

# SCIENCE.—SUPPLEMENT.

FRIDAY, FEBRUARY 19, 1886.

## *VIRCHOW ON ACCLIMATIZATION.*

AT the congress of German naturalists and physicians held at Strasburg, Professor Virchow, the eminent pathologist, delivered an address on 'Acclimatization and the Europeans in the colonies,' of which the following is an abstract.

In these days of colonization, in which large numbers of human beings leave their homes and settle in foreign lands, under strange and unaccustomed conditions, the subject of the probable influence of such change upon themselves and their descendants becomes highly important from a practical point of view. The key to this problem is in the hands of physicians. With one or two notable exceptions, the subject has been neglected by scientific men. An opinion is current, and is often believed by those who send out colonies, that man is able to adapt himself to living on any part of the earth; that he is cosmopolitan in the widest sense. This view has allied itself to the monogenetic theory, which believes in the original common origin of all mankind from one pair, because thus this cosmopolitanism would simply be the return to former conditions. It was the changes from this primitive condition which caused the variations in the races of men.

Pathology is to be regarded, not simply as the study of the action of accidental causes upon man, which change his normal condition, but as necessary a science as physiology. Every biological science, zoölogy, botany, must have its pathology. It is a method of research, an experiment in vivisection which nature has made for us without shedding a drop of blood. From this point of view, all deviations, at first perhaps accidental, which become fixed by heredity, belong to the field of the pathologist. That such pathological variations are possible, one case is sufficient to show. A woman had a congenital defect of the arm, in which the radius was bent in a peculiar position, and the thumb of each hand was wanting. This woman's child was affected precisely in the same way, except that on one hand the thumb was in a rudimentary condition. In neither case was there an injury, but the accidental variation was transmitted. The question of the permanent acquisition of these pathological traits is a more difficult one.

The effects of a new climate upon the emigrant are well known, and are greater as the conditions of his new home differ more radically from those of his mother-country. A sort of new growth must take place, a new adaptation to the environment. A prominent symptom is a feeling of languor, which lasts for days, weeks, or even months. Two kinds of disease are apt to beset the emigrant: the first is the climatic indisposition already mentioned; the second, the real climatic disease. The life of the individual is then in danger, until the question is decided whether his body has the power of adopting the new conditions or not. It is on this point that clinical observations in different countries are needed. In this organic transformation of the individual the fate of his descendants is involved. It is here that ethnologists become interested to find proofs for their theories that small variations become fixed and lead to racial differences. Experimental evidence on this point is still wanting.

The question of greatest interest to us is, To what extent has the white race, in its historic evolution, shown the power of adaptation? The white race is not a simple one, and distinctions must be made. The Semitic, as opposed to the Aryan branch, has a very great superiority in this respect. Again, the southern nations—Spaniards, Portuguese, Sicilians—have a greater power of adaptation than the northerners. In the colonization of the Antilles, the attempts of the English and French have been more or less disastrous, while those of the Spaniards have been quite successful. The general proposition, which is only a provisional one, seems to be that a southern people can emigrate to an equatorial region without danger. The readiness with which a population mixes with another is also of importance. The more southern Aryan peoples more easily assimilate with the Semitic element than the northern ones. This Semitic element, which appears early in the Phœnician expeditions to foreign lands, is best suited for founding permanent colonies. To this day, relics of the settlements all along the coast of the Mediterranean, made by Semitic people, can be traced.

Those white races which cannot become acclimatized without great loss may be called vulnerable, and the regions of the globe which are open to them are very limited.

North America is one of these favorable regions. The French were able to found a flourishing and

active colony in so cold a country as Canada. The United States, with its mixture of nationalities, is another such region. The acclimatization, however, is not brought about without considerable change in the mental life and characteristics of the people. The Yankee is strikingly different from the Englishman. The real sign of the longevity of a colony is the relative birth-rate and mortality as compared with that in the mother-country. The general result is, that, the farther south we go into the tropical countries, the lower does the reproductive power of the colony become, until in a few generations sterility is more and more prevalent. Of this the Creoles are a good example. The special cause of this degeneration has been regarded by physicians as a lack of the formation of blood, a general anaemia. This explanation, however, is not final; and a further cause, such as the presence of micro-organisms in the water, is to be looked for. The great prevalence of liver-disease in such cases offers a valuable clew.

It is considerations such as these which make us feel the want of thorough scientific research of the conditions which control the foundation of colonies. When these are known, it will no longer be necessary to make sacrifices of thousands of men in an idle attempt to make inhabitable some desolate unfavorable region. The order of national adaptability to new environment we have made out to be, first, the Jews; then the Spaniards, Portuguese, etc.; then the southern French and the northern French; and lastly the Germans. The remarkable immunity of the Jews is a question of great interest. What share in this peculiarity is due to their peculiar hygiene, choice of food, devotion to the home sentiment or to their occupation, is an open question.

#### *THE TRADE IN SPURIOUS MEXICAN ANTIQUITIES.*

THE present is a museum-making era, and future generations are perhaps to be congratulated that such is the case; but this wide-spread fancy for hunting and hoarding relics has given rise to minor features greatly to be deplored. The increased demand has given a considerable money value to antiquities; and this has led to many attempts, on the part of dishonest persons, to supply the market by fraudulent means. To such a degree of perfection has the imitation of some varieties of relics been carried, that detection is next to impossible. Doubtless in time most of the spurious pieces will be detected and thrown out; but in the mean time they will have made an impression upon literature, and upon the receptive mind of

the public, that is most difficult to eradicate. In view of these facts, it would seem to be the duty of interested persons to publish, at the earliest opportunity, all reliable information tending to expose frauds and correct erroneous impressions.

It is perhaps in stone, and especially in steatite, that frauds are most frequently attempted; but the potter's art has not escaped, and most of our collections contain specimens illustrating the skill of the modern artisan and the carelessness of collectors. Although we need not go beyond our own borders for illustrations of this statement, I wish here to call attention to some examples from Mexico. In pre-Columbian times the native potter of that country had reached a high degree of skill in the handling of clay; and Spanish influence has not been sufficiently strong to greatly change the methods, or restrict the manufacture. It is very easy, therefore, for the native artisan to imitate any of the older forms of ware; and there is no doubt that in many cases he has done so for the purpose of deceiving. A renewed impetus has been given to this fraudulent practice by the influx of tourists consequent upon the completion of numerous railways.

The variety most frequently imitated is a soft, dark ware, sometimes ferruginous, but generally almost black. The forms are varied, including vases, statuettes, pipes, whistles, and spindle-whorls, all of which are profusely ornamented. One notable form is a vase modelled in dark clay, and bristling with a superabundance of figures in relief, which give a castellated effect. A large piece recently acquired by the national museum was designated a 'miniature stone fort' by the collector, and a second piece could as readily be called a Chinese pagoda in clay.

The body of these vases is usually a short, upright cylinder, mounted upon three feet, and is profusely decorated with incised patterns and with a variety of ornaments, including human and animal figures in the round. A row of figures surrounds the rim, giving a battlemented effect; and a high conical lid, surmounted by a human figure, is usually added. The body of the vessel is modelled by hand; and the flatter portions of the surface are rudely polished, and covered with incised patterns. The attached figures are formed separately in moulds, and afterwards set into their places. Certain parts are further elaborated by means of figured stamps. After finishing, the vases are prepared for market by burial for a short time in the moist earth, or, more frequently perhaps, by simply washing them with a thin solution of clay. The deposit of clay is afterwards partially wiped off, leaving the lines and depressions filled with the light-