

Evolutionary Special Interest Group of the Royal College of Psychiatrists



Evolutionary Psychiatry (EPSiG)



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The new EPSiG.

Finally we got there! 156 years after “On the Origin of Species...” we have an evolutionary psychiatry special interest group (EPSiG.) of the Royal college of Psychiatrists. On January 12th 2016 we met at the college braving the wet cold January weather and the junior Drs’ strike. Sadly that meant there were a number of apologies, but we were there! Thank you everyone who emailed their interest to get us accepted and those who attended.

We duly elected a chairman, Riadh Abed, a treasurer Agnes Ayton and I was put forward as editor of the newsletter and website. Now, from being an isolated cerebral activity, we have a group to exchange ideas, papers, books and even more important work together to get the ideas disseminated and research performed. This EPSiG follows on from the formation of the WPA Evolutionary Psychiatry section set up by John Price and Dan Wilson in September 2013. Permanent officers were then elected for the WPA Evolutionary Psychiatry Section at the Madrid conference in 2014. This venture encourages many international colleagues to collaborate on a range of fine presentations on evolutionary psychiatric topics at international venues.

We were especially pleased to hear of a paper published this very month in *Advances in Psychiatric Treatment*: - How evolution can help us understand child development and behaviour by Swanepoel, A., Sieff, D. F., Music, G., Launer, J., Reiss, M., Wren, B. , 22, 36 - 43. We look forward to reading this. Many of us had already contributed to evolutionary articles and papers and one of the tasks of the group is to collate a reading list and a collection of seminal papers and books on the subject. Although this task is never-ending I hope to put one together soon for the SIG website but all relevant contributions are welcome. It is important to note and watch out for the next article. Riadh and I have recently had an editorial accepted for *BJPsych Bulletin* titled “Evolutionary Psychiatry: A New College

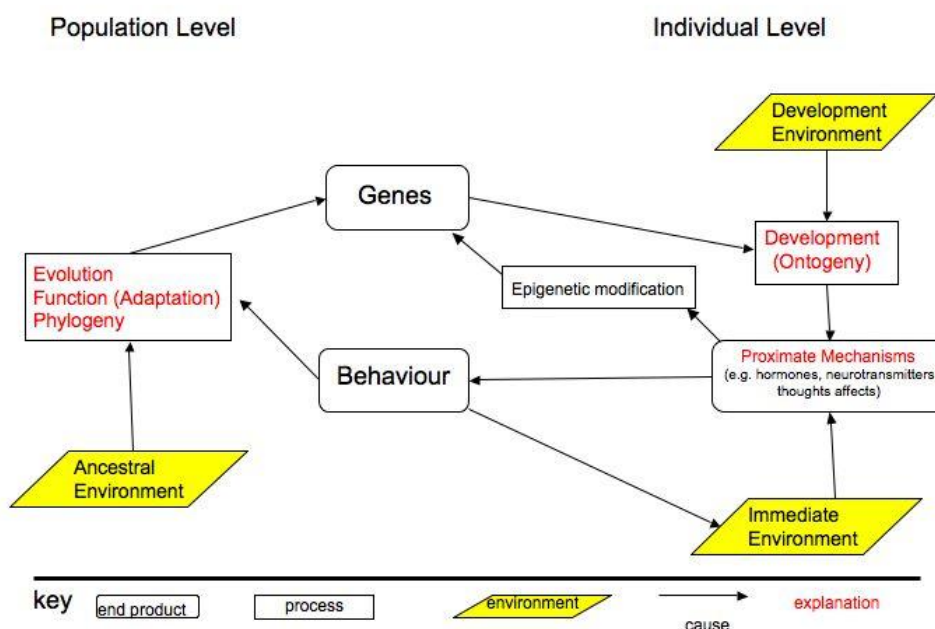
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Special Interest Group” which is due to appear in the next issue. This editorial should help explain the area and some of the ideas generated to date. But (Excuse the obvious pun) we continue to evolve.

As many scientists know, Darwin's book “On the Origin of Species...” introduced the scientific theory now considered fact that populations evolve over the course of generations through a process of natural selection. It presented a body of evidence that the diversity of life arose by common descent through a branching pattern of evolution. However evolutionary science remains an area overlooked in psychiatry and medicine. This newly established college “Evolutionary Psychiatry” special interest group (EPSiG.) aims to reverse this trend by raising the profile of evolutionary thinking among members of the college and others further afield. The article in the Bulletin will provide a brief outline of the importance of the evolutionary approach to both the theory and practice of psychiatry and also for future research.

