Helping with enquiries

MARION LLOYD *reports from the Sixth International Investigative Psychology Conference at the University of Liverpool's Centre for Investigative Psychology.*

Investigations

The conference showcased several systems employed for the behavioural analysis and tracking of offenders in ongoing investigations. One such system is the Homicide Investigation and Tracking System (Robert Keppel, Forensic Science International, Seattle), holding details from over 15,000 cases and evaluating critical factors to aid in the investigation of serial violent crime.

Kaeko Yokota and Shoichi Watanabe (National Research Institute of Police Science, Japan) demonstrated a suspect retrieval system for burglars in Tokyo. This database of crime-scene actions derived from more than 100,000 burglaries enables police to prioritise suspects in investigations using probability calculations.

Systems from Europe included an exploratory database for single offender homicides from the Institute for Forensic Research in Krakow and the Violent Crime Analysis Unit at the University of Turin, who are using forensic and criminological bases to construct investigative systems for violent crime.

Andreas Mokros (University of Wuppertal, Germany) and Brent Snook (University of Liverpool) discussed a way of using research findings from an empirical study of German serial killers to provide police with a way of prioritising possible suspects in an investigation. This novel technique included advice on interviewing techniques and investigation structure, rather than just profiling of the likely offender.

Homicide

Several presentations focused on homicide in different settings, suggesting various models to understand offenders' actions. Ideas ranged from new models of crime-scene actions to the application and assessment of existing theories. These included studies of South African serial killers (Brin Hodgkiss, Rhodes University),

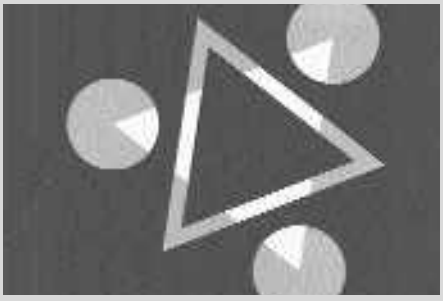
A close look at perception

CAROLYN RICE *and* **PAUL ROGERS** *report on a seminar presented by the Institute for Cultural Research.*

A GATHERING of leading experts addressing perceptions of reality prompted a large audience to pack the Royal Society of Medicine on 17–18 February. Richard Gregory (University of Bristol) demonstrated how visual illusions – such as 'ambiguities' (e.g. Necker cube), 'distortions' (e.g. Ponzo illusion), 'paradoxes' (e.g. double fork) and 'fictions' (e.g. Kaniza square) – provide insight into normal perceptual processing. He presented a powerful case for the view that perception is a creative process that involves the formulation of (not necessarily accurate) hypotheses about the realities of the world through the interaction of sensory inputs and stored knowledge gained through prior experience.

The idea that illusions might underlie superstition was presented by science writer Rita Carter. She outlined how individual differences in perception result from the interaction of 'bottom-up' and 'top-down' processes, and how cognitive factors – emotion, memory and expectation – impact on holistic perceptual experience. When presented with illusions for which there is no rational explanation, we may draw on pre-existing emotional or cultural expectations to cognitively complete the experience.

Being a member of the magic circle provided Richard Wiseman (University of Hertfordshire) with the impetus for his wide-ranging talk 'Conjuring, deception and self-deception'. Proposing that 'good deceivers don't lie, they simply control the situation so you make assumptions', he demonstrated how magicians' illusions involve the manipulation of 'bottom up' and 'top down' cognitions – redirection of attention in space, exploitation of preconceived assumptions and altering audience memories. Filmed experimental evidence illustrated how fake psychics deceive others into believing they have genuine extrasensory perception abilities through the manipulation of the sensory



environment and prior expectations. Finally, issues of self-deception in the scientific field and areas such as political rhetoric and advertising were highlighted.

Moving away from the impact of illusions on perception, Helen Cassaday (University of Nottingham) addressed the ways in which unconscious perceptions drive our lives. Her presentation focused particularly on chemical triggers (odour and taste) which commonly prompt associative memories, but which are difficult to demonstrate under laboratory conditions (due to the idiosyncratic nature of the relationship between trigger and memory). She presented work (including that currently being conducted amongst veterans of the Gulf War) which supported the view that conditioned responses, either in the form of memories or biological reactions, are typically involuntary.

Day two began with Harry Collins (University of Cardiff) arguing that many scientific debates remain unresolved simply because different interest groups often have different perceptions of the same scientific data. By referring to the selective reporting of evidence relating to the classic Michelson–Morley experiment to measure

high-school shootings in America (Ana Brun, Denver) and facets of intra-familial homicide based on special hospital data (Katarina Fritzon, University of Surrey).

