

Evolutionary Special Interest Group of the Royal College of Psychiatrists



Evolutionary Psychiatry Special Interest Group (EPSIG)

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Notes from the editor

In this letter we have a last call for the 3rd International Symposium of the Evolutionary Psychiatry Special Interest Group (EPSIG) which is on Friday 22 March 2019. It's almost your last chance to book, so please use the link below.

Online Booking: <https://rcpsych-mail.com/3S85-H318-2GOCN2-BM77K-1/c.aspx>

We also have a book review by Annie Swanepoel regarding Randolph Nesse's Good reasons for bad feelings. We have an interview with Daniel Nettle on evolutionary issues. He holds a view that evolutionary psychiatry should not be seen as a separate enterprise but part of the whole including school education. It is an important consideration. Finally we have some cartoons of Riadh's radio interview skilfully drawn by the interviewers. The link is also available.

1. Future meeting dates:

The EPSIG 3rd Symposium will take place on 22 March, 2019 at the College (See full program below)



The Evolutionary Psychiatry Special Interest Group is pleased to invite you to their 3rd International Symposium. A fantastic range of speakers will be discussing the latest ideas and research within evolutionary psychiatry, they include:

Human ethology and the understanding of personality disorder
Dr Gerhard Medicus (Austria)

Surviving at the cost of suffering: The mixed blessings of our evolved neuroplastic brains
Dr Haley Peckham (Australia)

Form follows function: An evolutionary model of the structure of psychopathology
Prof Marco Del Giudice (USA)

Can evolutionary thinking shed light on gender diversity: A view from the clinic
Bernadette Wren (UK)

An evolutionary model of depression
Prof Markus Rantala (Finland)

Depression: What (if anything) is it, and what are its evolutionary origins?
Prof Daniel Nettle (UK)

[Download a copy of the full programme.](#)

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Registration is now open and further information can be found on the link below. We have recently experienced some technical issues with our website but these have now been resolved. If you do have any issues booking, then please call us on 020 3701 2615.

Online Booking: <https://rcpsych-mail.com/3S85-H318-2GOCN2-BM77K-1/c.aspx>

Other meetings

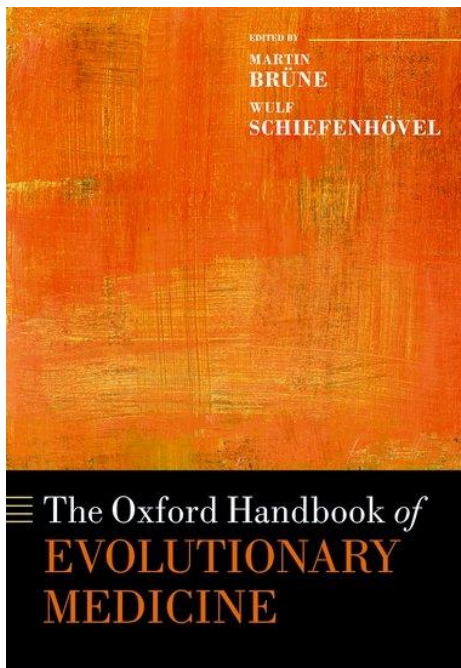
(2) EPSIG AGM and Half-Day Scientific Meeting will take place at the College on 31 May 2019. This will be a Half-Day workshop on 'Evolutionary Perspectives on Suicide' with Clifford A. Soper, PhD as our guest speaker. Details have already been circulated to EPSIG members. Places are limited so early booking is advisable.

