

February 13, 1952

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Dear Amigo:

Your letter of February 1, 1952, has been received. I had hoped to see you here in Austin these days and to talk these questions over with you.

As to the air space between the last-formed septum and the rear wall of the visceral sac of Nautilus, it seems that shortly after the completion of the last-formed septum there is no air space for a while. Later, a small space is formed which grows with the growth of the animal until the space reaches the size of an airchamber, at which stage another septum is begun. At all times the body of the animal is attached to the shell, and it is unlikely that it could move vertically in any way sufficient to compress or expand the air space for hydrostatic purposes. I think the conditions preclude any such hydrostatic pressure changes in modern Nautilus.

As to cameral deposits, it is clear that these are organic and must be deposited by epithelial tissues. Unfortunately I am not familiar with these ancient forms, so I can hardly make a guess how they were formed. Living Nautilus does not have cameral deposits nor does it have any tissues outside the siphuncle. Possibly a very thin layer of tissue might have been overlooked by those who observed living Nautilus, although that seems highly improbable; but if there were such a thin tissue layer it would have to have nerves and blood vessels. Nerves and blood vessels have been investigated in great detail on living and preserved specimens, but no trace of a supply leading to a cameral tissue outside the siphuncle has been found for either nerves or blood vessels. This double check, I think, is sufficient to preclude any possibility of such a tissue.

If you would draw me some sketches of cameral deposits and give me some pertinent literature references, I could make a stab at the problem.

Teichert spent too little time here unfortunately, but I enjoyed the few days he spent here. We thrashed out the terminology during his visit. Although I believe conch, camera, and truncation should be replaced by shell, chamber, and decollation, I am willing to close these questions. One could argue indefinitely, but time is too valuable for such arguments.

Nautilus* famed in poem and treatise,
By its shell** it floats. How could it do otherwise?

Sincerely,

H. B. Stensel, Geologist

HBS/st

* Also known as camerated Nautilus

**Also known as conch