

Hilary Term 2019



Oxford University
Psychology Society
Magazine

Meet the Committee

Louisa Jagmetti – President

I'm a 3rd year Experimental Psychologist at Corpus. I hope you all have a wonderful term and enjoy all that PsychSoc has to offer. Let us know if you have any suggestions or would like to get involved. I look forward to sharing the psychology joy with you!



Yanakan Logeswaran – Vice President

I'm Yan (3rd year EP at Corpus) and as well as being college pool captain (key), I enjoy taking (bad) photographs, making prints, and listening to music (check out SiR - Something Foreign).



Raymond Ho – Speakers officer

I'm a second year studying Experimental Psychology at the best college – Univ (said no one ever). I enjoy studying information processing, decision making and psychopaths. If you know any psychopaths, bankers or lawyers I will be more than happy to study (hopefully not dissect) them.



Alice Little – Speakers officer

I'm Alice, a second year Experimental Psychologist at Corpus Christi College. As well as helping to organize speakers events, I enjoy playing in the band, Pelican Crossing and looking after our college tortoise, Foxe!



Ankit Ranjan – Treasurer

I'm Ankit, a second year studying Biomedical Science at St John's! Last year I studied Psychology, but I realized neuroscience was my favourite part, and wanted to learn as much of it as possible. Besides neuroscience, I love photography and Spanish literature



Sam Day – Communications Officer

I'm Sam, a second year studying Experimental Psychology at Brasenose. Unlike no-one else ever, I actually enjoy studying Perception. I spend most of my free time following Wycombe Wanderers to all corners of the country, and my favourite song is Ashes to Ashes by David Bowie.



Kasia Rudska – Sponsorship Officer

I am a second year Experimental Psychology student at Wadham College. As sponsorship officer I would say that securing funding is at least as challenging as 9am tutorials. I enjoy travelling, arranging flowers and late-night chats (but not late-night essays).



Ellie English – Social Secretary

I'm a second year studying Experimental Psychology at Univ. My favourite part of the course is Developmental Psychology. When not rowing or talking about how much I row, I enjoy watching musicals and finding an excuse to wear lots of glitter. I also have a slightly peculiar fascination with Beluga Whales.



Jack Rennie – Social Secretary

I'm Jack, a second year studying Psychology & Linguistics at Univ. When I'm not working diligently in the library, I like jamming with friends and listening to music.



Jovana Deden – Editor

I'm in my second year of studying Experimental Psychology at Wadham. Besides editing and putting together your great submissions, I love spending a bit of time rowing and gate-crashing balls as a casino croupier.



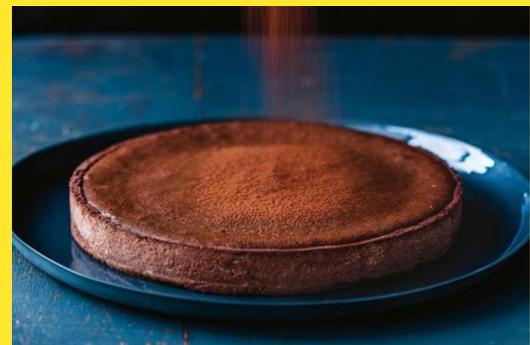
How restaurant designers are maximising the enjoyment you get from eating at your favourite restaurant: The psychology behind restaurant design

Have you ever felt that little spark of happiness as you sit in your favourite restaurant waiting for your 'standard order', which to you is the 'perfect meal'? I certainly have. In fact it just happened to me a short while ago when I accompanied my family to our favourite café in Aachen. Even though I walked in convinced I was full from the lunch we had had just under an hour ago, the second we sat down at one of the tables I felt the indistinguishable need to order my usual: a chocolate tart with a side of a hot chocolate. But why?

