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Make animal models more meaningful

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Non-human primates are our most intelligent animal models, but are, paradoxically, the ones most severely deprived of the environmental substrates needed for healthy brain development. For animal models to be biologically relevant, we need to remove the stress of captivity. We must identify and reproduce those aspects of their natural environments that are essential for their well-being.

Research animals need the freedom to explore, problem-solve and overcome challenges. These are not options in a mouse cage that is typically 280,000 times smaller than a mouse's natural range, or 7 million times smaller in the case of a rhesus macaque.

Laboratory caging alters nervous, endocrine and immune functionality. Psychological responses to natural fluctuations in food, shelter and predation are hijacked by uncontrolled artificial stimuli such as experimenter gender, chow phyto-oestrogen content and ultrasonic noise.

Radio telemetry now enables us to record molecular, cellular and physiological changes in roaming animal subjects. These technologies can help us to understand the ecological factors necessary for the animals' welfare and for the biological development that is under study.