Online Booking and Program:

<https://www.rcpsych.ac.uk/events/conferences/detail/2019/05/31/default-calendar/evolutionary-psychiatry-special-interest-group-agm-and-workshop>

The Oxford Handbook of Evolutionary Medicine

Edited by Martin Brüne and Wulf Schiefenhövel



Medicine is grounded in the natural sciences, among which biology stands out with regard to the understanding of human physiology and conditions that cause dysfunction. Ironically though, evolutionary biology is a relatively disregarded field. One reason for this omission is that evolution is deemed a slow process. Indeed, macroanatomical features of our species have changed very little in the last 300,000 years. A more detailed look, however, reveals that novel ecological contingencies, partly in relation to cultural evolution, have brought about subtle changes pertaining to metabolism and immunology, including adaptations to dietary innovations, as well as adaptations to the exposure

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to novel pathogens. Rapid pathogen evolution and evolution of cancer cells cause major problems for the immune system to find adequate responses. In addition, many adaptations to past ecologies have turned into risk factors for somatic disease and psychological disorder in our modern worlds (i.e. mismatch), among which epidemics of autoimmune diseases, cardiovascular diseases, diabetes and obesity, as well as several forms of cancer stand out. In addition, depression, anxiety and other psychiatric conditions add to the list.

The Oxford Handbook of Evolutionary Medicine is a compilation of cutting edge insights into the evolutionary history of ourselves as a species, and how and why our evolved design may convey vulnerability to disease. Written in a classic textbook style emphasising physiology and pathophysiology of all major organ systems, the Oxford Handbook of Evolutionary Medicine will be valuable for students as well as scholars in the fields of medicine, biology, anthropology and psychology. It has a clear structure which makes this volume easily accessible for students and scholars. Also it has over 130 colour images; this book illustrates beautifully the topic of Evolutionary Medicine. With chapters divided into 'General topics' and 'Specific Organ Systems', readers are able to understand both the relevant evolutionary background information and the application to physiological systems.

We hope to publish a review of this important publication in a future newsletter.

Virtual Interview: Our guest is Professor Daniel Nettle, interviewed by Riadh Abed

1. What triggered off your interest in evolutionary theory in relation to psychiatry/psychology?

Well, the interest in evolutionary theory came first. Then, after I had done my PhD, a relative had an unexpected and very serious case of mental illness. This got me to wondering why such phenomena should occur, a fascination that led to my first research on the topic in the early 2000s. I have also suffered (much more mildly) from depression on and off, which has spurred me to ask questions again and again about why low mood might exist, whether there are any redeeming features to its unpleasantness, and why some people seem more vulnerable than others.

2. Why, would you say, is evolution important to the understanding of mental disorder?

Evolutionary theory does two things to your thinking. First, it encourages you to think functionally about humans, like an engineer. It makes you ask: why would this bit (say the immune system) be in a control loop with this bit (say the cognitive system). Why would loading this part of the system have a particular effect on some other part of the system? Engineers would solve this question by thinking about why the designer would have designed it this way. Evolutionists don't exactly think there is a designer of course – instead, they assume, as a starting hypothesis, that if there are systematic linkages between say immune function and cognition, this must be because being set up that way promoted greater survival and reproductive success across environments than the conceivable alternatives.

The second thing evolutionary thinking does for you is make you comparative in your outlook. Once you believe that the human system shares common ancestors and is shaped by common natural

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forces to those of other animals, then you immediately start to see parallels: between sickness behaviour in animals and depression, between hibernation and seasonal affective disorder, and so on. This brings a range of evidence and techniques into play that would not otherwise be.

3. Why have psychiatrists (and medics generally) been slow to embrace evolutionary theory?

I am not sure I agree that they have. I bet if you polled psychiatrists, you would find overwhelming acceptance not just of the fact of our evolution, but of the idea that quite specific things like the glucocorticoid stress system have adaptive functions and are evolutionarily conserved. And many classic psychiatric writings are shot through with the idea that we have an evolved nature, a nature whose needs and goals can be frustrated—think of Bowlby, or Rutter.

Where they have been slower is to accept that evolution has direct relevance in the clinic. You can accept the explanatory relevance of evolutionary theory, and still think that it does not help much with the individual patient in front of you, and I think that's right. Doctors are mainly interested in doing things that work. Why they work, or why the phenomenon they work on exists, is not obviously the prime concern. It's up to us to come up with exceptions to this picture, and use evolution to come up with very specific health-promoting initiatives where the evolutionary thinking is not just a bolt on, but integral to why it works.

