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Editorial

Social psychology and economics in environmental research

An old saying claims that all roads lead to Rome and in such a case there is obviously no choice of destination. Such has been the state of mainstream economics with regard to human behaviour. As Loasby (1976) explained, choice within complex systems provides the basic subject matter of economics. Thus, what he terms, 'partial ignorance' becomes central to economics because the subject concerns the study of the unintended social repercussions of human actions. Yet mainstream economics has been guilty of removing choice within complexity from the analysis, by assuming perfect information and maximising behaviour. The result is to maintain that all those wayfarers who managed to arrive in Rome did so as a preference in order to maximise their utility. This has limited interesting research as to why some people never reached their destination, and the mainstream explanation has then concentrated upon individual irrationality, defined in terms of failing to match the underlying psychological model implicit in the axioms of choice. Such irrationality is anomalous and therefore can be dismissed. Hence nothing but egoism is easily explained and altruism, habits, addiction, lexicographic preferences, social norms, basic values and fundamental ethical beliefs are among the list of ignored aspects of human psychology.

In order to break through some of these barriers and engage in interdisciplinary debate, funding was obtained from the European Science Foundation for two workshops on Social Psychology and Economics in Environmental Research (SPEER). The word speer is the Scottish verb meaning to ask or inquire and is derived from the old English to seek after or search. The process was quite successful with the workshops generating considerable interest and leading to the current special issue, and an edited volume and policy brief (both in process). A range of issues were covered including the meaning of values, game theory and social dilemmas, attitudes and preferences, crowding out, uncertainty, social identity, the contingent valuation method (CVM), social and ethical norms, and divergence between willingness to pay and accept. The SPEER workshops were founded on the recognition that false inference can easily be drawn from observation due to institutionalised biases and excessive narrowing of the research perspective which occurs within isolated disciplines. As a result the problem of how to describe and deal with a lack of knowledge in the

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sense of partial ignorance opens up a much wider debate. The concept of ignorance raises the idea of an irreducible lack of knowledge which is never removed by research and is in fact endemic to scientific knowledge. As a result partial ignorance is revealed due to events external to an individual's or group's models, disciplinary focus or world view and this can force a change of perspective. Economists inquire into how preferences can be derived from observations of choice behaviour while psychologists study what motivates why people choose. Some economists persist in neglecting what lies behind behaviour but as a result recommend policy options which fail or have the opposite impact to that expected. For example, desired moral behaviour can be crowded out by economic incentives (Frey & Jegen, 2000). Our hope in this special issue is to push a little beyond the accepted ways of thinking about environmental economics by introducing social psychology into the analysis.

Cook, Kerr and Moore open the special issue with a study of attitudes and intentions towards purchasing genetically modified food. This is an area where favourable public preferences are keenly sought by industry and politicians in order to insure future development of the market. A model based on Ajzen's theory of planned behaviour (TPB) is used to investigate potential factors that might influence the intention to purchase GM food. A postal survey of 266 residents of Canterbury, New Zealand, found intended behaviour was significantly determined by self-identity, attitude, subjective norm and perceived behavioural control. The issue is further mapped out in terms of age, gender, prior behaviour and trust in GM companies. The authors conclude with policy recommendations and potential pitfalls of some current proposals such as labelling.

Another food and environment issues is the subject of the article by Bamberg. The behaviour of purchasing organically produced food from a 'bio-shop' was studied amongst a sample of 320 students at the University of Giessen, Germany, who normally purchased non-organically produced food. The study reminds us that intention is one thing, but actual behaviour, while related, is another concept. People may have good intentions but, unless the implementation of these intentions are carefully planned, the preferred behaviour may be conspicuous by its absence. Bamberg shows that forming a specific plan of when to act, called 'intention implementation', can counteract competing habitual behavioural tendencies. Monetary incentives are also investigated and found to lead to increased performance of the test purchase. A combined incentive system is no more effective, suggesting differences between behavioural motives stimulated financially and volitional interventions may overlap rather than be additive. His results indicate that perceived behavioural control, an important factor in the TPB, may play a different role when behaviour rather than intention is the study object. Policy implications include improving frame conditions (distribution and sale systems) for marketing organically produced food.