Spence and Piguerras-Fizman (2014) write about the "culinary experience", highlighting that the consumption of food, which many might view simply as a mean to stay alive, is a multisensory experience. They argue that the enjoyment that an individual gains from the food that is presented to them originates only to fifty percent from the actual taste of the food. The remaining fifty percent are won through "everything else" as Spence and Piguerras-Fizman (2014) say. This may include the aromas

used to create a 'mouth-watering smell', the sounds used to induce auditory cues for stimulating certain purchasing behaviours and flavour evaluations and precise interior design to encourage a greater appetite in diners. The authors suggest that this discovery of cognitive psychology and the neuroscience of multisensory integration is the key to increasing the enjoyment we gain from food and drink and therefore fundamental to guiding customer behaviour. I dissect a recent "culinary experience" of mine based on smell, sound and spatial perception to test Spence and Piguerras-Fizman's hypothesis.

Most obvious when thinking about the psychology behind the "culinary experience" may be the relationship between smell and the enjoyment gained from consuming the presented food. The majority of researchers seem to agree that smell contributes most of the sensory input leading to the enjoyment of eating and drinking (Spence, 2016). Our sense of smell allows our brain to form flavour expectations concerning the experience of taste as well as how much we enjoy the taste of the item of food before us (Spence, 2016). McAndrew (2017) agrees: He underlines that a focus on engulfing food with a desired aroma can spike food sales up to 300%. Restaurant planners often incorporate open kitchens and in-room food preparations into the restaurant design to ensure diners are exposed to the delicious smell of freshly made goods (Robson, 1999). In my favourite café I quickly become a victim of this psychological trick. The fragrant smell of freshly baked cake and ground coffee beans overwhelms me as I open the door and lures me into ordering a piece of 'perfect' chocolate tart despite feeling fully satisfied by my previous meal. As the waitress sets the plate with chocolate tart in front of me, the sugary aroma lets my mouth water and heightens my anticipation of the experience of the chocolaty mouthfuls. As I start to indulge, a feeling of



(Above) Cafe zum Mohren, Aachen
(Below) One of their delicious chocolate tarts

pure enjoyment spreads inside me as a confirmation that this really is ‘the perfect meal’.

What I do not take note of is that the layout of the café I find myself in has contributed to my craving and enjoyment of the chocolate tart. Robson (1999) underlines the common finding that short-wavelength colours such as red, orange and yellow are highly arousing among individuals from different ages and cultures. The brighter and more saturated the colour the more people find it to be pleasant. Short-wavelength colours also makes food look more appetising, adding to a positive culinary experience. The dim lighting alongside the yellow walls of my favourite café have two psychological impacts that influence my culinary experience. First, the setting provides me with a level of mental arousal that leads to a positive memory construction of consuming food in this space, which motivates me to step into the café in the first place. Once inside the café, the particular room design heightens my craving for the cake by aiding an appetizing perception of the food served.

My experience of the ‘perfect meal’ is manipulated by a further element of targeted multisensory integration. Spence and Piqueras-Fiszman (2014) propose that there is a significant connection between the perception of sound and the culinary experience. Using the exquisite dining experience created by Heston Blumenthal in his Michelin star restaurant “The Fat Duck”, the scholars underline that the sounds that diners are exposed to while consuming their food significantly influences their culinary experience. The level of satisfaction of diners consuming a cold lobster bisque for example increased when they were exposed to the sounds of waves crashing at shore. Robson (1999), who investigated the psychology of design for high-volume restaurants supports this hypothesis by demonstrating that louder soundscapes encouraged diners to consume their food faster without jeopardising the level of satisfaction with the taste of the food served. Thinking back to my culinary experience at my favourite café, I agree with this hypothesis. While the sweet smell of cake and coffee motivated me to place an order for a piece of my favourite chocolate tart, the high level of noise from the conversations of surrounding diners convinced me to leave soon after I had finished my piece of cake and make space of the next customer eager to fulfil their cake craving.

