

Duke University
DURHAM
NORTH CAROLINA

DEPARTMENT OF ZOOLOGY

July 7, 1961

Dr. Richard W. Stenzel
Shell Development Company
Box 481
Houston 1, Texas

Dear Doctor Stenzel:

When I visited with you, the question was raised as to the region of origin of the periostracum. On the attached page I have listed three references of possible interest which I have run across. The quotation from Yonge concerns Lamellibranchia as a group. Tsujii speaking of the pearl oyster Pinctada martensii states that the periostracum originates on the outer surface of the middle fold. Bevelander and Benzer give the same location for Codokia and Venus.

It would be most helpful to C. M. Yonge and myself if you could tell me the present address of Dr. Anna Bidder. Yonge has been out of touch with her for a long period and is anxious to contact her in connection with writing which she is doing for our volume on Physiology of Molluscs. In spite of many attempts I could not reach her in Houston.

With all good wishes.

Sincerely,



Karl M. Wilbur

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Bevelander and Benzer, Calcification in marine molluscs, Biol.,
Bull., 94, 176, 1948.

"The elaboration of the organic matrix is brought about by the activity of a layer of cuboidal cells occupying the outer surface of the middle fold of the mantle (Figs. 1 and 3). The secretion elaborated by these cells is known as conchin or periostrachum."

Yonge, Mantle fusion in the Lamellibranchia, Pubbl. Staz. Zool.
Napoli, 29, 151, 1957.

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"The outer fold (O) secretes the two outer layers of the shell. Its outer surface (Oo) secretes the outer calcareous layer (oc) of the valves and the outer ligament layer while its inner surface (Oi) secretes the periostracum (p). (Foot-note: In opposition to some earlier opinions, (Kessel (1944) has shown that the outer surface of the middle fold cannot be concerned with secretion of periostracum.) that, at any rate initially, covers all areas of the shell. Although sometimes appearing to arise solely from the depth of a "periostracal groove", there is no doubt that the entire inner surface of the outer fold is often, and probably always, associated with the formation of the periostracum. This is apparent when considering the formation of siphons."

Tsujii, Studies on the mechanism of shell and pearl formation in Mollusca. J. Fac. Fish. Pref. Univ. Mie, 5, No. 1, 1-70, 1960.