

Universal tests of intelligence

March 24 2011



(PhysOrg.com) -- A new intelligence test, which can be taken by any living creature is being developed that will enable comparison of intellect between humans and animals.

Up to now, it has been difficult to determine [intelligence](#) without the assessment being based around a language - which has made it impossible to determine how intelligent a chimpanzee is compared to a human, or a [computer program](#) to a worm.

Associate Professor Dowe, along with Dr. Jose Hernandez-Orallo of the Universitat Politecnica de Valencia in Spain believe that a [universal test of intelligence](#) can be devised that goes beyond the current boundaries of language.

The test would employ the method of operant conditioning, where the test subject has to work out the challenge by trial and error.

For example, if the test were noughts and crosses, the individual taking the test, having never seen the game before, would first have to work out that the game is won by getting three in a row on three-by-three grid, before playing it. Correct responses would be rewarded in a manner appropriate for the user – i.e., money for a human or a banana for a chimpanzee.

Participants undertaking the tests who are performing well get upgraded to a harder test, while those performing badly get downgraded to an easier [test](#), as measured by the principles of algorithmic information theory. This underlies the Minimum Message Length (MML) principle of machine learning, econometrics and statistical and inductive inference.

More information: The paper which sets out the work is currently the most downloaded article in the prestigious A journal, [Artificial Intelligence](#).

Provided by Monash University

Citation: Universal tests of intelligence (2011, March 24) retrieved 25 April 2024 from <https://medicalxpress.com/news/2011-03-universal-intelligence.html>

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