

A geography of the mind

Think of *National Geographic* and you may think of stunning photography of exotic destinations. Perhaps psychology isn't the first topic that springs to mind. But no location is as exotic and mysterious as the human mind itself, so we shouldn't be surprised to find much of the February 2014 issue devoted to 'the new science of the brain'.

That striking presentation is to the fore, with pull-out posters featuring the work of the Martinos Center for Biomedical Imaging – helmets dotted with sensors, colourful pathways of 100,000 miles of white matter fibres, dozens of pictures of Jennifer Aniston to illustrate that she has her very own neuron in the brain. It's a welcome reminder that the subject matter of psychology can be nicely visual, a realisation that led me to introduce *The Psychologist's* own 'Big picture' format.

Indeed, the very first contribution to 'Big picture', in January 2011, was from social psychologist Steve Reicher (St Andrews). His work with Nick Hopkins (Dundee) and colleagues such as Clifford Stevenson, Sammyh Khan and a team from Allahabad University led by Narayanan Srinivasan gets the suitably beautiful and expansive treatment here too. Aerial photos illustrate how a temporary mega-city springs up on the banks of the Ganges to accommodate the millions of pilgrims flocking to the Kumbh Mela holy festival. The accompanying article, from the excellent science writer Laura Spinney, talks to Reicher and other psychologists such as Mark Levine in order to understand shared identity in crowds.

Another of my science writing heroes, Carl Zimmer, tackles 'secrets of the brain': how 'new technologies are shedding light on biology's greatest unsolved mystery'. Talking to Van Weeden at the Martinos Center, Zimmer is astonished by the grid structure of the brain revealed at high levels of magnification of the pathways. 'It's possible that our thoughts run like streetcars along these white matter tracks as signals travel from one region of the brain to another.' Zimmer does a great job of illustrating the scale of the task facing scientists mapping the brain: virtually re-creating a portion of mouse brain the size of a grain of salt led to a hundred terabytes of data, 'the amount of data in about 25,000 high definition movies'.

Zimmer's 'cross-country reporting to chronicle one of the great scientific revolutions of our times' also illuminates new techniques such as 'Clarity': rendering sections of brain transparent in order to 'untangle the Gordian knot of neural circuits one by one'. 'It's pretty badass', Zimmer hears. Looking to the future, Zimmer says that a paraplegic wearing a brain-machine interface exoskeleton is set to deliver the opening kick at the 2014 World Cup in Brazil. Its inventor, Duke University's Miguel Nicolelis, believes that 'eventually brain implants will become as common as heart implants'.

The issue also contains a lavishly illustrated 'personal geography' from American author, humorist and radio personality Garrison Keillor. Perhaps the whole issue is best viewed as a reminder that geography can be personal and psychological, and I will certainly be dipping into *National Geographic* again.

Reviewed by Jon Sutton who is Managing Editor of *The Psychologist*

Of human bonding



Human Bonding: The Science of Affectional Ties
Cindy Hazan & Mary I. Campa (Eds.)

Cindy Hazan's name might already be familiar to many. A major name in the field of social psychology, it was Hazan (and her co-author Philip Shaver) who wrote the article 'Romantic love conceptualized as an attachment process' in 1987, suggesting for the first time that the concepts of attachment theory could be applied not only to infants and their caregivers, but also to the adult world of romantic relationships. For the past 25 years, Hazan has continued to focus her research on the fields of human mating and relationships, and to develop and teach a 'Human Bonding' course at Cornell University in the US. This book represents the first time that all of the broad topics from that course and Hazan's groundbreaking work are compiled and explained in one volume; an anthology of research into attachment and relationships.

The book is separated into four main sections. The first section explains the foundations of attachment theory and infant development. The second expands this to adulthood, and focuses on couple relationships, or 'pair bonds'. The third section focuses on current and future developments in the world of human relationships, including the effects of the internet. And the fourth and final section

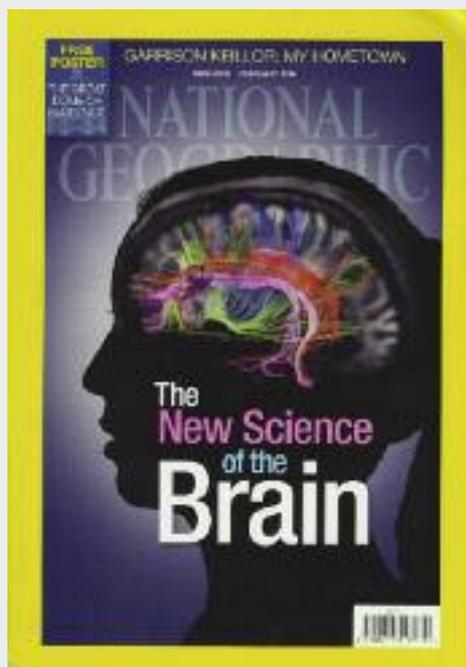


looks at the impact of relationships on a person's psychological and physical health, and what tends to constitute a healthy and successful relationship.