4. Is it important to include evolutionary science into the undergraduate and postgraduate curricula and if so what, in your view, would be the best strategy to achieve this end?

I am not sure. I have been teaching evolution in Newcastle (to Psychologists) for many years. My experience is that students like it a lot, but are also prone to misunderstand it. Indeed, I would go so far to say that teaching evolutionary ideas badly or superficially is almost worse than not teaching them at all. There are plenty of folk concepts (good of the species, ancestral nuclear families, etc.) that people tend to fall back on that are not actually very helpful. And the medical curriculum is crowded.

I think my preferred solution would be not so much to introduce evolutionary theory into the undergraduate curriculum, as have evolutionary theory be central to high-school education. At the moment it hardly gets a look in, but I think it is much more fundamental and enlightening for all people (not just future medics) than other things that get plenty of space in the school curriculum. And once you have that toolkit, it could be assumed at the undergraduate level.

5. In your view why are there still no evolutionary psychiatry university departments and no academic journals dedicated to the subject whereas there are many dedicated to evolutionary psychology?

I don't think there should be. I have campaigned unsuccessfully for evolutionary psychology NOT to be considered a distinct branch of psychology. Why? Well if you have a specific branch called 'evolutionary psychology' the implication is that there are other branches that are legitimately not evolutionary. I think human evolution should be so fundamental to the way we think that it would infuse every branch of psychology, not just one minor one. Similarly with journals. I would much prefer that it become normal to test evolutionary hypotheses in the British Journal of Psychiatry and all other psychiatry journals, than see the existence of niche evolutionary psychology journal.

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6. How can evolutionary psychiatry (or the application of evolutionary principles to psychiatry) fend off the accusations of promulgating ‘just so’ stories?

The ‘just so story’ tag is frustrating because it misunderstands how science works. Science always proceeds by coming up with theories or models, then seeing what they predict about the phenomena at hand, then throwing them out or refining them if those predictions are not met. This is just as true of purely mechanistic science as it is of evolutionary biology. We need to educate people that having a story is a good thing, not a bad one, as long as that story is fruitful in terms of making predictions that can be addressed with data—and as long as you are prepared to throw out the story if the predictions are not met. Purely mechanistic work is based on theories and assumptions too—they are often just less explicit.

7. Why have there been so few interventions in psychiatry based on evolutionary science?

So far we have been better at making sense of what works after the fact than we have about generating novel ideas. My personal view is that evolutionary thinking is more likely to produce positive interventions in public health (i.e. prevention) than it is in treatment for people who are already ill. We know a lot about what humans need in order to feel safe and healthy; we should be designing societies in which those resources are available to the maximum possible number of people. You get a bigger well-being effect from population-level interventions than you do from treating people who are already sick (though that is, of course, important).

8. Your work is very wide ranging, includes the study of personality, depression, happiness, the effects of deprivation to name a few. Can you tell us a bit about how your work intersects with psychiatry?

A lot of my work is about how the environment experienced over the course of life relates to outcomes. This is relevant to psychiatry because psychiatric disorders are really just regions on a space of functioning. Understanding sub-clinical unhappiness is extremely relevant to depression, for example. Theories of disorder need to be grounded in an understanding of what mechanisms those disorders are extreme expressions of.

9. What aspect of your evolutionary work are you most proud of?

I’ve managed to get data on wild birds into quite a few medical and social science conference talks. And we have quite seriously investigated the cognitive profiles you see in human anxiety and depression in non-human animals too, which is pretty cool.

