THE MEANING OF NATURAL SELECTION

IN the issue of SCIENCE for October 24 is an article on "The Organic World and the Causal Principle" in which the question of natural selection as a cause is discussed, and the fact is entirely overlooked that natural selection in the minds of most men has come to mean something different from what it did to Darwin.

The authors of the article appreciate that to Darwin it meant a rule or method according to which true causes acted, but like so many other terms, this one, according to the genius of our language, has unfortunately acquired a derivative meaning, and most people now mean by it those true causes which act according to this rule or method. It was Hobbes, I think, who stated that most discussions end where they should have begun, namely, in defining the meanings of the words used.

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A CORRECTION

DR. CALMAN has called my attention to the identity of *Cancer luederwaldti*,[1] recently described from the coast of Brazil, with *C. pagurus*, the European edible crab. Its occurrence in Brazil needs confirmation. The error but emphasizes the desirability of world monographs rather than local faunas, a subject referred to by Dr. Calman in his recent address on the taxonomic outlook in zoology.[2]

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SPECIAL CORRESPONDENCE

PROGRESS OF THE GEOLOGICAL SURVEY OF CALIFORNIA

A YEAR ago last July a geologic branch was established[1] as part of the California State Division of Mines, and $20,000 for the biennium was set aside for its work. With the many facilities of the division at hand and with the cordial support of various institutions in the state it has been possible to make a broad step in advance towards fulfilling the future plan of the work.

A ten-year program has been favored by the State Mining Board and arranged for by the state mineralogist, Walter W. Bradley, during which time it is planned that the general state geologic map, now in preparation, should be finished. The base of this map has already been issued by the U. S. Geological Survey, and the compilation of geologic data is well under way, both federal and state officials cooperating in the task.

The state geologic map will serve as a general clearing place for as many data as can be secured. It has been found that about 26 per cent. of the state is covered by published detailed and semi-detailed geologic maps, 32 per cent. by unpublished material, while 42 per cent. remains practically blank, and a large portion of the blank area has no satisfactory base maps for the field geologist to use.

Most of the area covered by unpublished data has much material sufficient for a map of this scale (eight miles to the inch) but not complete enough for publication as detailed sheets. Many areas have been worked over, and the manuscripts laid aside, never to be completed by the original authors. A large part of California has been geologically mapped through the work of the geological department of the Southern Pacific Company. Large tracts of country covered especially by Tertiary sediments have been worked intensively by various oil companies, and though the details of their findings may not be at present available for publication the general areal geology suitable for the state map will be in most cases readily available as soon as the compilation of other data has been completed.

The state geologic map is to be issued in three separate sheets, covering southern, central and northern California, respectively, each published as it is completed. The two dividing lines will probably be through the thirty-sixth and thirty-ninth parallels. It is thought that the southern sheet will probably be first to get into publication, owing to the greater percentage of work covering it, and for the reason that the mapping of blank areas in the south can be completed more rapidly than in the more mountainous and wooded northern country.

Though the preparation of the state geologic map is an important item in the work of the state survey, it is by no means to be the extent of its endeavor. Its function includes the study of the problems of ore-genesis, underground water, non-metallics, geology related to engineering problems, geology of the oil fields, stratigraphy and many other phases of this great applied science. At a recent meeting of the State Mining Board the name Geological and Economic Mineral Survey was adopted as the most suitable name for this new geologic branch of the Division of Mines.

[1] SCIENCE, 70: 554, December 6, 1929.

[1] *Bull.* U. S. Nat. Mus. 152: 200, pls. 86–89, 1930.

[2] SCIENCE, 72: 279, September 19, 1930.