As a systemic marriage and family therapist myself, I focus on relational and social issues with my clients, and attachment theory is at the heart of this work. As a result, I was already familiar with most of this material. Indeed, anyone who has read Dr John Gottman's *Seven Principles of Making Marriage Work*, Dr Sue Johnson's work on emotionally focused therapy, or Helen Fisher's recent research into 'the science of love' will recognise a lot of what is written here. However, for students who are new to the topic, or anyone looking for a good summary of all current attachment theory literature, this is a great resource.

Guilford; 2013; Hb £43.99

Reviewed by Stefan Walters who is a systemic marriage and family therapist



The New Science of the Brain
National Geographic



Psychology and authority

Behind the Shock Machine: The Untold Story of the Notorious Milgram Psychology Experiments

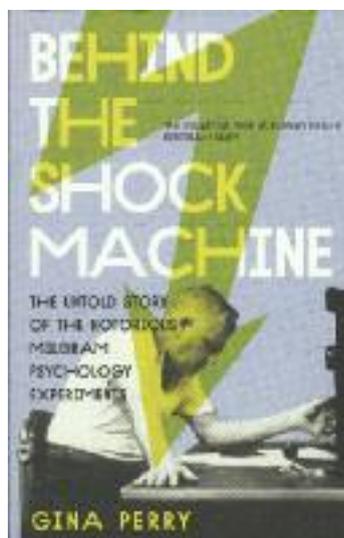
Gina Perry

Gina Perry has given us a compelling, thought-provoking account of her own relationship to the Milgram experiments. Taking in interviews with Milgram's colleagues, several participants in the obedience studies as well as their relatives and a thorough analysis of Milgram's private papers, the work is profoundly unsettling.

Though Perry has written unashamedly from a first-person perspective, she provides an excellent reminder of the periodic and disciplinary context within which Milgram conducted his work. Deception was then commonplace – indeed widespread – and debriefing for participants was far from the standards employed today. Indeed one of the 'shocks' in this book is discovering that many of Milgram's participants left the laboratory still unaware that they had been involved in an elaborate hoax. The full debrief didn't come until much later.

Despite situating Milgram's work (and its ethics) in historical context, Perry is very harsh on him. I found her attempts to exonerate Milgram's would-be torturers, whilst pronouncing

him guilty of effectively promoting torture, as inconsistent and disturbing. Perry is of course right that numerous personal pathways led people to flick the switches on the shock machine. But if truth be told this is also the case for the Eichmanns, Stangls and concentration camp guards of this world. Milgram elected, rightly in my view, to concentrate on what people *did*. This, as Christian Bale's Batman figure remarked, is what defines us. If we humanise and forgive Milgram's participants – we must do the same for the perpetrators of all mass crimes. Perry cannot bring herself to consider this and studiously avoids any wider discussion of the political and historical implications of the obedience experiments. She challenges Milgram's interpretation of his results by asserting that his participants often sought to do what they believed was good e.g. supporting scientific endeavour. In this she is no doubt right, but history is not short of examples whereby evil is enacted in the



name of good – in fact that is the usual case. Hitler, Mussolini, Franco, Pol Pot, Mao, Milosevic, etc. all sincerely claimed that what they were doing was for the greater good. That must never be seen as a viable excuse.

Perry's work is at its strongest when she considers how participation would have affected those participants who were Jewish. This led me to think what the effects on black

and ethnic minority students must be of having mainstream psychological texts put before them continuously asserting the 'truth' of racial differences in intelligence – a topic which to my knowledge has never been researched.

So Perry has put Milgram in the dock – but perhaps the profession should be there with him. We continue to ignore a multitude of questions about obedience – not least the obedience of the discipline to the mores of capitalism and militarism. Psychology's contribution to the security state – the enhanced efficiency of torture and state-sanctioned killing, not to mention the profits of Big Pharma, leave Milgram's sins trailing in their wake. Despite my misgivings about Perry's views, she has provided an intensely human, readable and riveting account. Fifty years after the obedience experiments that is no mean feat. It is a must-read for all in the discipline.

