

possibility that space contains broad belts of small particles moving with velocities which are the resultant of all the forces acting on them since primeval chaos, and which have not yet been gathered into the control of any one of the stellar systems among which they are sweeping, would find much to confirm his ideas in these giant swiftly flying suns. The question is certainly of sufficient interest and importance to call for a thorough overhauling of the present methods of determining meteor-radiants, for probably most astronomers would to-day be disposed to deny *in toto* the existence of the greater part of these so-called radiant-points.

H. M. PAUL.

ALPINE CRETINISM.

CRETINISM is a peculiar form of idiocy which Dr. Kratter defines as "an arrest of psychical development, associated with very manifest malformations of the body, and especially of the skeleton." Goitre is frequently, though not invariably, present. Rachitic deformities, deafness and mutism, and that peculiar disease myxoedema, combine with idiocy to characterize the cretin. The cause of cretinism has never been satisfactorily determined. Operations upon human beings for the removal of goitre have shown that cretinism will occasionally follow the extirpation of the thyroid glands, and therefore the disease would seem to be connected, in some measure, with the function of those glands. Moreover, in places where cretins are numerous, goitre is also prevalent, even to a greater degree.

It is a fixed belief among the laity that goitre and cretinism are developed through the drinking-water, and in some places particular wells are designated as being especially endowed in this direction. Such wells are even sought out and used by those who wish to develop goitre, in order to escape military conscription. The noxious element in such waters has been claimed by some to be an excess of chalk, while others say that too much magnesia is the baneful ingredient.

In order to contrast, within a limited area, the frequency of cretinism with the geological formation of the land, Dr. Kratter has carefully studied a district in the Austrian central Alps, where cretinism is so frequent that it amounts to an actual scourge.

In Tyrol there are 112 cretins to every 100,000 of population. Salzburg presents 309, Kärnten 343, and Steiermark 240, cretins for every 100,000. In Muran one per cent of the entire population is afflicted with this disease. When we remember,

Der alpine cretinismus insbesondere in Steiermark.
Von Dr. JULIUS KRATTER. Graz, Leuschner & Lubensky, 1884.

he remarks, that the officially recorded cretins are not nearly the entire number, and that between the healthy people and the fully developed cretins there must exist a broad zone of partially feeble-minded folk; and, still further, when it is known that in the same communities pure goitre is five to ten times more frequent than cretinism, — we have a picture of endemic affliction which may well be called a scourge.

Kratter found that the maximum frequency of goitre followed the gneiss and granite formations which are rich in magnesia, while, on the other hand, the disease was extremely rare over chalky areas. The people in the regions noted were of the same nationality, and exhibited the same habits and customs. Elevation also appears to have a marked influence upon the frequency of cretinism. Cases are not developed higher than 1,000 metres above the sea, and they are extremely rare below 300 metres elevation. The greatest frequency occurs in mountain valleys which are between 400 and 700 metres above sea-level. Many villages in such valleys present the high proportions mentioned above.

Dr. Kratter gives his short paper simply as a summary of his work thus far, but he does not attempt to draw ultimate conclusions from it, because the field in which he labored was limited. He hopes that government interest may be attracted to this disease, and that a wide-spread and systematic investigation of the subject may be undertaken.

At a recent meeting of the Paris academy of medicine, M. Roullier, a surgeon attached to the French navy, gave an account of the practice of transfusion of blood in cholera cases at the St. Mandrier hospital, Toulon. The operations were performed during the state of collapse. Of 55 cases, 18 recovered. The transfusion of 1,500 to 2,000 grams 'literally effected a resurrection;' but, unfortunately, in the majority of cases the patients did not permanently recover.

— A manufacturer of Breslau is stated to have built a chimney over fifty feet in height entirely of paper. The blocks used in its construction, instead of being of brick or stone, were made of compressed paper, jointed with silicious cement. The chimney is said to be very elastic, and also fireproof. We may add that picture-frames are now made of paper. Paper-pulp, glue, linseed oil, and carbonate of lime, or whiting, are mixed together, and heated into a thick cream, which, on being allowed to cool, is run into moulds and hardened. The frames are then gilded or bronzed in the usual way.