While it may initially seem logical that sensory elements such as design, smell and sound influence my desire to taste the sweet goodness of my favourite chocolate tart, the



(Above) Master of the business: Heston Blumenthal
(Below) Smart colour choices by McDonald's

discussed correlations between restaurant externalities and the taste of food are under significant debate in related academic literature (Spence and Piqueras-Fiszman, 2014). I therefore want to end by highlighting that no final conclusion can be drawn about the relationship between the restaurant surrounding and the diners experience of the food that is served as the scientific research methods used are faulty. The results of food experiments conducted in a lab for example is conditioned to become rather unnatural and carrying out the same experimental design in a real restaurant setting is limited for example by the restaurateurs willingness to cooperate.

References & Additional Reading

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Robson, S. (1999) *The psychology of design for high-volume restaurants*. *Hotel and restaurant administration quarterly*, pp. 56 – 63

Finding harmony in interdisciplinary research

People talk about interdisciplinary research as a new ideal, with many journals, funding bodies, conferences and institutions claiming to promote it. Collaborations between disciplines are thus actively promoted, for promise of increased innovation and insight that they bring (Bridle, Vrieling, Cardillo, Araya, & Hinojosa, 2013). Indeed, often the most interesting research is that which is happening on the boundaries between fields. In many ways, the movement towards increased interdisciplinarity is a movement back to a time when discipline boundaries were less pronounced. After all, there was a time when the sciences were simply a sub-discipline of philosophy, and scientists were far less specialised (Cahan, 2003). However, many are wary of this trend.

For all its promised benefits, interdisciplinary research poses challenges from start to finish. Although research funding bodies may claim to support interdisciplinary research, they consistently overlook it when allocating funds (Bromham, Dinnage, & Hua, 2016), with some considering it to be too risky to fund (Shaw, 2013). Meanwhile, university departments are often protective of their discipline's space within the academy, and may see outside influence as a needless distraction or interference. This makes interdisciplinarity an uncertain prospect for early career researchers who may find themselves an unemployable jack-of-all-trades, lacking the expertise in a single discipline which is required for a traditional department (Byrne, 2014). This may sound daunting, but I would argue that the benefits outweigh the risks, particularly in psychology and the human sciences.

Humans, I think it is fair to say, are complex animals. To understand human behaviour, one needs a broad perspective. The ultimate goal, in some respects, is to integrate our understanding of cellular, neuronal, cognitive, behavioural, social and cultural processes, in order to gain a complete picture of the human animal. This is no small task and, in practice, often only a subset of those levels can be studied simultaneously. Nevertheless, with an interdisciplinary approach, this integration between different domains can at least be attempted.

My own field of music psychology may serve as an interesting case study. It is an inherently interdisciplinary field in which methods from psychology (and, to an increasing degree, neuroscience) are applied to the study of musical behaviour. Topics range from sound perception in musical contexts, to motor coordination in ensemble playing, to



emotional responses to music. This endeavour has led to advancements in music therapy techniques, in education and in the development of catchier tunes. What makes it most interesting is that music psychology research is equally likely to be carried out in a music department or a psychology department; its practitioners may attend either musicology or psychology conferences, or indeed a specialist music psychology conference. It exists between the arts and sciences.

Art and science, one could say, have had a long and difficult relationship. Those in the arts and humanities have often been cautious about scientific encroachment into their territory, with the threat of reducing human experience down to a generalisable theory. The investigation of the visual arts in neuroaesthetics provides such an example, where neuroscientists use art as visual stimuli, but art historians remain sceptical of an analysis that is devoid of historical context. On the other hand, music has long been the subject of scientific investigation and inspiration, since Pythagoras first theorised about musical tuning systems (Barbour, 2004). Why should music be so open to outside enquiry?

The scientific study of music is not new, but I suggest there are two reasons for its success. Firstly, all disciplines comprise of both subject matter and methods, but not in equal amounts. Some disciplines are more grounded in specific methods, while others may focus on a subject, but are methodologically agnostic. Music studies have regularly placed the subject first, while freely borrowing methods from other disciplines. Musicologists may perform a historical analysis of a work or a composer. Ethnomusicologists may use ethnographic methods from anthropology to study culture through music. Musical acoustics, musician's health, and music education will borrow from physics, sports science and developmental psychology respectively. All can easily be found in a music department. Music is a multifaceted and temporal artform, which is difficult to study from one perspective. It is a subject which has historically drawn upon many methods, so the application of methods from psychology and neuroscience has not been particularly controversial.

