

THE UNIVERSITY OF MISSOURI
SCHOOL OF MINES AND METALLURGY
ROLLA

October 29, 1963

DEPARTMENT OF GEOLOGY AND
GEOLOGICAL ENGINEERING

Dr. H. B. Stenzel
Shell Development Company
Exploration and Production Research Div.
P.O. Box 481
Houston 1, Texas

Dear Dr. Stenzel:

Thank you for your letter of 22 October and the reprint which were most interesting to me.

I am looking forward to the reprint of your recent paper.

I have no ready answer to your question at the end of the letter. It is somewhat an "egg and hen" problem. To assume cleavage would mean to assume a memory or knowledge of the growing tissue. If, as you say, the calcite and aragonite crystals are being envelopped during their growth by conchiolin, the strength of the structure depends more on conchiolin.

Perhaps the surface properties (your "automation command pattern") is a better answer. In mineralogy such properties of structural ~~efficiency~~ are named epitaxy. In other words, I would suggest that a structural study of the conchiolin varieties would perhaps be the first step towards a better answer. x

Haffinity

Sincerely yours,



G. C. Amstutz
Professor of Geology

GCA:pas

** After I wrote this letter I found the paper by HOLLAND (reference enclosed) which may provide an even better answer.*