most complete of many written on the natural history of this worm. It exemplifies a case in which mucus was overlooked in attempting to determine the feeding method of a plankton feeder.

A slime net is as efficient as any structure that one may imagine, for, though a dye in solution will pass through it as though it were not there, the slime net will entrap the smallest particles which are visible by the aid of an oil immersion lens. With bottom feeding forms this microscopic material consists in large part of bacteria. In SCIENCE, 1932,[4] I gave an account of a successful feeding experiment in which a pure culture of bacteria was used by a mud flat animal, and it is difficult to think of any structural device other than such a mucus net which would screen bacteria from water. The abundance and availability of marine bacteria for food have since been confirmed by ZoBell and Anderson[5] and other marine bacteriologists.

Apparently little is known of the chemical composition of mucin, particularly in the lower animals, and I believe nothing is known of its physical characteristics. A detailed account of the use of mucus by plankton feeders is in the process of preparation and should be ready for publication within the next year.

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DIET AND RESISTANCE TO COLDS

SPIESMAN and Arnold recently[1] reported their observation that carbohydrate restriction reduces the incidence of colds, and they pointed out that Paton[2] and Orr and Gilks[3] made similar observations. I recently[4] also had occasion to refer to previous reports on this subject made by McQuarrie[5] and Higgins[6] as well as by Paton and by myself.[7] However, Spiesman and Arnold state that they have no explanation to offer for the beneficial results obtained by carbohydrate restriction, although McQuarrie, Higgins and I attributed the benefits to a reduction in tissue hydration. Adlersberg and Porges[8] likewise noted the dehydrating effect of a low carbohydrate diet and found that it "can be employed with good success not only in edemas of various origins but also in inflammatory exudates, for limitation of the quantity of sputum in bronchiectasis and, finally, as an 'antiphlogistic diet' in certain inflammatory processes."[9] Before this, Glasscheib[10] advocated the use of acid salts and vitamin D to reduce hydration for the control of vasomotor rhinitis. Glasscheib, however, distinguished between vasomotor rhinitis and common colds, which he still[11] believed were due to infection and not preventable by a dehydrating regimen. Nevertheless, Glasscheib's ideas are pertinent to the subject in view of the fact that Speisman and Arnold emphasize the rôle of vasomotor responses in susceptibility to upper respiratory infections.

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CORRELATION OF RIVER TERRACE REMNANTS

RIVER terrace remnants have been correlated on the basis of their absolute elevations as obtained by approximate or precise measurement. Such correlation involves the assumption that the relief of the ancient flood-plain from which the terraces were derived was negligible.

Geomorphic studies[1] of flood-plains of present-day rivers show that the magnitude of their relief may often be sufficient to throw doubt on such correlations. It can be demonstrated, for example, that two terrace remnants differing seventy-five feet in their relative elevation may represent portions of the same ancient surface of deposition.

Typical flood-plains are normally diversified by such features as bars and swales, abandoned channels, natural levees of the main stream and its tributaries, meander scars and minor depositional features. This multiplicity of possible forms and their occurrence spatially in any order produce a terrain of unpredictable irregularity. Upon this terrain unadjusted tributaries may deposit alluvial fan material of varying thickness and extent.

It is apparent that the maximum relief of the flood-plain, excluding effects due to deposition by lateral tributaries, is limited, though not necessarily determined, by the maximum possible range of the major water plane. An examination of large-scale contour maps showing details of flood-plains of several major rivers has established the fact that the absolute relief, as measured from the low-water surface of the master stream, may exceed fifty feet and often averages twenty-five feet. In the case of small graded streams

[4] G. E. MacGinitie, SCIENCE, 76: 1978, 490, 1932.
[5] Claude E. ZoBell and D. Quentin Anderson, *Bull. Am. Assoc. Petrol. Geol.*, 20: 3, 258–269, 1936.
[1] *Am. Jour. Dig. Dis. and Nutrition*, 4: 438, 1937.
[2] *Brit. Med. Jour.*, 1: 738, 1933.
[3] Med. Research Council. Special Report No. 155, 1931.
[4] *Jour. Amer. Med. Assoc.*, 108: 2156, 1937.
[5] *Jour. Nutrition*, 2: 31, 1929.
[6] *New England Jour. Med.*, 203: 145, 1930.
[7] *Proc. Soc. Exp. Biol. and Med.*, 25: 454, 1928, and SCIENCE, 68: 301, 1928.
[8] *Klin. Wochenschr.*, 12: 1446, 1933.
[9] Quoted from abstract in *Jour. Amer. Med. Assoc.*, 101: 1766, 1933.
[10] *Monatschr. f. Ohrenheilkunde*, 62: 168, 1928.
[11] Personal communication, dated November 26, 1928.
[1] Pursued as a university fellow of Columbia University, in consultation with Professor Douglas Johnson.