Some interdisciplinary pairings will inevitably be easier than others. Applying established methods to a different subject is possibly the easiest route to interdisciplinary innovation. My own work has involved studying spontaneous human movement in response to music (dance, as it is more commonly known). This is the subject. In practice, this has meant collecting time-series data through motion capture, that yields large matrices representing the three-dimensional location of multiple points over time. Time-series data is also collected in physics, economics and neuroscience, and the data looks much the same, even if what it represents is different. Consequently, we would often freely borrow statistical techniques which have also been developed in economics (e.g. Granger causality) to our data on dance (C. W. J. Granger, Huang, & Yang, 2000). Funnily enough, it may be more challenging to collaborate between disciplines that share a subject, but differ in their methods. This often seems to be the case in the social sciences, where all disciplines are studying some aspect of human sociality in the broadest sense, but may differ vastly on the methods used – qualitative vs quantitative, for example – and may not be inclined to borrow from the other side of the road.

The second secret to music psychology's success is that, as an academic discipline in its own right, it has fostered a genuine partnership between musicians and psychologists. Indeed, many of its practitioners would identify as both. Endeavours to study art with science may provoke a knee-jerk reaction from artists. Conversely, artists may draw upon science as inspiration for their work, to a response of eye-rolling from scientists as their research is misrepresented. Collaborations are easier when approached with a degree of empathy and understanding from both sides. Even better if both truly appreciate the insights that the other brings. In music psychology, this is made easier by the fact that interdisciplinarity is often embodied within individual researchers.

My favourite pastime while walking around at the European Society for the Cognitive Sciences of Music's triennial conference, was to ask people how they got there. The responses were always interesting, and ranged from the psychologists who also played music, to the musicians who wanted a deeper understanding of their artform. Most researchers there had studied both music and psychology at some point in their careers. They were both. Not only did this make for interesting and wide-ranging conversations, but it also led to some rather fun and spontaneous music making in the breaks.

Having both perspectives is vital to a genuine understanding of how people perceive sound. It's easy to tell when someone has studied auditory perception but no musical training, as they rarely have the vocabulary to describe the phenomenon they study. Music theory has words for describing musical rhythm, pitch, timbre and structure, along with a long history of academic work in trying to understand these concepts, and a researcher ignores this at their own peril. Without the contributions of anatomy and neuroscience towards understanding the function and structure of the human ear, our understanding of musical perception would similarly be all the poorer. Art and science here are used to reinforce and study each other in a genuine and respectful collaboration.

There is much to be gained from interdisciplinarity. Different perspectives bring fresh ideas and new methodological possibilities. Despite the challenges, I believe such endeavours to be worthwhile. The more that researchers demonstrate the value of interdisciplinary research, the easier it may become to justify it in the future. We also shouldn't shy away from challenging the traditional silos within our institutions. Clinging to methods for the sake of tradition is not how to advance a discipline and maintain relevance in a fast-moving world. Good collaborations are those in which all contributors are valued, and not where the research goals of one discipline are imposed upon another. If done well, interdisciplinary work may bring us closer to a more complete understanding of humanity. The only danger being that one might find oneself addicted to broadening one's horizons. With that in mind, I wish you many fruitful collaborations.

By Joshua Bamford
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Looking back: an Interview with Robin Dunbar

Robin Dunbar is an anthropologist, evolutionary psychologist, and a specialist in primate behaviour. He is currently head of the Social and Evolutionary Neuroscience Research Group in the Department of Experimental Psychology at the University of Oxford. He is best known for formulating a staple of pop psychology - **Dunbar's number**, a measurement of the limit of the number of individuals that any one person can maintain stable relationships with. His research is concerned with trying to understand the mechanisms that underpin social bonding in both primates and humans. This has many major implications for organisation of social structures, including the design of social networking sites and mobile technology. Dunbar completed his Bachelor of Arts in Psychology and Philosophy in 1969, after which he went on to complete a PhD on the social organisation of gelada baboons at the psychology department of the University of Bristol. He has worked in psychology and anthropology departments of several Universities including Cambridge University and University College London. We had the privilege of asking Robin Dunbar more about the path that lead him to his current field of research, why he enjoys it and what advice he would give to those going into research.