I *Scribe; 2013; Hb £14.99*
Reviewed by Ron Roberts
who is at Kingston University



Talking about the experiences of daily life with chronic anxiety

Woman's Hour
 BBC Radio 4

Anxiety disorders do not get the attention they deserve – according to *Woman's Hour* on BBC Radio 4. A short segment of the programme aired on 28 January attempted to redress the balance by highlighting the reality of living with an anxiety disorder.

Public attitudes towards depression have changed markedly in recent times. A veritable juggernaut of advocacy, publicity and high-profile sufferers has worked hard to bring the 'black dog' out into the public arena, and yet anxiety disorders have been slightly trampled under its wheels, not helped by under-diagnosis and public misperception of what crippling anxiety really 'is'. On this programme, Claire, a long-time sufferer, talked about her experiences of daily life with chronic anxiety.

Professor David Clark, Chair of Experimental Psychology at Oxford University and National Clinical Director for IAPT (Improving Access to Psychological Therapies), offered professional insight into aetiology, prevalence, treatment options and relapse rates.

Claire has suffered from anxiety since her teens, when the 'normal' feelings of teenage insecurity became something else altogether. She explained how troubling somatic and psychological symptoms build up over time and also how inadequate the terminology is in explaining severe anxiety to someone who has never felt it, in the same way that feeling 'sad' has nothing to do with feeling depressed. Both speakers highlighted the fact that extreme anxiety is

easier to mask than many other psychological disorders, whose marked change in functioning make them easier both to spot and diagnose.

Whilst the programme was well intentioned, it missed the opportunity to really illustrate the true nature of the range of pathological anxiety disorders and the high personal and social burden they impose. As a result, presenter Jane Garvey – who was undoubtedly sympathetic – sounded, ultimately, unconvinced.

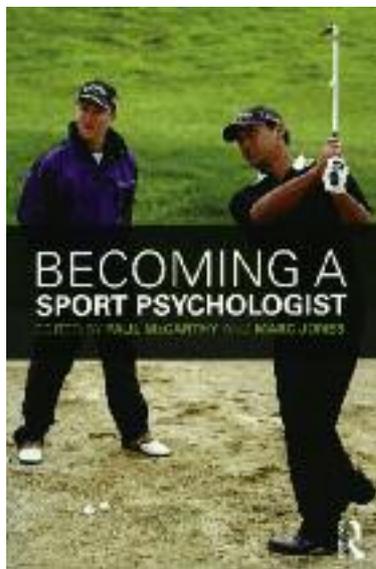
You can listen to the programme at <http://bbc.in/1dQfDNF>

I *Reviewed by Nikki Newhouse who is a researcher with the Health Experiences Research Group, University of Oxford*



Peeking behind the sport psychology curtain

Becoming a Sport Psychologist
Paul McCarthy & Marc Jones (Eds.)



Sport psychology is gaining increased currency in the world of sport and amongst the wider public. Alongside growing research interest into the psychological mechanisms underpinning elite sport, increasing numbers of professionals are now working with athletes and coaches to enhance and improve performance. *Becoming a Sport Psychologist* offers experienced and neophyte practitioners a unique insight into the pathways to practice taken by a range of sport psychologists representing the entire spectrum of the discipline.

The editors rightly describe the routes to becoming a sport psychologist as 'idiosyncratic', and through their categorisation of contributions into six parts highlights areas of similarity amongst professionals' stories the diversity within these stories shines through. Most of the challenges illustrated by experienced practitioners will resonate with neophytes, from difficulties gaining access to clients, to developing philosophies for practice; from navigating professional developmental pathways, to the importance of reflective practice. Given the experience of the contributors, the text will also provide practitioners a resource to continuously consult when new and unusual applied challenges present themselves.

Each chapter of the text provides unique access to the thoughts and actions of well-known sport psychologists, allowing us to peek behind the

curtain and learn about those whose contribution to research and applied literature guides and informs current practice. Such insight helps us better contextualise much of our own reading and applied work, with each chapter challenging us to better reflect on and understand our own practice.

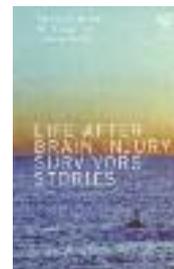
Paul McCarthy and Marc Jones as editors have provided a fantastic resource for current and future sport psychology practitioners. Their passion for the continued development of the profession is clear from the introduction and afterword, and yet it would have been of great interest to read about their own journeys. Perhaps that will feature in a future edition!

I Routledge; 2014; Pb £24.99
Reviewed by Bryan McCann
who is Lecturer in Sport and Exercise Science at Robert Gordon University, and a trainee sport and exercise psychologist

Inspirational stories



Life After Brain Injury: Survivors' Stories
Barbara Wilson, Jill Winegardner & Fiona Ashworth



This book gives a voice to brain injury sufferers, their friends and family, and the professionals who work with them through the rehabilitation process.

