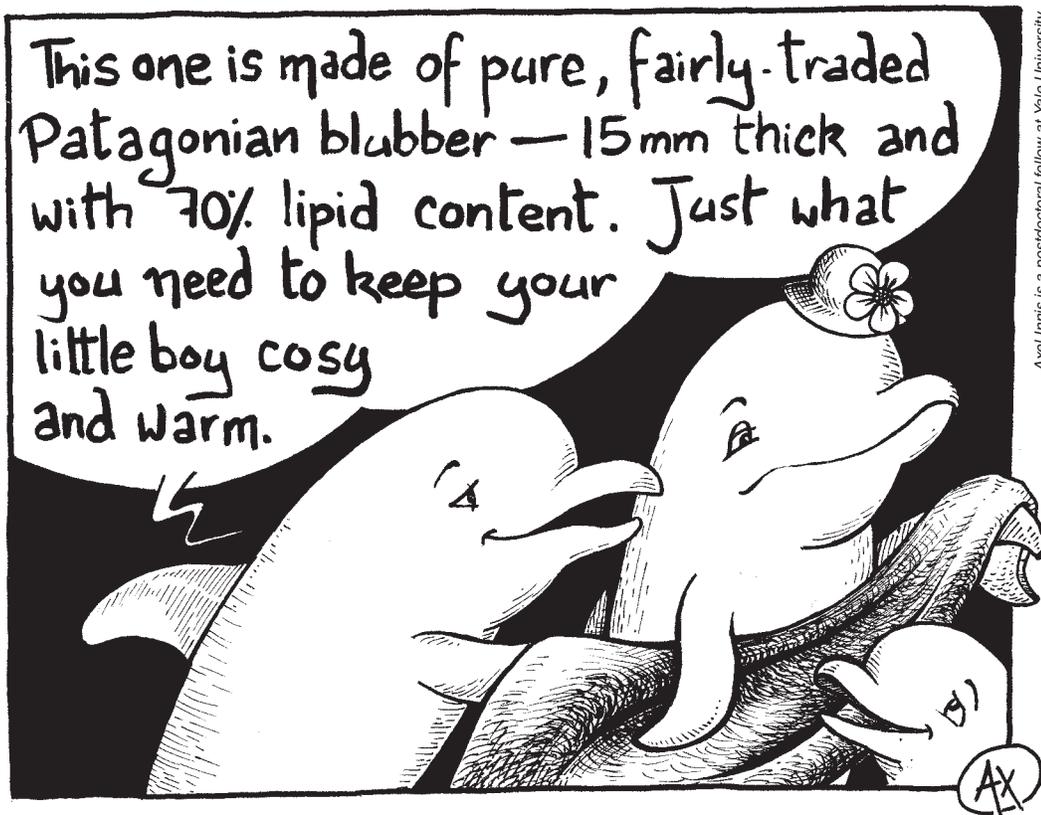


CHUBBY CALVES COMBAT THE COLD



Like us, dolphin infants face the challenge of staying warm after leaving the comfort of the womb. But baby dolphins are much more vulnerable to cold than muffled-up human babies; dolphins are born in water, which conducts heat away from their bodies 25 times faster than air. Suspecting that the youngsters may have special adaptations to combat heat loss, Robin Dunkin and her colleagues at the University of North Carolina at Wilmington wondered whether newborn dolphins' blubber insulates better than that of older dolphins (p. 1469).

The team already knew that the thickness and fat content of Atlantic bottlenose dolphins' blubber changes as the marine mammals grow up, so they set out to see

how this affects blubber's thermal properties. Collecting blubber samples from unfortunate dolphins that had not survived stranding on North Carolina's beaches, the team compared blubber's thermal conductivity (how well heat moves through it) and insulation (how well it limits heat loss) among dolphins of different ages. They discovered a threefold increase in thermal insulation as dolphins developed from a tiny foetus to a plump juvenile, due to a continuous increase in blubber's thickness and fat content over this growth period. Since the calves' blubber layer keeps on growing after birth, the team conclude that newborn blubber is not specially adapted to provide extra insulation. But while dolphin calves reap the thermal benefits of their expanding blubber, adults suffer a decline

in their blubber's fat content. Luckily, this isn't a problem; adults have a thicker blubber layer than calves. Clearly, dining on their mothers' fatty milk allows young dolphins to stay podgy and warm, while adults with their copious amounts of blubber can pare down their blubber's quality and still enjoy the same level of insulation as their babies.

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Dunkin, R. C., McLellan, W. A., Blum, J. E. and Pabst, D. A. (2005). The ontogenetic changes in the thermal properties of Atlantic bottlenose dolphin blubber *Tursiops truncatus*. *J. Exp. Biol.* **208**, 1469-1480.

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