

Re: Shrinking brains in evolution

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- *From:* schnurrbart <QUATERNION19@xxxxxxxxxxxx>
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On May 14, 10:54 am, dkomo <dkomo...@xxxxxxxxxxxx> wrote:

In *_Evolving Brains_*, John Allman mentions that early modern humans had brains that averaged 1450 grams, whereas the average for contemporary humans is about 1300 grams. He opines that this is a result of the "domestication" of humans. The development of agriculture and domestication of animals as sources of food and clothing have served as major buffers against environmental variability.

Reduction in brain size and neuron number have been observed in many domestic animals relative to their wild counterparts. Dogs have brains that are about three quarters the size of the brains of wolves of comparable body size. Humans have assumed the responsibility for providing food and shelter for dogs, and thus the dog's necessity for maintaining a larger brain is decreased. Large brains are also very energy intensive, and so there is a selective advantage in making them smaller.

Another example comes from the comparison of the retinas of European wild cats and domestic cats. Domestic cats have 40% fewer retinal ganglion cells, which relay the input of the retinas to the brain. This major loss of neurons might be produced by programmed cell death in development and linked to domestication.

--dk...@xxxxxxx

Smaller brain size doesn't necessarily correlate with decreased intelligence. After all, on average, women have smaller brains than men but few people today would make the claim that women are on average less intelligent than men. O.k., maybe the former President of Harvard University but few others beside him.