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Evolution of the brain and intelligence

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Intelligence has evolved many times independently among vertebrates. Primates, elephants and cetaceans are assumed to be more intelligent than â€˜lowerâ€™ mammals, the great apes and humans more than monkeys, and humans more than the great apes. Brain properties assumed to be relevant for intelligence are the (absolute or relative) size of the brain, cortex, prefrontal cortex and degree of encephalization. However, factors that correlate better with intelligence are the number of cortical neurons and conduction velocity, as the basis for information-processing capacity. Humans have more cortical neurons than other mammals, although only marginally more than whales and elephants. The outstanding intelligence of humans appears to result from a combination and enhancement of properties found in non-human primates, such as theory of mind, imitation and language, rather than from â€˜uniqueâ€™ properties.

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