10. What advice would you like to offer to your fellow evolutionary psychiatrists?

I think the next revolution is the abandonment of our discrete-disorder nosological framework, and the consequent idea that each ‘disorder’ has a distinct cure. Mental health problems are networks of symptoms. Symptom patterns within what is labelled as the same disorder differ a lot from person to person. The same symptoms show up in what are labelled as different disorders. I doubt broad categories such as ‘schizophrenia’ or ‘depression’ carve nature at its joints. If we thought about the origins and causes of *symptoms*, we might come up with more useful theories.

Good reasons for bad feelings: Randolph Nesse

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Review by Annie Swanepoel.

I would strongly recommend this book to psychiatrists of all grades. This book can help us understand why Psychiatry is different to the rest of medicine and why that should not be the case. The problem is that we don't follow the medical model. We confuse symptoms with disorders. For example, if a patient were to present with abdominal pain, they would not just get a pain killer. The history and examination would attempt to elicit if the pain was due to a gastric ulcer, an ectopic pregnancy or gut obstruction etc and the treatment would be tailored to the cause. Only if no cause was found, would medication be prescribed to just deal with the symptom. Unfortunately, this is often not the case in Psychiatry, particularly in the United States, but also to a certain extent in the UK. Symptoms like anxiety and depression are seen as disorders and treated with antidepressants without the cause being identified or even sought. There is a focus on a checklist of symptoms and diagnoses, which is far removed from the individual experience.

In this very accessible book, Nesse explains how an evolutionary framework can be to Psychiatry what Physiology is to the rest of Medicine. Evolutionary Science bridges the gap between Neuroscience and the Environment. It helps integrate Biology and Society. It shows us that from the viewpoint of millions of years, environments shaped genes. I quote: *“Clinicians who have an evolutionary framework can take a genuinely medical approach to emotional problems. Instead of assuming that the emotion regulating system is awry, they can, like general physicians, assess whether the severity of the symptoms is proportional to the situation. Instead of assuming that positive emotion is good and negative emotion is bad, they can analyse the appropriateness of an emotion for the situation”*. If we use the medical model for diagnosing and treating physical pain also for treating emotional pain, that would take us a long way into integrating the biological, psychological and social determinants for real people living in the real world. As Nesse states: *“Another contribution of an evolutionary perspective is to integrate psychiatry with the rest of medicine. This so-called “medical model” that prevails in psychiatry relies on reductionist neuroscience in the search for brain causes and drug treatments. This approach is very different from the medical model used by physicians in other specialties who routinely distinguish symptoms from diseases, recognise the utility of symptoms such as pain and fever and look systematically for possible causes”*. *“Painful emotions should be treated the same way pain and cough are treated: first we investigate what may be arousing the symptoms, try to remove any causes, and then, if that is not possible, use all available safe means to relieve suffering”*.

Nesse explains particular examples in detail, for example anxiety being the result of a too sensitive threat-detecting system. This is akin to an oversensitive fire-alarm, that gives false alarms, yet is essential due to the small but very serious risk of fire. Nesse explains one possible reason for depression being widespread, is that it occurs when we desire, but are unable to reach, a particular goal and cannot let go. A third example is that obesity results from a mismatch of being adapted through millions of years to survive with limited calories and then suddenly having access to lots of cheap high-calorie food. This is termed a mismatch.

An evolutionary framework can help psychiatrists understand their patients in new ways and this will help decrease shame and guilt. The sad truth is that natural selection selects for survival and procreation and not for happiness. Survival at great cost to our wellbeing is better than the alternative (from an evolutionary point of view). Understanding this can help reduce shame and blame in our patients.

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The book contains many interesting ways of conceptualising and thinking about the spectrum of psychiatric disorders and I particularly enjoyed the numerous case vignettes. It is well written in a conversational style and thus also accessible to lay people. Many sufferers of mental disorders would also find lots to think about in this book. However, I believe that this book could have the biggest impact on the discipline of Psychiatry and helping us and others understand the vast complexity that our specialty deals with and pointing us towards a framework that can help us understand it better.

