view. The weight to be assigned to their observations, and the final outcome of the revised computations, are matters for the future.

But the article by Professor Heilprin on the Mexican mountains, which you have reprinted (p. 260) under the title of the "Culminating Point of the North American Continent," no doubt unintentionally, but nevertheless seriously, misrepresents the methods by which my results of 1874 were arrived at; and, in the interest of a clear understanding of the subject, it is perhaps desirable that some of its fallacies should be pointed out.

Professor Heilprin is no geodesist, as his discussion of determinations of heights of over 17,000 feet, based on a single pocket aneroid barometer, is sufficient to show. A little inquiry in proper quarters would have made it clear to him that observations taken with such an instrument are far from determinative. If they happen to closely approach accuracy, it is merely accidental; and a range of 500 feet in the results would reflect in no way on the care of the observer or the known reputation of the instrument. They bear to the mercurial barometer much such a relation as sextant angles taken at sea for vertical heights do to those taken on land with a vertical circle or geodetic transit.

This want of familiarity with the subject has led Professor Heilprin into a singular misconception of the relative values of observations cited in my "Report on Mount St. Elias" printed in the "United States Coast Survey Report for 1875," and of the data which are given therein with absolute frankness and full detail.

In that report I aimed to embody every thing which might possess even an historic interest, and therefore printed results which I stated to be more or less unreliable for reasons which would be accepted by every competent judge of such matters. I stated that these results were not adopted by me nor incorporated into the work depending upon observations of a higher class. But