From assessment to outcome we get to know 17 fascinating individuals. Each chapter presents not simply a case study but a lived account of brain injury and its impact on life. Accompanied by the therapists' account, each 'story' gives insight into the meaning of brain injury rehabilitation. The book illustrates practical approaches used to help individuals achieve self-directed goals. The authors reflect on factors that may contribute to successful rehabilitation and demonstrate the need for holistic care packages for people with brain injury. From the standpoint of the importance of a therapeutic partnership and person-centred care, Wilson, Winegardner and Ashworth promote the idea that the individual is the expert of their experience – which is reflected in the format of giving personal accounts alongside those of the therapists.

A captivating read, *Life After Brain Injury: Survivors' Stories* would be of particular interest to clinicians and those who are dealing with a brain injury themselves. I found each story inspirational and believe that this book would bring great hope to other survivors.

I Psychology Press; 2013; Pb £28.99
Reviewed by Grace Johnstone *who is a Clinical Health Worker with Curocare in London*



Sculpting black and white encounters

Tom Price Solo Exhibition
Yorkshire Sculpture Park

Sculpture is not necessarily an art form you associate with the psychological. Mind and behaviour tends to require a more dynamic representative form, I would suggest. So pulling off the M1 near Wakefield I was expecting a wander in the 500 acres of parkland followed by a nice cake, rather than any insight into the psyche. Tom Price's exhibition was a welcome surprise.

Price, a British sculptor who lives and works in London, has noted that bronze statues often represent and commemorate people of significance, predominantly white men. This exhibition represents his dual enquiry into his own white British and black Jamaican heritage as well as the identity of the black male in sculpture and

cultural history.

Price's subjects are anonymous, often composite portraits of men in the street or in magazines and newspapers. Cast in bronze and elevated on a plinth, Price raises their status and subverts the tradition of sculpture and the hierarchies of power it reflects. Yet their size and posture suggests vulnerability rather than dominance.

Ultimately it is the psychological encounter which fascinates Price. 'Ultimately people are my biggest inspiration, or perhaps strangers is a better word', he says. 'The psychological and emotional aspects of our first encounters with them and how we construct the truth of what is presented to us in those first moments. How

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Insightful contributions

Bullying in the Workplace, Causes, Symptoms, and Remedies

John Lipinski & Laura M. Crothers

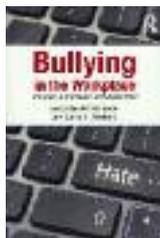
Bullying in the workplace, a concept first introduced by Swiss psychologist Hein Leymann in the 1980s, and in the 1990s in North America by Gary and Ruth Namie, has continued to receive the attention of practitioners, researchers and organisations. Lipinski and Crothers' *Bullying in the Workplace*, an up-to-date book on the subject matter can be considered as an expansion of the ideas in earlier works, including *Bullying and Emotional Abuse in the Workplace: International Perspectives in Research and Practice* (2003) edited by Ståle Einarsen, Helge Hoel, Dieter Zapf and Cary L. Cooper.

Contributions to this book are from experts specialising in the areas of industrial organisational, counselling and educational psychology, management consulting, business management, communications and marketing, and law. This has opened up a wide spectrum of insights and research not seen in previous works. For example, the discussion on modern forms of workplace bullying such as

cyber bullying, how organisations need to create strategies and policies to protect victims and prevent perpetrators from bullying, and the use of selection techniques to identify potential bullies before they step into the workplace. All these allow the reader to see and understand bullying behaviour through a kaleidoscope of varied insights.

Although, this book is insightful, it is ultimately very America-centric. Should the editors decide to print a second edition, they might want to incorporate research done outside the United States. This book will benefit students who want to know more about bullying in the workplace, as well as those who wish to research this topic and practitioners who help organisations and individuals deal with it.

| *Routledge; 2014; Pb £43.99*
Reviewed by Austin Tay who is Founder and Principal Consultant, OmniPsi Consulting



The emotion of affection



CBT to Help Young People with Asperger's Syndrome (Autism Spectrum Disorder) to Understand and Express Affection

Tony Attwood & Michelle Garnett

This book is a complete resource guide focusing on the emotion of affection, which is one of the key areas that people with ASD find challenging. The book includes not only worksheets but also baseline measures; hence it is an excellent resource for conducting group programmes and is also an easy read for professionals who have limited experience of ASD.