Audio Interview with Dr R Abed

Michael Cordesselo and Caleb Grossman are 2 medical students studying at McMaster University in Canada. They have started a twitter account called Evolutionary Medicine News @EvolutionaryMD. They aim to disseminate evolutionary thinking and research in all medical fields including psychiatry. They contacted Riadh Abed requesting an interview to discuss his evolutionary work and the work of EPSIG and this was conducted on the phone in November.

They subsequently broadcast the interview as a podcast and produced a summary of it in a clever little cartoon strip (reprinted with permission below). Clearly, Michael, Caleb and their colleagues are quite talented and innovative and we wish them well in their future medical careers.

We at EPSIG would recommend their twitter account to anyone interested in evolution and medicine.

Link to the podcast: <https://t.co/DljpYkuz0q>

TOPICS IN EVOLUTIONARY MEDICINE :

EVOLUTIONARY PSYCHIATRY

A snippet from
our latest
podcast with
Dr. Riadh Abed



MEMBERS OF THE TEAM:

MICHAELE CORDESSELO



CALEB GROSSMAN



This is Dr. Riadh Abed.
He is a consultant psychiatrist
with 35 years of experience
in mental health with the
National Health Service in the
UK. He is a current member
of the Mental Health
Tribunals in England.
Dr. Abed has an interest in
evolutionary thinking and
how it relates to
psychiatry.

