lips, *Eucladocrinus millebranchiatus* Wachs. and Sp., *Platycrinus hemisphæricus* M. and W., *Arthroacantha punctobrachiata* Williams, *Pterotocrinus acutus* Weth., *P. bifurcatus* Weth., *P. spatulatus* Weth., *Cromyocrinus simplex* Trauts., *Scaphiocrinus sp. und.* and *Actinocrinus verrucosus* Hall. It will be observed that in all the above species, with two exceptions, the vault is more or less depressed or nearly flat, with a simple anal opening, while in the last species mentioned the anal aperture is at the extremity of a prolonged anal tube—the so-called "proboscis"—but in this single instance the tube appeared to be injured, and probably has a second opening at the base. In every example, whether attached to the vault, as in the majority of the genera, or to the side of the calyx, as in Platycrinus, the molluscan shell is situated over the anal opening.

Summing up the predominant physiological and structural features suggested by recent investigations, it appears: (1) that the Platyceras was attached to the crinoid for a considerable length of time, and very probably for life, as is evidenced by the margin of the gastropod shell, corresponding exactly to the irregularities of the crinoidal surface—first suggested by Meek and Worthen; (2) that the anterior portion of the shell is always directly over the anal aperture of the crinoid, and that as growth in the shell continues the posterior margin is removed farther and farther from the vault opening, as is shown by the shallow concentric channels made by the margin of the shell in the vaults of Strotocrinus and Physetocrinus; (3) that the nourishment of the mollusc must have been derived chiefly from the excrementitious matter from the crinoid, though the gasteropod may have subsisted also on animalcules and microscopic plants, as in the case of the living representatives of the closely allied genus Capulus; (4) that the shape of the shell aperture and its marginal configuration were dependent entirely upon the surface of attachment, and hence are of small classificatory value; and (5) that the entire form of the shell was determined to a greater or lesser extent by the surface upon which the gasteropod was stationed.

The species of Platyceras in which the sedentary habits are positively known from the attachment of the gasteropod shells to crinoids are: *P. equilaterum* Hall, *P. infundibulum* M. and W., *P. parasiticus* Trauts., *P. erectum* Hall, *P. formosum* Keyes, *P. chesterense* M. and W., *P. dumosum* Conrad, and several undetermined species.—*Charles R. Keyes.*

Glyptocephalus not Identical with Bucklandium.—In the American Naturalist for May and September, 1888 (Vol. XXII., pp. 448, 828), I have used the name *Bucklandium* (Kœnig) as a substitute for *Glyptocephalus* of Agassiz (1843), the latter name

having been previously given to a well-marked existing genus of Pleuronectids by Gottsche (1835). I did this, as indicated in my communication (p. 828), solely on the authority of Pictet, who believed that the *Bucklandium* was the same as *Glyptocephalus* Agass.,[1] the work of Kœnig not being accessible to me at the time, and Prof. Pictet being recognized as a special authority on eocene fishes. But in the *Geological Magazine* for Oct., 1888 (p. 471), and also in *The Annals and Magazine of Nat. History* for Oct. (6 ser., v. II, p. 355), Mr. A. Smith Woodward, after an examination of the type of *Bucklandium diluvii*, "determined that it is truly the imperfect head and pectoral arch of a Siluroid." Incredible as such a malidentification on the part of Pictet must appear, I presume the determination of Mr. Woodward must be accepted, and, at any rate, that the name *Bucklandium* has nothing to do with *Glyptocephalus*. Consequently, a new name must be provided for *Glyptocephalus* Agass. *Glyptocara*, having the same meaning, may be employed. —*Theo Gill.*

Dr. C. A. White, of the United States Geological Survey, writes the senior editor as follows:—"I have just returned from Texas. I went to Baylor, Archer and Wichita counties, and found that Mr. Cummins was entirely correct in his reported discovery of Mesozoic and Palæozoic types of invertebrates commingled in one and the same layer of the Permian. I went with him to his localities, and collected with my own hands a good lot of the fossils. I shall support your published opinion—or rather determination—as to the Permian age of the formation."

The Nomenclature of the Mammalian Molar Cusps.—Every fresh discovery among the primitive mammals tends to confirm the theory that the evolution of the molar crowns has been, in a succession of stages, beginning with the single reptilian cone, the *homodont* type of Rütimeyer (*Haplodont* Cope). Comparative anatomy and the palæontological record combine to demonstrate this proposition for all orders of mammals excepting the Monotremes, Multituberculates and Edentates—the history of the teeth of the former classes is incomplete. Our knowledge of the edentates leaves it uncertain whether the molar crowns are in a primitive or degenerate condition; we know that they once possessed enamel, but the analogical degeneration of the molar crowns among the cetacea from a complex to a primitive type makes any conjecture as to the crowns of the primitive edentates very doubtful. Excluding the representatives of the Multituberculata, Cope has shown

[1] Je crois que c'est [*i.e.*, "*Glyptocephalus radiatus* Agass."] la même espèce que celle qu'il a figurée dans les *Icones sectiles*, pl. 8, sous le nom de Bucklandium. Voyez [Traité de Paléontologie par Pictet], t. I., p. 144, et t. II., p. 66 [et p. 123].