Why Evolution and why an EPSiG?

Evolutionary science helps resolve a number of current psychiatric issues such as vulnerabilities to disorders as it recognises two categories of causation, the proximate, (mechanism and ontogeny) and the ultimate or evolutionary (phylogenetic and function) . These are reflected in what are known as Tinbergen’s four questions. Proximate causes are the answer to the ‘how’ question and are the primary focus of non-evolutionary science while ultimate causation is the answer to the ‘why’ question. Ultimate or evolutionary causation is a perspective which is unique to evolutionary science and theories of ultimate causation will be compatible with a whole range of proximate causes.



: Explanations of human behaviour: Causal relationships. (Adapted from Tinbergen, 1963)

Mental responses permit humans to modify internal processes and behaviour through the somatic and autonomic nervous systems, endocrine system and immune system. The stimuli for responses are our perceptions of the internal and the external, material and psychosocial environments, now or in the near future, particularly the state of our social interactions,

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which lead us to an affective and cognitive appraisal of the situation. Ultimately this then leads to adaptive, neutral or maladaptive behaviours and internal responses.

Psychiatry has made significant advances in exploring the proximate causes of psychopathology but relatively few studies have addressed evolutionary or ultimate causes of traits or disorders. Evolutionary psychiatry also covers a crucial aspect of psychiatric science connecting the influence of the outside world (Social cultural influences etc) to the internal biology (Mind and brain) and its importance of these interactions in the survival and reproduction for individuals. It reverses the trend of evermore reductionism in understanding the biology of behaviour and psychiatric disorders.

Of course the full significance of natural selection reached mainstream acceptance in the 1930s as part of the modern evolutionary synthesis. During that synthesis biologists and statisticians, like Fisher merged the insights from Darwinian selection with a statistical understanding of Mendelian genetics. However the theory is much more than about genes, (neuro) chemicals or biochemistry. Modern evolutionary theory continues to develop. Darwin's theory of evolution by natural selection has become the unifying theory of the life sciences. The theory explains the diversity of living organisms and their adaptations (Including behaviour) to the environment including the social. Evolutionary theory makes sense of the parallels in embryonic development, the geological record, biogeography, biological homologies, vestigiality, atavisms, cladistics, and phylogenetics. Now, 85 years on, the theory illuminates many of the vulnerabilities to a range of diseases and disorders in medicine, psychology and psychiatry, with unrivalled explanatory power. The general evolutionary processes that may influence vulnerability to disorders are summarised by Gluckman.

Pathways that mediate the influence of evolutionary processes on disease vulnerability (adapted from Gluckman et al, 2009)

- Mismatch: exposure to evolutionarily mismatched or novel environment
- Life History factors
- Excessive defence mechanisms
- Co-evolutionary considerations: losing the arms race against pathogens
- Constraints imposed by evolutionary history
- Sexual Selection and its consequences
- Balancing selection: maintaining an allele that raises disease risk
- Demographic history and its consequences
- Selection favours reproductive success at the expense of health

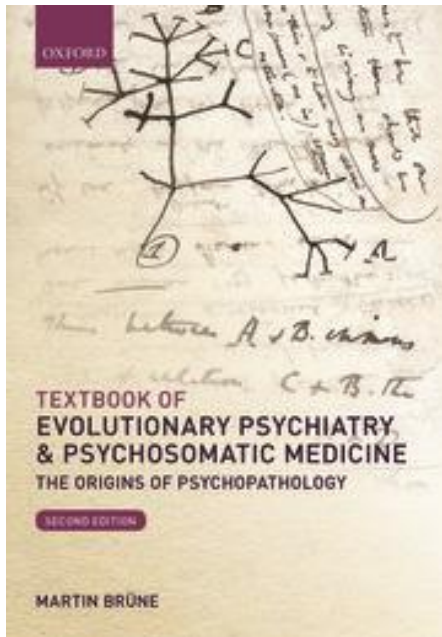
EPSiG was therefore set up to develop dialogue between psychiatrists and hopefully other evolutionary disciplines including evolutionary biologists and even philosophers such as perhaps Daniel Dennett and Nicholas Humphrey, in the belief that such dialogues would be mutually advantageous, both in conceptual and clinical terms. The group will soon hopefully also include people from related disciplines, such as primate biologists, anthropologists, and also closer clinical disciplines such as physicians and psychologists.