The strategies in this book focus more on the feeling and behaviour component of CBT, which is reasonable considering that people with ASD have difficulties with social imagination. The book also includes information about other significant approaches to work with ASD, such as social stories and comic strip conversations. The authors have included quotes from clients and carers, making the writing style engaging and helping the reader to relate to the information better. The book focuses on younger population however; the strategies recommended can be adapted for other age groups.

| *Jessica Kingsley Publishers; 2013; Pb £19.99*
Reviewed by Priya Kalyankar who is an assistant psychologist working in learning disability services in London

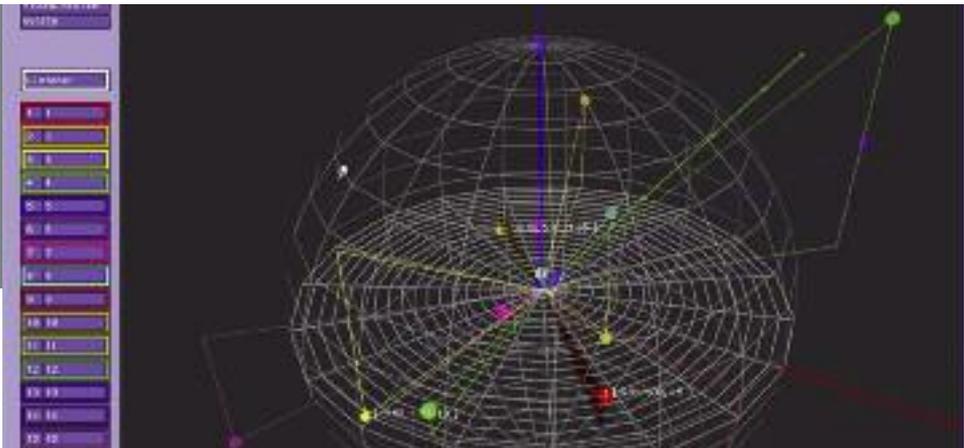
some "truths" seem universal and how others vary from person to person has always fascinated me.'

This is explored further in stop-motion animations, made when Price was at university. These revealed to him the different responses people had to black and white subjects: the subconscious and conscious judgements we form on first meeting someone. The response of the subject themselves is also explored, in a nine-foot tall figure by the lakeside who is engrossed in his mobile phone rather than those around him.

As sculpture develops as an art form, Price shows here that it is possible to use the oldest of materials in a way that still speaks to important contemporary issues, and to the mysteries of the mind.

| *Reviewed by Jon Sutton* who is Managing Editor of *The Psychologist*. The exhibition runs until 27 April. See www.yssp.co.uk for more information.





New adventures in hi-fi

The Peninsula Arts Contemporary Music Festival
Martyn Ware ('Recapture') and Alexis Kirke and Doreen Abbott ('Remember a Day')

The Peninsula Arts Contemporary Music Festival has often explored the relationship between music and memory, with a strong emphasis on using computer music, interactive technology and algorithmic composition. Whilst this year's theme focused on 'Thinking Music', rather than memory *per se*, the first concert of the programme continued this exploration with two new compositions by Martyn Ware ('Recapture') and Alexis Kirke and Doreen Abbott ('Remember a Day').

Performed in the upper reaches of the Sherwell Building (a converted 18th-century Gothic-style church) and using a quadraphonic sound set-up, 'Recapture' used Ware's 3d audioscape software (see picture above, and the interview which follows) to explore the 'notion of how we reminisce' and our 'fondness for memories'. Musical tracks were scrambled, recombined and reconfigured such that fragments of song, phrases and repeated motifs drifted in and out of a bed of woozy sounds and white noise, much like tuning an analogue radio, picking up voices and music from the ether.

The piece really captured the fleeting nature of remembrances, and their sometimes obscure triggers. However, given the low volume levels (no doubt out of Ware's control) and the starkness of the venue it was hard to immerse oneself fully into the experience. The chosen songs also gave the performance an air of sentimentality rather than one of affectionate nostalgia, with a 20s jazz singer, a barber-shop quartet and even the band Air all singing songs of remembrance. Perhaps Ware designed the piece to be deliberately accessible to older members of the general public, but I would have preferred to hear a musical odyssey of tunes that had a more personal significance to him, rather than a selection of tracks that referenced memory in their title or lyrics. So, whilst we were promised, and received, a gentle performance, I would have preferred something louder, more obscure and frankly a little odder.

