

the hypothecation of actual molecular structural form — configuration, according to Wunderlich's proposed term to express stereo-chemical relations. The subject of molecular configuration is comparatively new; still we are becoming familiarized with diagrams and models intended to represent such relations. Many of us may have been at first indisposed to accept these views as anything more than visionary and fantastic; but the more we have pondered them, the more have we been impressed with their significance and beauty. Shape, form, and volume must be attributed to molecule as well as to mass; the only trouble has been in regard to the former, the apparent audacity and hopelessness of any attempt to penetrate matter to such depths. The new and most refined sense furnished to us by the use of polarized light, makes us aware of isomers identical in every respect, save their response to this delicate physical agent. Optical isomers have given rise, under the crucial investigations of such men as van t'Hoff, LeBel, Wunderlich, and V. Meyer, to the hypotheses of the asymmetric carbon atom, and the tetrahedral arrangement of the valence-bond, and the saturating atoms or radicals. The simple and symmetrical tetrahedron of methane must be accepted as the perfect analogue of a crystal of the same geometric form; and the optical isomers resulting from the different arrangements of the same atoms or residues around an asymmetric carbon atom, may, in like manner, be taken as the analogues of enantiomorphous crystals, as of quartz, right-handed and left-handed; the pairs in each case being perfectly equivalent, but not superposable.

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NOTES AND NEWS.

THE cause of the terrible disaster at St. Gervais is now being investigated by several men of science. There can be no doubt that it originated in the small glacier called the Tête Rousse, which is nearly 10,000 feet above sea-level. According to a correspondent of the London *Times*, who writes from Lucerne, Professor Duparc is of opinion that the habitual drainage of this glacier had for some reason or other become either totally blocked or obstructed; the water gradually accumulated in its natural concavity or bed; and the ever-increasing volume had exercised such an enormous pressure as to force a passage and carry away a portion of the face of the glacier with it. The mass of ice and water rushed down the rocks which dominate the glacier of Bionnassay, not in a single stream but in several, and then reunited into one enormous torrent at the foot of the Bionnassay glacier. A different theory is held by Professor Forel, of which the correspondent of the *Times* gives the following account: Professor Forel does not see how a quantity of water sufficient to force away so large a portion of the glacier could possibly accumulate in so small a body as the Tête Rousse, which has a total superficies of less than one hundred acres. It slopes freely on three sides; it is, in fact, one of the most abrupt of the whole chain of Mont Blanc; and, in a glacier of this description, with an altitude of nearly 10,000 feet, there are none of the conditions of a great accumulation of water. In his opinion, therefore, we must look for the main cause of the disaster in the natural movement and breaking up of the glacier. He estimates the volume of ice which fell at between one and two million cubic metres. The mass, first in falling and then rushing down the rapid slope, became transformed, for the most part, into what he calls a lava of ice and water. The ravine, he says, through which this avalanche rushed shows no traces of any great evacuation of water; in the upper portions of its transit there is no mud and no accumulation of sand, but, on the other hand, there are great blocks of glacier ice strewn everywhere, and at several points he found portions of powdered ice mixed with earth. Then, again, if this had been simply a torrent of water falling, it would have found its way

down the more violent inclines, instead of, as in this case, passing straight over the frontal moraine at the foot of the glacier. In this higher region, therefore, all the evidence points to an avalanche of ice, which, starting at an altitude of nearly 10,000 feet, and descending at an incline of 70 per cent for 5,000 feet, was pulverized by its fall, a large portion of it being melted by the heat generated in its rapid passage and contact with matters relatively warm. It rushed into the ravine by the side of the glacier of Bionnassay and joined the waters of the torrent which issues therefrom, and, further aided by the stream of Bon Nant, it became sufficiently liquid to travel down the lower portions of the valley at the slighter incline of 10 per cent, and yet retained sufficient consistency to destroy everything in its passage. That this torrent was not composed merely of mud and water is proved, he says, by the fact that it did not always maintain the same height when confined to the narrower ravine, and that the remains on the sides of the rock show it to have been a viscous substance rather than fluid.

— At a meeting of the London Chamber of Commerce on July 25, as we learn from *Nature*, Mr. J. Ferguson read a paper on "The Production and Consumption of Tea, Coffee, Cacao (Cocoa), Cinchona, Cocoa-Nuts and Oil, and Cinnamon, with reference to Tropical Agriculture in Ceylon." He referred to the position of Ceylon, its forcing climate, its command of free cheap labor, and its immunity from the hurricanes which periodically devastated Mauritius, from the cyclones of the Bay of Bengal, and from the volcanic disturbances affecting Java and the Eastern Archipelago. The plantations of Ceylon afforded, he said, the best training in the world for young men in the cultivation and preparation of tropical products, and in the management of free colored labor. The cultivation of cane-sugar, although tried at considerable outlay on several plantations forty and fifty years ago, proved a failure. More recently experiments by European planters with tobacco had not been a success, notwithstanding that the natives grew a good deal of a coarse quality for their own use. Although cotton growing had not been successful, the island had proved a most congenial home for many useful palms, more particularly the coconut (spelt without the *a* to distinguish it and its products from cocoa — the beans of the shrub *Theobroma cacao*) and palmyra, as also the areca and kitul or jaggery palms. Within the past few years Ceylon had come to the front as one of the great tea-producing countries in the world, India and China being the other two, with Java at a respectable distance. Mr. Ferguson said one of the chief objects of his paper was to demonstrate which of the products of the island it was safe to recommend for extended cultivation in new lands, and which were already in danger of being over-produced, and he had arrived at the conclusion that coffee, cacao, and rubber-yielding trees were the products to plant, while tea, cinnamon, cardamoms, cinchona bark, pepper, and even palms (for their oil) did not offer encouragement to extended cultivation. Statistics relating to the total production and consumption were given in an appendix.

— A third edition, largely rewritten, of "The Microscope and Histology," by Simon Henry Gage, associate professor of physiology in Cornell University, has been issued by Andrews & Church, Ithaca, N. Y. This volume contains much useful information, systematically arranged, and will, no doubt, be appreciated by those who are learning to use the microscope and desire to familiarize themselves with the most approved microscopical methods. Chapter I. relates to "The Microscope and its Parts;" Chapter II. to "The Interpretation of Appearances," which will be of special value to beginners; Chapter III. gives detailed information with reference to "Magnification, Micrometry, and Drawing;" Chapter IV. treats of "The Micro-Spectroscope and Micro-Polariscope;" Chapter V. of "Slides, Cover-glasses, Mounting, Labelling," etc.

— B. Westermann & Co. will publish in September the third volume of Conway and Crouse's translation of Karl Brugmann's "Comparative Grammar of the Indo-Germanic Languages." The fourth and concluding volume, with a full index, will be issued next year.