How did you become interested in studying social structures?

It was an indirect consequence of the Prelims course in Psychology, in those days called comparative psychology. It was taught by the zoologist Nikolaas Tinbergen so it was based completely on ethology and animal behavior, no humans involved at all, and that got me interested in animal behavior. A friend of mine and I wanted to do an expedition with the goal of driving across the Sahara in the summer of our second year and we wanted to do a bit of research in that time in order to fund it. We found someone down at Bristol that was willing to act as a supervisor and we went off and studied baboons in Ethiopia. The original plan of traversing the Sahara eventually fell apart due to logistical difficulties so we ended up doing the research all summer long. It was completely new to me and got me really excited so the following summer after 3rd year we went to west Africa to study baboons over there. It was very hard work; you spend 12 hours a day, 7 days a week crawling around the bush with monkeys at your feet, but it was good fun and I really enjoyed it, so I went off and did a PhD on baboons.

And what made you eventually shift your focus to human behavior?

I shifted to studying humans simply because of the lack of funding for large animal research. I'd just moved to a job at UCL (1988) and I decided that I wasn't going to be able to do any more field work of that kind simply because you couldn't get any funding for it. I didn't want to spend all of my time lecturing so I thought why not do research on humans instead. The people studying primates have always had an interest in human behavior anyways so we thought we could just study the same things in humans that we did on primates like mate choice strategies, parental investment strategies and so on. And the best thing was that now you could just ask them about it! Having worked as a zoologist but with a background in psychology I think like a zoologist but I've got a psychologist's eye to a mechanism, which always leads me to question what is going on within the living thing to produce such behavior. This is where having a philosophy course in Prelims became useful: it taught me to ignore everyone else's interdisciplinary boundaries!

Would you say it is useful then to teach psychology alongside other subjects?

Yes and I kind of regret the deniers of PPP, it is actually a very informative and valuable degree. There was notoriously very little contact between psychologists and philosophers when I did the course and I got some negative reactions to bringing my philosophy knowledge into psychology tutorials because the psychology tutors did not like all this "airy fairy" stuff. But I think having that wider perspective is actually very useful. I came to my degree with history and English A levels and I think it's been very useful not being thrust completely into one field because it helps me step back and wonder how other fields fit into my research.

What is your favorite thing about doing research?

Oh it's just fun! And I think that is because I come at it with a philosopher's perspective: the whole thing is enormously complicated and it involves lots of disciplines. Not only psychology but things like genetics, ecology, history and lots of other areas. I always describe what I do like sitting in front of a huge jigsaw, which is this very complex world and it's trying to fit all these bits together. And for a while you work down in this corner and then you have some collaborations and you work up in the other corner and gradually this picture emerges. This story has taken a better part of 40 years to work out. It's fun to do and it's a mix of so many different approaches to a problem.

There's many different ways to do science: one way is to be a specialist where you spend your entire life on a very small part of the puzzle and figure out the details and become an expert in it. Another way is to be a generalist and try and put the big story together. And I would say I am a generalist.

What is a piece of advice you would give to someone going into research now?

It's very hard, because so much has and is being done. However it's probably not true that it's gotten harder than it used to be. Of course we didn't know as much back then as we do now but still the cutting edge was the cutting edge and it was still difficult to figure out what to do. I think you have to be up for an intellectual challenge, and that is exactly why I like it. It's that kind of challenge that I enjoy. And I think the key to doing successful research is that you have to enjoy it and it has to get you up in the morning. It's the thing you can't wait to get back doing; because it's a grind, it's hard work, it's frustrating, things don't work, you have to rethink everything, so you have to have something that makes it really exciting for you that makes you get back to it all the time. There are always new things to discover, and things come out of the woodwork that in retrospect everyone goes like yeah we knew that why did we never notice it?