Gabrielle Salfati (University of Liverpool) presented a study of the division of homicide characterised by expressive or instrumental actions, with different interpersonal styles reflected in the actions of an offender. Homicides with an expressive theme are characterised by the offender treating the victim as a specific person, which can be seen in the way the body is left. For example, an attack may be more frenzied where the offender is emotionally attached to the victim. This is contrasted with the instrumental theme where murder may be a way to accomplish something such as a theft.

David Canter (with Laurence Alison and Emily Alison, University of Liverpool) presented an empirical test challenging the organised/disorganised dichotomy of serial killers. He suggested the need to use a more scientifically reliable thematic approach to the distinction of serial crimes that does not rely on the classification of such a heterogeneous group of offenders.

Policing crowds

A novel approach to the policing of public demonstrations and crowd actions was outlined in a symposium on public disorder. Steve Reicher and Patrick Cronin (University of St Andrews), Clifford Stott (University of Liverpool) and Nick Drury (University of Sussex) applied an elaborated social identity model to various events researched using participant observation. They suggested that viewing a crowd as a group with legitimate aims, rather than simply as a dangerous mass, could prevent the violence seen at recent European football matches and anti-capitalism demonstrations.

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Offender profiling

Media portrayals of 'offender profilers' are often romanticised and inaccurate. Laurence Alison (University of Liverpool) discussed the evaluation of profiles offered to the police to aid the detection of offenders, demonstrating the ambiguous nature of many statements contained within them. Matthew Smith (Hope University College, Liverpool) developed this further in his presentation of these so-called 'Barnum effects'(where profiles appear unique, but can in fact be applied to many people) in statements about a third party and the beliefs that participants attributed to ambiguous statements.

In an examination of the accounts of psychic detectives, Ciarán O'Keeffe (University of Hertfordshire) addressed their involvement in police investigations. The numerous anecdotal reports of success are often given as proof of the effectiveness of using such people to 'solve'crimes, but O'Keeffe hypothesised that certain techniques of communication convince listeners of high levels of accuracy which do not exist. By viewing interactions between investigators and psychics the reciprocal nature of communication can be seen, whereby the psychic picks up cues from the investigator and adapts his or her reports in the way that fortune tellers do with 'cold-reading'.

Social processes in crime

On the final day of the conference, speakers from the University of Liverpool addressed communication and influence within groups. Paul Taylor outlined a model of communication in crisis negotiations, developed using transcripts of interactions from hostage incidents. Marianne Saether showed how the use of social network analysis could assist in revealing the structure (key individuals and subgroups) of criminal networks involved in fraud and armed robbery in Norway. Louise Porter examined a scale of influence in gang rape, showing how leaders and followers in gangs can be clearly differentiated by the level of involvement within the offence.

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the speed of light, Collins showed how scientific reality is sometimes reconstructed. As a consequence, the public perception of science may be clouded by the erroneous belief that it can provide quick and easy answers when, as is often the case, none exist.

Chris French (Goldsmiths College) presented evidence that ostensibly paranormal experiences – such as extrasensory perception, remote viewing, precognitive dreams, and aspects of out-of-body and near-death experiences – can often be accounted for in terms of 'top-down processing'. He clearly demonstrated how prior expectations can have an astonishing influence on our perceptions of ambiguous stimuli, such as the electronic voice phenomenon (audio recordings which appear to contain spirit voices) and backward masking in music.

Describing randomness as 'God's little joke',Robert Matthews (Aston University) explained how, despite constant exposure to its effects, most of us fail to perceive how randomness operates. This view was amply demonstrated using examples showing how people fall victim to random sequence illusions (misperceiving HTHTHT to be more random than HHHTTT), the birthday paradox (overestimating the number of people required for there to be a 50:50 chance of at least two of them sharing the same birthday), the small world effect (underestimating the number of friends of friends we have), the supermarket queue phenomenon (ignoring longer-term trends) and erroneous beliefs about the National Lottery (that we have any realistic chance of winning!).

Challenging the notion of 'normal' perception, Simon Baron-Cohen (University of Cambridge) proposed that synaesthesia, or cross-modal perception (e.g. hearing colours, seeing sounds), may be more common than once thought. Drawing on case reports,and psychological and neuroimaging studies, Baron-Cohen showed synaesthesia to be a robust phenomenon differing from simple imagination and associative learning that may have a genetic or neurological aetiology.

The conference concluded with Sir Roger Penrose (University of Oxford) demonstrating how quantum mechanical effects are both independent and holistic in character, yet behave as though they are somehow connected. Einstein-Podolsky-Rosen (EPR) effects, he argued, may be key in providing a quantum mechanical explanation of perception for how separate parts of the brain combine to produce a single conscious perception.

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