Consumer behaviour and goal achievement is also the subject of the paper by McCalley and Midden. They are interested in household energy consumption and the possibility of feedback information improving conservation. The study involved 100 members of the public from Eindhoven, The Netherlands, who were divided into four groups to test the importance of self-setting versus assigned goals to reduce energy when using a washing machine. Goal-setting was much more effective than

merely providing information that people could save a given percentage of energy by undertaking an action (lower temperature washing). The authors also found an interaction effect between mode of goal-setting and a personality factor, social orientation. Selfish or egotistically oriented individuals, who are keen to maximise personal benefits, performed much better when they set their own goal rather than when a goal was assigned by the experimenter. Monetary incentives to save energy also appear unimportant as opposed to feedback on actual percentage energy savings. A practical outcome of this work would be to recommend changing appliance design to include energy use feedback and energy saving options.

Thøgersen and Ölander continue the consumer behaviour theme but move the special issue to the values area of research. They investigated how values influence pro-environmental consumption patterns. A large panel data set of randomly selected Danish households was obtained by telephone interview; the sample had over 1000 interviews taken twice over a year. Consumption, like many other every-day behaviours, seems to be guided by habits as discussed by Bamberg. Pro-environmental values might then gain strength without an immediate behavioural change, because habits have been shaped by other values beside pro-environmental ones and old habits persist. The study finds behavioural inertia to have a value related component so that there is a motivational aspect, e.g. universalism which allows for others concerns (e.g. children's needs, visiting relatives) can conflict with benevolence towards nature (e.g. driving a car). However, providing new opportunities for pro-environmental behaviour may change individual behaviour so it becomes more consistent with changing basic values. A previously untested question concerns the causal link between values and behaviour and this study, using panel data, provides the first test of the relationship. The primary conclusion of the study is that the predominant causal influence between basic values and environmentally friendly behaviour goes from values to behaviour in the short to medium term. The practical implication is that education with a long time frame is required to change value priorities which are found to be extremely stable.

The article by Bonaiuto et al. is also concerned with pro-environmental individual and group psychology but this time with respect to attitudes. They investigate the relationship between environmental attitudes and social identity, the latter conceptualised as place attachment and regional identity. Two Italian studies were conducted, one in the vicinity of Gennargentu National Park, sample 115, and the other around Tuscan Archipelago National Park, sample 854. As expected, locals, as compared with non-locals, showed stronger place attachment and identity. However, their attitudes toward natural protected areas in their vicinity were more negative than were those of non-locals. The authors identify an inherent value conflict between economic and environmental interests which shows in the form of locals who perceive their economic activities threatened by national parks.

The final two papers relate to CVM and the problems of framing and information effects that arise in that context. Bonini et al. investigated the effect of framing of willingness to pay for a non-use good. Two Swedish case studies are reported one of 68 students and the other 280 members of the public both from Göteborg. In a high-value frame, respondents were asked to think about another good that was

valuable before they stated their willingness to pay. In a low-value frame stated contributions were preceded by thoughts about a less valuable good. In the former case participants were willing to pay less for the non-use good than in the latter case. The authors suggest that the same amount of money is perceived as more valuable in the high- than in the low-value frame. This effect seems to diminish if people concentrate on their evaluation of the non-use good rather than on the comparison good. The concern for framing and priming effects is discussed in relationship to the potential for bias being introduced and the possible need for qualifying information provided in a CVM survey.

The role of information in CVM surveys is the topic addressed by Spash. He argues for a connection between the impact of information in changing or informing preferences and the fundamental ethical beliefs people hold. A case study of coral reef biodiversity improvement in Jamaica and Curaçao is presented with personal interviews giving sample sizes over 1000 in both cases. This is used to present empirical evidence showing that individuals can have their preferences changed by even a short survey instrument and this is linked to a low initial knowledge level on the specific problem. Rights based beliefs are measured and shown to influence WTP, but also to be strongly associated with categories of impact due to information. Thus a large portion of the sample are found to attribute rights to protection from harm to marine entities and be informed by the survey but not have their preferences changed. People who feel the information supplied has no impact on them tend to have the lowest level of marine rights attribution. Besides the specific results, like the work by Bonini et al., the study shows the importance of understanding the motives behind willingness to pay numbers rather than taking them at face value.

These papers bring together an international set of researchers and show the policy relevance of work on-going around the world in the area of social psychology and economics in environmental research. A range of topics are covered from genetically modified crops and biodiversity to national parks to visiting the local organic shop and doing the washing. The case studies reported here show the importance of understanding what underlies human behaviour in order to design a wide variety of environmental policy instruments. They show that the standard assumptions of economics can easily lead policy astray because of the failure to account for relevant factors. Attitudes, intentions, habits, perceived behavioural control, control of goals, basic values and fundamental ethical beliefs are all present in the explanations offered for human behaviour towards and valuation of the environment. These are needed concepts both in order to move towards better environmental quality by changing behaviour, and in order to understand our environmental values and their role in living a good life as individual and social beings.

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