

## Rupert Sheldrake and the Objectivity of Science

RICHARD WISEMAN and CAROLINE WATT

Controversial biologist Rupert Sheldrake has recently published surveys suggesting that much of the current research in science may suffer from an important methodological problem that could seriously challenge the validity of many scientific findings. This article sets in motion a project designed to assess the impact of Sheldrake's provocative findings.

Sheldrake (1998a, 1998b) has reported that a substantial proportion of scientists are neglecting to use blind methods. This may result in experimenters' hypotheses becoming self-fulfilling prophecies by biasing the way data is collected, analyzed and interpreted. Psychologists have demonstrated the potential for such effects by carrying out studies in which experimenters primed with different beliefs (e.g., "we

expect people in Group A to have a lower IQ than those in Group B") inadvertently influence their participants and observations in such a way as to make the results of their experiment conform to their initial beliefs (Rosenthal 1976; Rosenthal and Rubin 1978). Such "expectancy effects" may be of enormous importance, rendering the results of an experiment completely worthless. Fortunately, expectancy effects can be reduced by ensuring that studies are carried out by people who are blind to the experimental hypotheses and design.

To discover whether scientists are using sufficient safeguards against possible experimenter effects, Sheldrake recently surveyed more than 1,000 journal articles in both the social and natural sciences. He reports that no experiments

in the physical sciences, and only 0.8 percent in the biological sciences, were conducted blind. Only 4.9 percent of studies of human and animal behavior used blind methods. Sheldrake's survey raises several important questions and, perhaps not surprisingly, provoked considerable controversy (Letters, SKEPTICAL INQUIRER, 1998; Matthews 1998). Are so few studies really conducted blind? If so, are experimenter effects a real problem or do most modern methods eliminate the possibility of such bias? Astonishingly, until now there seems to have been little systematic attempt to answer these important questions.

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*Richard Wiseman is in the Department of Psychology, University of Hertfordshire, U.K. Caroline Watt is in the Department of Psychology, University of Edinburgh.*

We are currently setting up a worldwide initiative involving scientists from many different countries and disciplines to identify areas or techniques that may be susceptible to expectancy effects. Once potentially susceptible areas are identified, we will carry out systematic interdisciplinary research that will examine whether such effects represent a real problem for science. If we discover that expectancy effects are more pervasive than previously thought, science will gain through resulting methodological improvements. If existing methods are not susceptible to experimenter effects, this will provide the previously lacking confirmation and validation of current methods. Either way, science will benefit.

We are now inviting all scientists to suggest areas and techniques that might be susceptible to expectancy effects. We are especially interested in techniques that involve considerable manual handling by experimenters, that involve subjective observations and measurement, or that require substantial training and experience to develop reliable results. We are also interested in hearing from scientists who would like to become involved in testing this important question, for instance by comparing the outcome of blind versus not blind methods in their own research.

Our e-mail addresses:  
Caroline.Watt@ed.ac.uk  
R.Wiseman@herts.ac.uk

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