'Remember a Day' grew out of research that composer Alexis Kirke conducted on using catchy, simple melodies as a rote-learning tool. Working with Doreen Abbott, who has early-stage Alzheimer's, he produced simple compositions to help Doreen learn her daily to-do list and developed algorithms that mapped phone numbers to mobile phone ringtones and melodies to medication regimes. These compositions formed the basis of the evening's performance, with soloist Alison Kettlewell (accompanied by Jane Pirie on cello and conducted by Simon Ible) singing phrases such as 'take a shower', 'walk the dog', to a simple refrain reminiscent of the nursery rhyme 'London's burning', and ending with a performance between singer, cellist and mobile phone. The music was necessarily simplistic in nature and pleasant to the ear, nevertheless there was something unsettling in witnessing an art performance that highlighted Doreen Abbott's daily effort to remember the most mundane of tasks that we all take for granted... take a shower, clean your teeth.

Everyone uses pitch and rhythm as an aid to remembering, which is what makes music such a wonderful medium for exploring memory. This concert provided an occasion to really see the potential of art-science collaborations, where both creative output and research are central to a project, not merely an add-on, and the reason why this festival is always worth visiting.

I Reviewed by Lucy Davies who is from the Cognition Institute at Plymouth University

From illustrious beginnings...

Catherine Loveday (University of Westminster) spoke to **Martyn Ware**, composer and performer of 'Recapture', after the Peninsula Arts Contemporary Music Festival

How did you move from being an 80s pop star, a founding member of bands like The Human League and Heaven 17, to creating a project for people with dementia?

In the late 90s I started getting interested in surround sound. It was getting popular and people were wanting more immersive experiences. At the time I was doing lots of third-party production but the quality was getting worse: lots of boy bands and rubbish pop. And I just thought, you know what, I'd rather re-invent myself and do something that I'm really passionate about. I wanted to rediscover why I was interested in being in the music industry in the first place. So, together with Vince Clarke [Erasure], I formed a company called Illustrious. At about the same time I did some work at the University of York with people who were experimenting with ambisonics. We co-designed a piece of software, now called 3D audioscape, and created a 15-minute experience, which sounded fantastic. So Vince and I decided it would be a good idea to make a whole album of this stuff, and that was when we really realised that this could be the future!

Your work seems to be heavily based on interdisciplinary collaborations. How have these evolved?

The starting point for Illustrious was very much about a combination of art and science and not really believing in the artificial distinction between the two. We started off working with fine artists like Cathy de Monchaux, but we also got some commercial commissions from people like Sony PlayStation, which were very important to us. The last 14 years has very much been about balancing commercial applications with art and research. And not just purely making it sound art, but in how what we do interlocks with different disciplines. There was no masterplan; this has all emerged just through meeting the people we want to collaborate with and having an open mind.

What have you gained from working with people from different disciplines?

Oh, everything. It informs all of my work. Even just talking to these people, let alone working with them, informs the way you consider what you do.

So tell me about the piece you did at the Peninsula Arts Contemporary Music Festival, relating to dementia?

Alexis Kirke was doing a piece about sonic mnemonics, helping people with Alzheimer's to remember their medication for instance, or phone numbers. And he asked me if I would be interested in writing something to be performed on the same night around a similar theme, so I said yes. A large part of what we do has been involved with triggering remembrance anyway. I decided I wanted to take songs that might have an emotional resonance and scramble them around, put them in a blender and see if people could still recognise the DNA. So I started with that idea but it didn't quite work, so we included some longer fragments and used a whole range of processing techniques – fragmentations, blendings, reverbs, stutters – and pulled things in and out of focus so that there were recognisable staging points. I wanted there to be little oases of calm and understanding and rationality in the midst of this confusion because that's the way that Alzheimer's sufferers are. Sometimes they're at peace with themselves and they can make sense of their environment.

So I guess you're working with the idea that in many dementia sufferers their thoughts and own narratives become a bit fragmented and deconstructed?

Exactly. I spent four years with my mother-in-law with dementia so I've seen it firsthand. I know it. I know the horror of it.

I've read that you managed to tame the wild party-goers in Brighton. How did you manage that?!

Ah yes! I've been talking to Lisa Lavia, managing director of the Noise Abatement Society for a couple of years and she's quite a forward-looking woman. She believes that cities aren't going to get any quieter whatever you say or do. But what we're all looking for is a more pleasant experience to live in, particularly in urban areas. The Noise Abatement Society has historically been trying to make everyone quieter and that's not working any more, so now

they're more interested in positive soundscaping. And that is all about acknowledging the sounds around us and finding ways to acoustically beautify the environment. So I got a phone call from Lisa asking if I'd be interested in doing something for the White Nights festival in Brighton. They wanted to locate us on West Street, which is the main street where all the night clubs are. It's madness, it's like a war zone on Friday and Saturday nights – people getting arrested all the time, throwing bottles at each other, fighting. Chaos. They wanted

Street, big PA speakers, two layers, 100 metres long, and we designed a six-hour soundscape, composed of a lot of pieces we had used previously but also altered versions of songs that people would know. It was one of the most surreal experiences of my life, but it was also a complete total success. It was meant to go on till 2am but at midnight the police decided to redeploy their four vans and dogs elsewhere because, in their words, there was no prospect of any trouble. And at 1 o'clock, they said we could switch it off because everyone was completely calm.

