sludge, slime, silt, bog or sea bottom are: Ilyanthedwardsiidae and Ilyanthus (hexactinarians which live in bottom mud or sand in the Mediterranean Sea); Ilysia, and Ilysiidae (referring to a group of reptiles, coral snakes, which inhabit swamps, etc., in certain warmer countries).[2]

The root "troph-" is familiar to all as signifying nutrition and might well be carried over into the synthesis of the new word.

We speak of autotrophic or heterotrophic nutrition in organisms; we encounter the same root in prefixes both in general physiology and in medicine; such words as trophic, trophoplasm, trophotaxis, trophoneurosis, trophopathy are some examples.

The word *ilytrophon,* signifying the food materials present in mud, ooze, or bottom detritus, would provide natural derivatives such as *ilytroph* (*n*) a mud feeder; *ilytrophic* (*adj.*) designating the nature of either the food or the habit of consuming it or an animal or fauna subsisting upon muddy substrates; *ilytrophism* (*n*) the name of the mud-eating habit.

Although some other root might be selected as a prefix if one wished to more specifically designate mud on the *bottom,* this would only lengthen the word, making it more cumbersome and difficult to use. Also, the Greek word ἰλύς seems already to mean precipitated or bottom mud, slime, etc., since even "Meeresgrund" (sea bottom) is given as one synonym. It would seem consistent to merely qualify the type of ilytrophic material or fauna under discussion by describing it as marine, oceanic, shore, fresh water, etc., as we do with other terms such as plankton. When we offer a word to signify a mud-eater or bottom feeder such as some of the sipunculids[3] most of us think of animals which consume muddy material lying on the floors of puddles, swamps, ponds, lakes or oceans, whether deep or shallow, and not of other organisms, such as lamellibranchs and tunicates, which filter suspended mud from the water. These latter are, after all, plankton feeders, and their ingestion of mud is probably largely only incidental to their feeding upon plankton.[4]

Addendum. Since this note was first submitted, a note by Professor Glover M. Allen (SCIENCE, 84, 374, 1936) has appeared in answer to Dr. Morris' original notice. Professor Allen proposes words also derived from ἰλύς, such as *ilyon, ilyonic* and *ilyobic,* which are shorter terms than ours. We still feel that the use of the suffix *trophon* has the advantage of specifying the type of *food* which nutrifies various mud-eaters, thus applying directly to Dr. Morris' original request.

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BENTHOS, BENTHIC AND "BENTHOTIC"

UNDER the title, "Wanted: A New Word," the author of the article in SCIENCE (84: 291, 1936) appeals for a companion word to planktonic, to use in place of "benthotic," which he cites as being awkward. He further states that "according to the dictionary 'benthos' relates to the bottom of the sea," and that this "is not descriptive in application for the food of many forms of aquatic life living in shallow waters."

The Webster,[1] Standard[2] and Century[3] dictionaries unfortunately define benthos only in the approximate sense above quoted, but use benthic and/or benthonic as its adjectives, and not benthotic. (The term benthal is variously defined by these dictionaries, and for this reason should perhaps be left out of this discussion.)

It is to be regretted that the writer of the previous article in SCIENCE, besides consulting Greek and Latin scholars and the dictionary, as he says he did, had not also turned to biologists and their writings, for benthos and its adjective benthic are well established in the accepted limnological and general hydrobiological literature as designating *all* freshwater bottom-dwellers as well as marine organisms. The two following authorities are cited.

Paul S. Welch, in his "Limnology" (1935), the standard general treatise on limnology in the English language, defines benthos as follows: "The term benthos designates the whole group of bottom-dwelling organisms. Burrowers, clingers, mere crawlers on the bottom, hiders among bottom materials, case or tube forms, sluggish phytophiles, and bottom associates of other kinds compose this group." And further: "It must be understood that the term includes the organisms of the bottom *from the water's edge down to the greatest depths.*"[4]

Academician S. A. Zernov, the Russian hydrobiologist, in his "General Hydrobiology" (1934, in Russian) uses the term benthic (benticheskii) as a synonym of bottom-dwelling and as the adjective of benthos.

If it is a further subdivision of the word benthos that is desired, to cover only "the top layer of mud," then reference should be made to Welch's (*loc. cit.*) comprehensive discussion of the ooze-film assemblage

[2] Zoologisches Wörterbuch, by G. Niemann and H. L. Honigmann. Publ. by A. W. Zickfeldt, Osterwieck am Harz, 1919.

