Adaptive Memory: Longevity and Learning Intentionality of the Animacy Effect

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Everything that surrounds us can be classified according to its animacy status: animate (living things) or inanimate (nonliving). Natural selection likely favored cognitive systems that prioritize the processing of animates because during evolution animates were (and remain) important stimuli; animates can be, for example, predators, prey, kin or sexual mates. Accordingly, many aspects of human cognition are sensitive to this dimension, including language, reasoning, attention and perception. It has recently been reported that memory is also included in this list: people tend to remember animates better than inanimates, which is known as the animacy effect (Fig. 1). Given the adaptive value of this effect, we hypothesized it would occur independently of intention to memorize information, and both at short and long retention intervals. In our study, participants were presented a list of words that corresponded to animates and inanimates. Roughly half of the participants were instructed to memorize the words for a later memory test (intentional learning); the other half was asked simply to rate the pleasantness of the words and no mention was made of the later memory test (incidental learning). In both groups, some participants were asked to remember the words shortly after the words were presented (immediate condition) whereas others were asked to do so only two days later (delayed condition). As predicted, animates were remembered significantly better than inanimates. Our data also revealed that the animacy effect holds after longer retention intervals and that it is sometimes stronger when learning is incidental than when it is intentional (Fig. 2). Our results add to the growing body of research on the animacy effect and on the adaptive functions of memory. During the development of this study we also created a Portuguese animacy norming database of words, an important resource made available for researchers interested in studying animacy-related phenomena.

FIGURE 1
Everything that surrounds us can be classified according to its animacy status, ranging from being clearly inanimate (nonliving) to animate (living) (see Félix, Pandeirada & Nairne, in press; available at http://evo.psych.purdue.edu/publications/). Adaptively, animates are particularly relevant and impact memory as revealed in our study. ern.

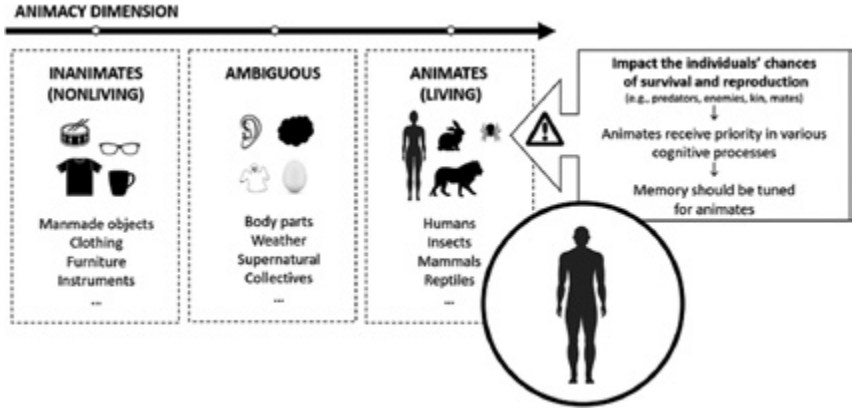

FIGURE 2
Mean proportion of correct recall of animate and inanimate words, in all conditions under study (from Félix, Pandeirada & Nairne, 2019; doi: 10.1080/20445911.2019.1586716). Error bars represent SEM.