Calm but not hypnotised. No one could believe it.

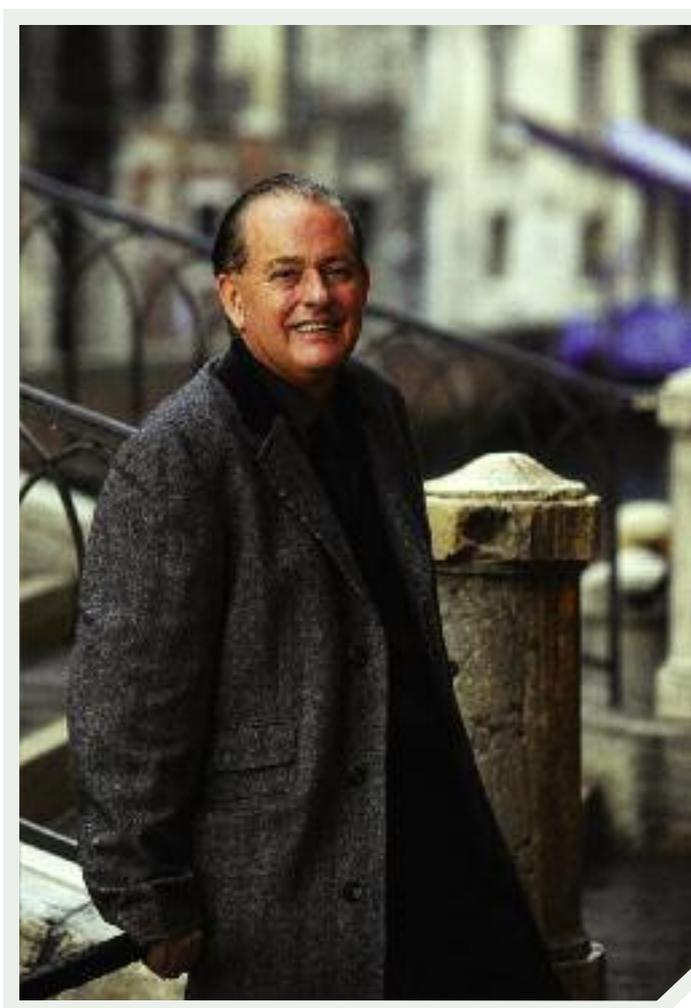
Do you think working in this way and on these projects has changed you as a musician?

Oh totally! I'm unrecognisable. The analogy I use is that working in stereo is trying to squeeze all this music through two toothpaste tubes. When you've been working in three dimensional surround sound for a long while you don't concern yourself with the balance of things in terms of volume and you don't have to process things much. You can leave things pretty much raw. You can leave the original dynamic and spectral content. I always say that its like using organic ingredients for cooking rather than processing it all. The great thing about ambisonics, and our system in particular, is that it sounds very real. It triggers a very lucid sense of reality.

So, do you think 3D immersive sound is a gimmick and a fad?

Oh it's not a fad, no. It's not like 3D film was in the 50s.

There are lots of people experimenting with immersive sound now. I'm certain it will become more popular but it takes time. People just need to experience it. The experience is everything. And I'm definitely very interested in collaborating with scientists and researchers about finding applications for this, so if you have any ideas let me know!



Martyn Ware – see www.illustriouscompany.co.uk and follow him on Twitter @martynware

to see whether we would have an impact on the aggressiveness of the situation. I went and did a recy and to be quite honest it didn't seem that appealing! But I said I would do it on one condition – that I was in a very secure portacabin with a fence round it and guards. And they agreed. So we put in a 3D sound system at one end of West

Scientific and fun

Inside the Animal Mind
BBC Two

'I would give anything to be another animal for just five minutes', admits presenter Chris Packham. We have all wondered what it's like being an animal, and this fascinating three-parter went hunting for answers with a wonderful array of demonstrations.

Under the watchful and creative eye of series consultant Nicola Clayton, Professor of Comparative Cognition in the Department of Psychology at the University of Cambridge, the first episode aimed to find out how animals experience the world in sensory terms. Animal senses define how they think: they are the gateway to the animal mind. Whatever kind of animal you are, you experience the same physical properties of the world. Our five senses are shared with the vast majority of animal species, yet they can be used in some species in ways that are totally foreign to the human mind (e.g. dolphins who can imitate with their eyes covered, using echolocation).