[3] F. Peebles and D. L. Fox, *Bull. Scripps Inst. of Oceanography,* Tech. Ser. Vol. 3, 201–224. Univ. of Calif. Press, 1933.

[4] D. L. Fox *et al.,* Bull. Scripps Inst. of Oceanography, Tech. Ser. Vol. 4, 1–64. Univ. of Calif. Press, 1936.

[1] Webster's New International Dictionary, 2nd ed., 1934.

[2] New Standard Dictionary, 1929.

[3] The New Century Dictionary, edition of 1934.

[4] Italics by the writer.

and the littoral, sublittoral, profundal and abyssal benthos.

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FOOD OF MUD-DWELLERS

IN reply to Dr. Robert T. Morris's request for an adjective to define food derived from the top layer of mud, I submit *acropelotic* (ἄκρος, top; πηλός, mud).

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AN interesting point in ecology is raised by Dr. R. T. Morris in SCIENCE (84: 291, 1936) regarding a technical term descriptive of the nature of the food of mud-dwelling organisms. It may be suggested that while the food-stuff is of detrital origin, the food supply considered as their source of energy might be characterized as ilyodynic.

Since the above was written, an excellent choice of terms has been submitted by Professor Glover M. Allen (SCIENCE, 84: 374). The word now introduced, though partly redundant, may perhaps be allowed to stand for final selection.

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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE CANCER SYMPOSIUM OF THE MEDICAL SCIENCES SECTION

THE Section on Medical Sciences of the American Association for the Advancement of Science has arranged for the Christmas meetings a symposium on cancer consisting of a series of seven sessions to be held from Tuesday to Friday, December 29 to January 1, inclusive. The first session, which will be held on Tuesday morning, will be devoted to questions concerning radiation, while the afternoon session will be devoted to various aspects of the relationship of hereditary and constitutional factors to the occurrence of tumorous growth. The two sessions on Wednesday will be concerned with the induction, stimulation and inhibition of tumors. This will involve a consideration of the carcinogenic substances, the relationship of the sex hormones and the significance of viruses and of inhibitory substances to the etiology and development of tumors. On Thursday morning tissue culture work in connection with cancer will be discussed and the metabolism of cancerous tissue will be considered. In addition to these sessions, there will be two general lectures, one on Thursday afternoon and one on Friday, which will take up certain more general aspects of the cancer problem. The section is anxious to make this as worth while a symposium as possible and has brought together the leaders in the various fields. In so doing it hopes that it will call attention to the fundamental work that is going on in this country in the investigation of this serious problem and will afford an opportunity for an authoritative survey of the actual status of this field.

The session on radiation will be opened by Dr. Tuve, of the Terrestrial Magnetism Laboratory, Carnegie Institution, who will review for the group the artificial sources of high energy radiations and their applications from a purely physics standpoint. This will be followed by papers by Dr. Lauriston S. Taylor, of the United States Bureau of Standards, who will compare the methods of determining the quality of x-rays, and Dr. G. Failla, of Memorial Hospital, New York City, who will discuss some biophysical aspects of radiation therapy. A comparison of the effects of x-ray and neutrons on normal and neoplastic tissue will then be made by Dr. John H. Lawrence, of Yale University. The effect of alpha particles and their relationship to the effect of neutrons will next be discussed by Dr. Raymond E. Zirkle, of the University of Pennsylvania. Dr. Stafford L. Warren, of the University of Rochester, will then present his work on the combined effects of roentgen-radiation and fever upon malignant tissues. The session will be brought to a close by Dr. Robley Evans, of the Massachusetts Institute of Technology, who will report on the recent progress in the study of radium poisoning. It might be mentioned that the Medical Sciences Section has cooperated with the American Physics Society and the Section on Physics in the arrangement of the days for their respective symposia. The latter organizations are planning a series of papers on radiation on Monday, taking up the more physical aspects of radiation, while the Medical Sciences Section in its radiation session will take up mainly the biological aspects of radiation, except for the orientation paper by Dr. Tuve, which in a sense will form some continuity between the two programs. The combined program should present a very thorough survey of the newer developments in the field of radiation.

The session in the afternoon will present a series of papers on a variety of aspects of heredity and constitutional factors in their relation to tumorous growths. Such considerations as the respective rôles of heredity and somatic mutation in the etiology of