

Friday May 15th 2009

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## Science & Technology

### Psychology

# The crowd within

Jun 26th 2008

From *The Economist* print edition

## A battle of ideas is going on inside your mind

THAT problem solving becomes easier when more minds are put to the task is no more than common sense. But the phenomenon goes further than that. Ask two people to answer a question like "how many windows are there on a London double-decker bus" and average their answers. Their combined guesses will usually be more accurate than if just one person had been asked. Ask a crowd, rather than a pair, and the average is often very close to the truth. The phenomenon was called "the wisdom of crowds" by James Surowiecki, a columnist for the *New Yorker* who wrote a book about it. Now a pair of psychologists have found an intriguing corollary. They have discovered that two guesses made by the same person at different times are also better than one.

That is strange. Until now, psychologists have assumed that when people make a guess, they make the most accurate guess that they can. Ask them to make a second and it should, by definition, be less accurate. If that were true, averaging the first and second guesses should decrease the accuracy. Yet Edward Vul at the Massachusetts Institute of Technology and Harold Pashler at the University of California, San Diego, have revealed in a study just published in *Psychological Science* that the average of first and second guesses is indeed better than either guess on its own.

The two researchers asked 428 people eight questions drawn from the "CIA World Factbook": for example, "What percentage of the world's airports are in the USA?" Half the participants were unexpectedly asked to make a second, different guess immediately after they completed the initial questionnaire. The other half were asked to make a second guess three weeks later.

Dr Vul and Dr Pashler found that in both circumstances the average of the two guesses was better than either guess on its own. They also noticed that the interval between the first and second guesses determined how accurate that average was. Second guesses made immediately improved accuracy by an average of 6.5%; those made after three weeks improved the accuracy by 16%.

Even after three weeks, the result is still only one-third as good as the wisdom of several different people. But that this happens at all raises questions about "individuality" within an individual. If guesses can shift almost at random, where are they coming from?

One answer could be that they are evidence for the "generate and test" model of creative thinking. This suggests that the brain is constantly creating hypotheses about the world and checking them against reality. Those that pass muster are adopted. Guessing the answers to questions you do not know the correct answer to, but have some idea of what the right answer ought to look like, could tap into such a system. A hive mind buzzing with ideas, as it were, but inside a single skull.

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Dr Vul and Dr Pashler's article, "Measuring the Crowd Within: Probabilistic Representations Within Individuals", is published in *Psychological Science*, which also hosts a blog on the subject.

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