In the course of an extremely engaging hour we met Fern, a 'Sprocker' dog trained to find bodies on the bottom of lakes. In a less gruesome challenge, Fern found a container containing pork meat under 20 feet of water (with a metre of mud thrown in for good measure). We learned that in dogs, each nostril can be controlled separately, and the flow of air is split in order to smell and breathe at the same time.

The sense of smell may also have been at work in a new (for me) take on the

infamous Rupert Sheldrake 'pet telepathy' study. This suggested that the ability reported by many owners of their dog 'knowing' when they set off for home may be explained by the level of their particular scent dropping to a certain level: in other words, dogs are using their senses to gain some representation of an abstract concept such as time.

In episode two, we discovered that bees doing the 'waggle dance' are acting on instinct, with 'no real understanding of what they're doing;' (much like me on the dancefloor). Not that impressive then. So stealing the show were the New Caledonian crows, in particular one known as '007' who solved an eight-stage problem to get food. Nobody likes a show off. Giving the lie to the term 'bird-brained', the crows were joined by Clayton's own jays, some lock-picking cockatoos, and American corvids and their food caching. Birds' large brains, relative to their body size, can apparently imagine the future to plan ahead (see 'Imagining the future: A bird's eye view' in our June 2013 issue). It's a skill that takes humans a while to master: to demonstrate this, Walter Mischel's famous marshmallow study of

delayed gratification got its usual outing, accompanied by suitably 'Kids eh? What are they like?' music.

But if a crow comes up with a good idea, can it pass it on? It seems the New Caledonian crow can, even showing the 'ratchet effect': an increasing sophistication of technology use with successive generations that may be unique to humans and crows. They appear to be a cut above even the smartest of other birds: I wish they all could be New Caledonian.

In the third episode, looking at social animals, Packham asked whether there is something about navigating the hurly burly of complex social relationships that can make the minds of some animals a cut above the rest. The main focus was dolphins, who Packham admitted are easy to romanticise (who doesn't want to parachute with dolphins before they die?). So we heard about bizarre anthropomorphic attempts to teach dolphins human skills, including 1960s California neuroscientist John Lilly, who flooded the ground floor of a house and had his research assistant Margaret share her life with a dolphin, Peter. Unfortunately, Peter became highly sexually aroused by Margaret. Packham informed us, using rather euphemistic air quotes, that Margaret had to 'calm him down' before they could proceed with their 2.5 hours a day of English lessons.

We also heard that dolphins are extremely rare amongst animals in recognising themselves as individuals in a mirror. They are even fascinated by watching themselves in a mirror while copulating. By this point, I was starting to think that if dolphins weren't such randy buggers they might have slipped these earthly bonds, much like in Douglas Adams' *So Long, and Thanks for All the Fish*.

Frivolity aside, the episode included more fascinating demonstrations of self-awareness, empathy and deception, with Packham concluding that the most successful animals may be natural-born liars.

At one point in the final episode, an expert asked: 'Am I wearing my science hat or my "I'm having fun" hat?' Thankfully there was room in this series for both, and I was left sharing Packham's own conclusion: 'It's made me happy.'



Something to crow about



One for the athlete's kitbag

Fitness Behaviour – Carol Dweck
Bevan James Eyles (blog podcast)

Few podcast interviews with world-renowned psychologists finish with the word 'awesome'. Carol Dweck not only takes it in her stride but throughout the interview explains her research and findings accessibly, contextualising her points into the fitness environment for the athletic audience.

Focusing on Dweck's mindset theory the podcast runs through the limitations of having a fixed mindset (focusing on self-esteem, self-judgement and demoralisation after setbacks) contrasting with those holding a growth mindset. She describes these people as taking energy from setbacks and learning from mistakes. She admits an individual's self-esteem will take a hit when they fail – but they repair it by using it as a cue to do something constructive in the future.

Dweck is clear that it is common to have a fixed mindset in some areas and a growth one in others. To develop a growth mindset she suggests questioning your reactions to challenges, engaging with your mind, creating a plan for when you come across your triggers and using self-talk to develop more growth-centred skills and habits. And she explains it so persuasively it is easy to believe her psychology will now be making its way into the kitbag of many athletes.

See tinyurl.com/njbo7ny
Reviewed by Josephine Perry who is an MSc student at Kingston University

Reviewed by Jon Sutton Managing Editor
of *The Psychologist*



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