

been made largely from human material. The nerve cells of the cord and spinal ganglia, and those of the cerebellum, quadrigemina, thalami, striata and cerebral cortex, are represented and described in the order named. At the very end there is given a plate from Hammarberg illustrating the size and distributions of the nerve cells in six localities of the human cortex.

In the description of the plates cell structure is disregarded, because all structure is obliterated by the silver method, and attention is therefore given alone to the shape and size of the cell bodies and to the number, direction, form and terminations of their branches. The description of the plates forms but a fraction of the text, the remainder of which is a running account, by Dr. Starr, of the architecture of the parts named.

This lucid and terse account is purposely dogmatic and is well illustrated by the diagrams, many of which are essentially new.

Moreover, the teachings of the plates are used where the silver method has enlarged our notions of the architecture, and thus the plates are made contributory to the more general narrative. The double character of the connections between the different cell groups in the central system is one of the more important points which is emphasized throughout.

Turning to the plates themselves, which in the stricter sense compose the *Atlas*, the question is as to what is gained by the photographic representation of the sections. Our impression of a microscopic section is usually based on several pictures offered to the eye at different depths within the object, for such sections always have an appreciable thickness, and only one level can be brought in focus at a time.

Photo-micrographs necessarily give a picture of but one of these levels, and the rest of the specimen is out of focus. The picture thereby obtained is independent of the draughtsman's bias and rigidly accurate, exactly what is desired. Thus, in this case the plates show to perfection the cell bodies and the larger branches, which were accurately focused. On the other hand, the connection of the neuraxon with the cell body is often lost, for it not uncommonly passes out of focus just at the point of junction. So, too, the mass of dendrites,

especially where most abundant, as in Purkinje's cells, is of necessity inadequately shown, and the proper relation of the end brushes to the dendrites is obscured.

If the draughtsman is in danger of too great completeness in his drawing the photo-micrograph suffers from a lack of this quality and shows far less than the specimens themselves. By this method therefore accuracy is gained at the price of limitation.

This criticism is intended for the benefit of those who at first sight may feel a disappointment that the whole matter is not entirely cleared up by photographic treatment. A reading glass can be used with advantage in the study of these plates, and, above all, they require careful scrutiny to be appreciated. The silver method is notoriously fickle, and it needs more than the usual skill and perseverance to obtain results by means of it; hence an atlas with good plates cannot fail to be useful to many persons and in many ways; and accompanied, as this one is, by a most instructive text, there can be no question of our indebtedness to the authors for their contribution to neurology.

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Die Insel Tenerife. Von DR. HANS MEYER.
Leipzig, S. Hirzel. 1896. 8vo, pp. VI., 328.
Four maps and 33 illustrations.

The book before us makes good its claim as a scientific guide book to a most interesting region. Humboldt and many other well-known men have given us their estimate of these famous islands. The peak of Tenerife, from its beautiful form and location, has been a favorite theme even from the most ancient times, when the virtues and charms of the 'Fortunate Islands' were proclaimed by bards and philosophers.

The work, however, like many such attempts, while it is not technical enough for the scientist, has a decided advantage over a mere traveller's day book in that a great deal of scientific information of an accurate character and in an easily comprehended form is given in a pleasant and popular style. The origin of the early inhabitants as well as the fauna and flora are carefully treated, and while some vexed ques-

tions in ethnology are touched upon, there is nothing in the shape of a bitter attack upon former theories. The facts are brought out more as suggestions, and they are numerous and fruitful to the careful student, while they are of interest to the more superficial traveller, from the insight they give as to the influences, climatic and otherwise, which have supplied this bit of 'environment' with its germs, and have produced the peculiar life forms of the group.

The position of the islands in the belt of the Northeast Trade winds, which have been a predominant factor in causing the changes which have been brought about, indicate the immediate source of the forms of life to be largely southern Europe; since 60 per cent. of its birds, insects and flowers come from the Mediterranean basin.

The earliest human migrations must have been by boat, but all trace of any skill in this direction had completely disappeared by the time of the Spanish invasion, as no boats were found. The inhospitable shores and the dangerous surf must have been the cause of this condition of things. The land offered the settlers all they wanted and they were content. The theory suggested of the descent of the race, for it was a distinct type as described by the Conquistadors, from the Berber family, is very interesting reading.

From the time at which these islands were called the '*Insulæ fortunatæ*,' by the expedition of the King of Mauritania in B. C. 40, they were practically lost sight of until 1402. In that year their relations with Europe began. It took nearly 100 years, however, to conquer the stubborn resistance of the real owners of the islands, and the fearful destruction of life is one of the saddest chapters in the history of Spanish colonization. To-day there is probably no pure blooded member in existence of the original race which inhabited the islands.

The island is still, however, the '*Ultima thule*;' the troubles of civilized life do not bother the '*Isleño*;' and the mild, balmy air makes it the wonderland of peace. If the almost wild activity of modern existence can be called life, then the Canaries supply us with the dreamland of childhood.

The author is evidently very much in love with the subject of his sketch, and the smooth surface of his description is only ruffled when he comes under the influence of the hated Spanish control, or the very loud English tourist. He is evidently a Sybarite in the enjoyment of nature.

His description of the trips made to all parts of the volcano are full of interest; and while it is true that the sketch given by Humboldt upon the occasion of his visit 100 years ago still holds good, there is much that is introduced of a geological nature, which cannot but help add to the pleasure of a trip to this locality on the part of one not familiar with this subject. As was to be expected, the best part of the book is the sketch of his trip to the main peak, and the word picture of the sunrise as seen from the top is extremely well done.

It seems a pity that even one sentence should appear in such a book which grates upon the scientific mind; but on page 64 a rather remarkable explanation is given which should not have escaped the author's attention. It reads as follows: "The difference in temperature between the soil and the air, and the friction of the wind upon the crest of the range, condense the moisture of the cold Trade wind into small banks of cloud." This explanation would hardly pass muster with the meteorologist; since the cause of condensation is not the mere contact of the air with the soil, or the friction against it, but the fact that the air current is forced into a higher and colder layer of air, which so reduces its relative humidity that the point of saturation is reached.

The maps of the book are carefully prepared, and they cover the field of geology, the forms of vegetation and the cultural regions, besides giving a good road map. The illustrations, while they are good, are not what might be expected from clear photographs when reproduced by some of the more modern processes.

At the close of the work is a discussion of the craniological collection by Dr. F. von Luschan, which is to be regarded as a preliminary notice, since the main results are reserved for a future publication.

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