Would you say human social behavior is prone to evolution even if many of the theories you have studied have held true across time and species?

It takes a long time to shift things in a big way, sometimes evolution can happen very quickly but usually it's quite slow, it depends on the selection pressure. The biological world is very complicated in that every change is accompanied by benefits on one dimensions and drawbacks on the other, and there is a question always being asked: yes, here is a solution to a problem but do you really want to go down that road and deal with the knock on consequences it has? Is there another solution? And I think you can see this beautifully with the development of the mechanisms of bonding and social interactions in humans. You're constantly hitting a glass ceiling on the size of the social group and until you find a way of breaking through it, by for example having a bonding mechanism that is more efficient by for example bonding more people at a time, you're stuck there. A lot of bonding activities in humans such as dancing, singing, social eating are cultural and they have allowed us to break through that glass ceiling and increase group sizes.

Looking forward: Talks in Hilary Term

Wolfram Schultz



Wolfram Schultz is a Professor in the department of physiology, development and neuroscience at the University of Cambridge. He has published several pieces of research about the biological basis of reward prediction and learning, which have been highly influential in his field. He leads a research group which uses a combination of neurophysiological, imaging and behavioural techniques to investigate the neural correlates of goal-directed behaviour. In investigating these outcome-coding mechanisms they are trying to establish a common biological basis for animal learning theory, microeconomic utility and behavioural ecology. In Oxford Wolfram Schultz will talk about the neuroeconomics of dopamine reward processing.

Gustav Kuhn



Gustav Kuhn is a lecturer and head researcher at the magic lab in the Psychology Department at Goldsmiths University of London. He has contributed to several diverse research areas including social cognition, consciousness and attention. The president of the Science of Magic Association (SOMA) has a special interest in the psychology behind magic, involving the mechanisms of illusory experiences, magical thinking, mind control and misdirection. In his research he aims to use magic to study a wide range of psychological questions. The breadth of his work is not only seen in scientific contributions, but also in his engagement to bring science to the public and bridging the gap between magic and science.

Adrian Raine is a professor in the department of criminology, psychiatry and psychology at the University of Pennsylvania. His primary interest lies in neurocriminology, which is a discipline of criminology which applies neuroscience techniques to probe the causes and cures of crime. He is hence noted for his research on the neurobiological and biosocial causes of antisocial and violent behaviour in children and adults. Besides doing research and writing several books including "The Anatomy of Violence", Raine has spent time working in high-security prisons as a prison psychologist.



Adrian Raine

Participate in psychology research at Oxford!

A great way to get involved in research done in the psychology departments in Oxford is to participate in research projects. Participation can involve a range of things, from completing timed tasks on the computer to having your brain scanned using EEG technology. Participating in a study can give good insight into the methods used to investigate different aspects of human psychology and neurophysiology, and allows you to have direct contact with researchers in varying fields.



Easy access to studies seeking participants can be gained by registering with the following portals, in which studies are clearly displayed and suitable time slots can be booked:

<http://psy-oxford.sona-systems.com/>

<https://opr.sona-systems.com>

Further participant opportunities are displayed on the psychology department's website under the following link:

<https://www.psy.ox.ac.uk/get-involved/participate>

Most studies provide compensation for time and travel.

Find out more about research projects at Oxford

There is lots of amazing and interesting research going on in various psychology related departments in Oxford! For an overview of research groups and a summary of the projects they are working on please follow the link below. Contact information and links to lab specific websites are provided should you have any questions.

<https://www.psy.ox.ac.uk/research>



Feeling inspired? If you're interested in writing for or helping to edit next terms publication, or have any feedback, questions or comments about this issues contents, we are more than happy about any contributions!

Please email jovana.deden@wadham.ox.ac.uk

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