

SCIENCE NEWS®

The Weekly Newsmagazine of Science

A Science Service Publication
Volume 130, No. 24, December 13, 1986

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Cover: Researchers are gaining new insights into the tremendous cultural advances that occurred in Europe during the late Ice Age. The appearance of anatomically modern humans around 35,000 years ago led to complex types of ornamentation. This necklace, dating to around 11,000 B.C., was found at a French site and contains shells from the Atlantic coast 95 miles away. The four large teeth are of bear and lion. (Photo: R. White)



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Letters

No reason for a navel?

While perusing the letters on dinosaurs (SN: 11/8/86, p.303), I was struck by Carl Panek's letter and Stefi Weisburd's response. Panek had a legitimate question and Weisburd did not address it. The Bakker-Galton theory would answer that dinosaurs (a subclass) are alive and well and very much among us — the chances are that a large number of us had dinosaur eggs with bacon and toast for breakfast! This subclass is the birds (Aves) — and all 9,000 or so species lay eggs.

Of the "post-thecodontic" Dinosauria (Saurischian, Ornithischian and Avian) plus the Pterosaurian line, whether oviparity or viviparity developed, there is no *ipso facto* reason for a navel.

Furthermore, of the viviparous "prethecodontic" species I am acquainted with (boas,

rattlesnakes, guppies, platy's swordtails, etc.), to my knowledge none has a navel. It seems that the thecodont-therapsid split occurred during the Carboniferous. Thus, until fossil evidence demonstrates the contrary, it would seem that only the therapsid-mammalian branch allows for placental-navel development, although it is not universal in occurrence even here.

F. Herbert Fields
Lower Lake, Calif.

Birds hatched from eggs do indeed have navels. The yolk is the source of nourishment before hatching; it is invaded by blood vessels that supply the embryo and is attached via an umbilical cord. In incubator-hatched birds, protruding navels ("outies") can take several days to retract beneath the down if the

temperature is too high. The cord degenerates immediately prior to hatching, as does the yolk, and they are left behind in the shell as a mucus-like fragment. The navel disappears as the bird grows.

Andrea Meyer
Graham, Wash.

When snakes hatch from eggs they drag the remnants of the extra-embryonic membranes around with them until they shrivel and break off. At least until the first shedding of skin, the location on the belly from which these membranes emerged is very evident and could be called a navel. After all, reptiles, birds and mammals are all amniotes whether they hatch from eggs or not.

Anton F. Baarslag
Buffalo, N.Y.

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