August 17, 1961

Mr. William J. Demoran
Gulf Coast Research Laboratory
Ocean Springs, Mississippi

Dear Mr. Demoran:

Thank you very much for the information which Dr. Gunter has transmitted to me. It will be useful to me. In the meantime, I have progressed a little more in those problems and would like to take them up with you again.

(1) The section published by Nelson. I am now convinced Nelson's section is reversed. The periostracal glands in all the Pelecypods are situated in the groove between the outer and median folds of the mantle edge. The oysters simply can't be an exception to this rule. It is very easy to reverse a section once it is cut, and to mistake one side for the other. I am convinced Nelson made this mistake inadvertently and then proceeded to describe what he saw on the section interpreting it erroneously. I believe many later authors have simply looked up Nelson's publication when they interpreted their own sections, if they ever made any. Would it be asking too much of you to tag or stain the interior surface of the mantle lobe before it is removed from the valve and then to make a section of it, so that your conclusions would be incontrovertible?

(2) The anterior adductor muscle. Whether this is the remnant of the anterior adductor muscle or that of the pedal retractor muscle is open to question. All I know is that H. Leenhardt (1923, Sur la presence d'un muscle pedieux chez les Ostreides: Soc. zool. France Bull., vol. 48, pp. 379-380) guessed it was a pedal retractor. W. H. Dall had the same interpretation (compare J. A. Ryder, 1884, A sketch of the life-history of the oyster: U. S. Geol. Survey, Ann. Rept. 1883, Appendix 2, p. 318). In general, the older authors guessed for the pedal retractor and the newer authors for the anterior adductor. The question possibly could be settled, if one could keep an oyster larva long enough under microscopic surveillance to trace the fate of the anterior adductor with absolute certainty.

I have seen the imprint of this muscle in many living and fossil oysters. It is apparently always there, and there is an imprint on each valve; but they can be very inconspicuous on one valve or both and must be searched for in many oysters.

I hope you don't mind this discussion. I shall look up the references you gave me and see whether they shed light on these questions. The manuscript is progressing as well as can be expected; there are about 50 typed pages so far. Thanking you again for your help,

Sincerely yours,

H. B. Stenzel

HBS:mh

Shell Development Company
Exploration & Production Research Division