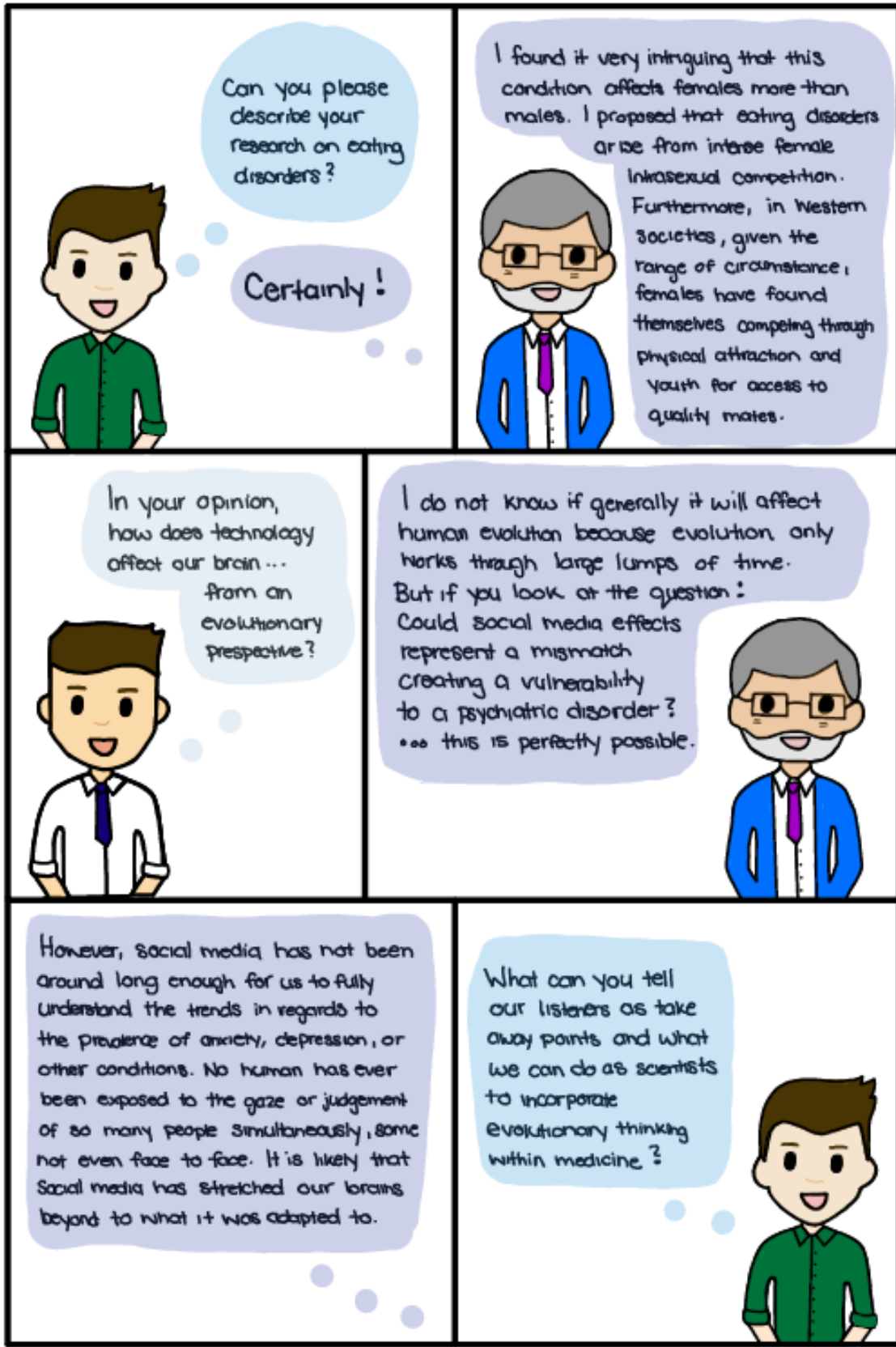


What is
evolutionary
psychiatry?

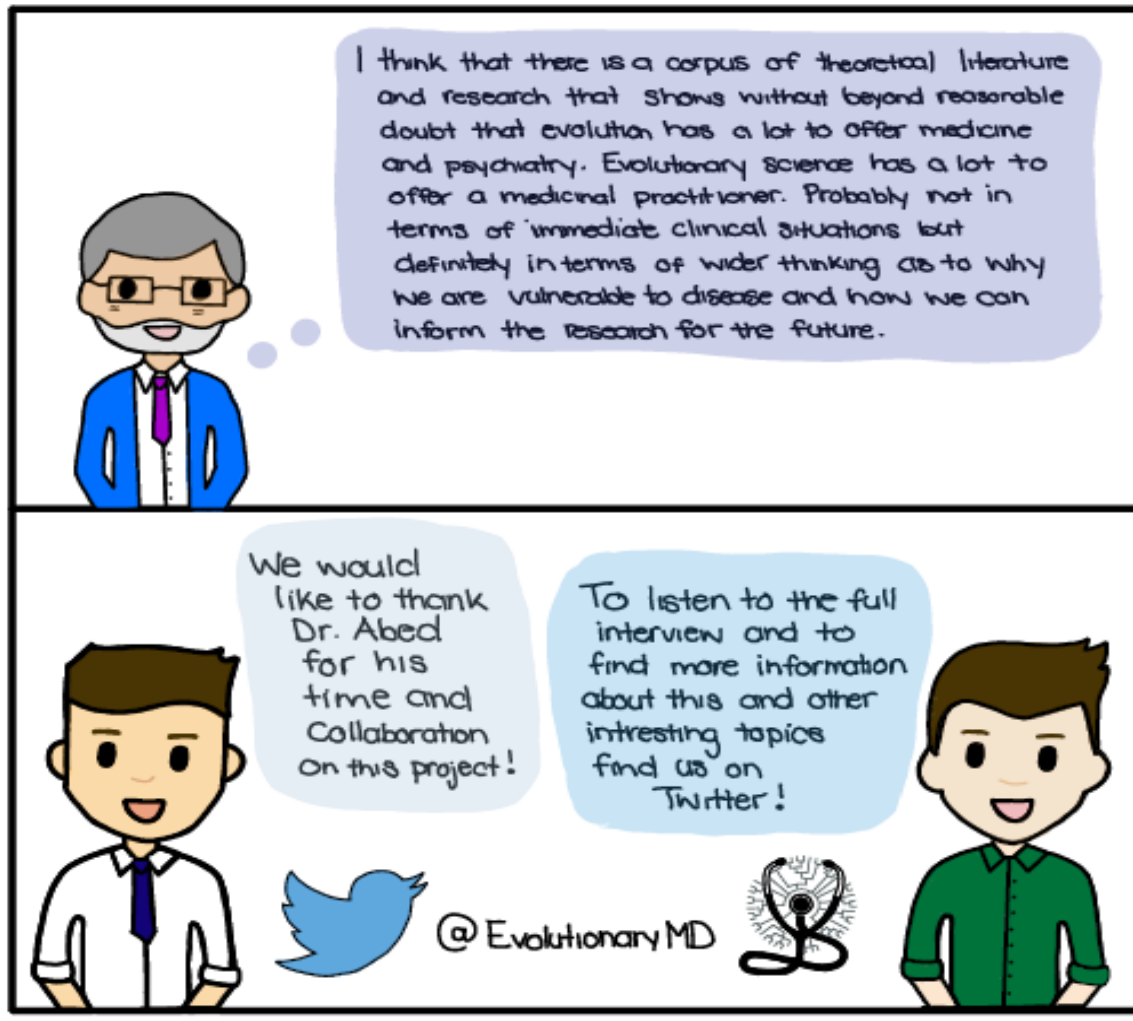


Evolutionary psychiatry is more of a
misnomer because it is not a separate kind
of psychiatry. It is the application of
evolutionary principles to
psychiatry. In effect, all
psychiatry should be
evolutionary because
human beings are evolved
organisms.





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3rd International Symposium of the Evolutionary Psychiatry Special Interest Group (EPSIG) Friday
22 March 2019

Royal College of Psychiatrists, 21 Prescot Street London E1 8BB

Time	Session
9.00-9.30	Registration, welcome and coffee
9.30-9.35	Welcome Dr Riadh Abed EPSIG Chair
9.35-12.20	Morning Session Chair: Prof George Ikkos
9.35-10.20	Keynote: Human ethology and the understanding of personality disorder Dr Gerhard Medicus (Austria)
10.20-10.35	Q&A
10.35-11.20	Keynote: Surviving at the cost of suffering: The mixed blessings of our

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	evolved neuroplastic brains Dr Haley Peckham (Australia)
11.20-11.35	Q&A
11.35-11.50	Coffee Break
11.50-12.35	Keynote: Form follows function: An evolutionary model of the structure of psychopathology Prof Marco Del Giudice (USA)
12.35-12.50	Q&A
12.50-13.45	Lunch
13.45-17.30	Afternoon Session Chair: Dr Paul St John-Smith
13.45-14.30	Keynote: Can evolutionary thinking shed light on gender diversity: A view from the clinic Bernadette Wren (UK)
14.30-14.45	Q&A
14.45-15.00	Coffee Break
15.00-15.45	Keynote: An evolutionary model of depression Prof Markus Rantala (Finland)
15.45-16.00	Q&A
16.00-16.45	Keynote: Depression: What (if anything) is it, and what are its evolutionary origins? Prof Daniel Nettle (UK)
16.45-17.00	Q&A
17.00-17.30	General Discussion and Close

The conference dinner will be at 19.00. This will need to be booked separately. Further details can be found on the online booking link.

Resources and EPSIG Website The link to the EPSIG web pages that contain a range of resources is below:

<http://www.rcpsych.ac.uk/workinpsychiatry/specialinterestgroups/evolutionarypsychiatry.aspx>

Articles for the newsletter We welcome submissions for future newsletters in the form of articles, reviews and interviews. Correspondence: Replies, suggestions and clarifications on articles are welcomed and may be printed/included in our next newsletter. Also, we welcome brief reviews of seminal articles where there is an evolutionary or other relevant conceptual angle (please include the weblink if the article is open access).

Please send any submissions to me at: - paulstjohnsmith@hotmail.com