A New Textbook of Evolutionary Psychiatry

The second edition of Martin Brune's textbook was published end of December (Brune, M (2015) Textbook of Evolutionary Psychiatry & Psychosomatic Medicine: The Origins of Psychopathology. Oxford). The new edition is a much expanded (450 pages, cover to cover) and updated version of first edition which was published in 2008 and is currently the most

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comprehensive and up to date evolutionary psychiatry text on the market. It is recommended reading for both interested newcomers to the field as well as those more familiar the evolutionary literature.



From the dust cover of the book:

“Psychiatry and psychosomatic medicine are concerned with medical conditions affecting brain, mind, and behaviour in manifold ways. Traditional approaches have focused on a restricted array of potential causes of psychiatric and psychosomatic conditions—including adverse experiences such as trauma, neglect or abuse, genetic vulnerability, and epigenetic regulation of gene expression. Whilst essential for the understanding of mental disorders, these approaches have disregarded important questions such as why the human mind is vulnerable to dysfunction at all.

Textbook of Evolutionary Psychiatry and Psychosomatic Medicine updates and expands on the original Textbook of Evolutionary Psychiatry (OUP, 2008) to provide answers to these questions by emphasizing an evolutionary perspective on psychiatric and psychosomatic conditions. It explains how the human brain/mind has been shaped by natural and sexual selection; why adaptations to environmental conditions in our evolutionary past may nowadays work in suboptimal ways; and how human cognition, emotions, and behaviour can be scientifically framed to improve our understanding of how people try to attain important biosocial goals pertaining to one’s status in society. These include mating, eliciting and providing care, and maintaining rewarding relationships. The Textbook of Evolutionary Psychiatry and Psychosomatic Medicine is a valuable text for all students of Psychology, Medicine, and Psychotherapy who seek an understanding of the evolutionary issues surrounding health and disease”.

Professor Martin Brüne offers a rare and remarkable book. This is not only a single author text of psychiatry but also one with unusual cogency derived from an organizing concept of transcendent breadth, depth, validity and reliability – biosocial evolution. This second edition enlarges and elaborates subjects masterfully introduced in his 2008 first edition.

Evolutionary psychiatry is no longer in its infancy but it is still quite young and this text has already charted the basic features of what will continue to flourish as the only truly integrative and comprehensive framework for psychiatry. This monograph is a tour de force

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by any standard and especially so given its clear expression of complex material, which will be accessible and of interest to professionals, students and even the lay public. Daniel R. Wilson, Dean and Professor of Psychiatry, Neurology and Anthropology at the University of Florida-Jacksonville

Finally, a psychiatry textbook grounded in evolutionary biology! Readers will discover what they have been missing in other textbooks, and future books will follow the trail blazed by this foundational work. Randolph M. Nesse, M.D., Founding Director

We look forward in future months to a full book review of this new work. Eds.

Evolutionary Psychiatry In a hundred words

Evolutionary psychiatry (EP) brings these profound Darwinian “Why” questions to psychiatry’s mechanistic biopsychosocial “How” (does a disorder arise) model. EP re-evaluates psychiatric epidemiology, genetics, biochemistry and psychology, using insights from comparative animal evolution, ethology, palaeo-anthropology, culture, philosophy and other humanities. EP investigates the functions or “purpose” of the mind-brain seeking explanations for persistent heritable traits (syndromes, defences, emotions, cognition and behaviours), shaped by selection (Natural, sexual and social) and other evolutionary processes. EP re-examines traits which produce vulnerability to psychiatric “disorders” from knowledge about their evolutionary history, childhood development, and interaction with modern environments thereby illuminating biopsychosocial causation, prevention and treatments. PSTJ-S

Future SIG meetings

We considered at the inaugural meeting having 2-4 meetings a year. This year, college space permitting, we hope to organise meetings in May and September. With any luck there will not be a doctors’ strike that day!

Resources and Website

The group is aiming to put together a number of resources such as references and links to evolutionary articles podcasts or whatever medium. This is work in progress and will become available on the college website and technology permitting. A draft college website is underway.

Networking

One pivotal aim of the SIG is to network with our clinical colleagues and also bring in interested parties from allied disciplines. We will be exploring how to effectively disseminate these exciting new ideas. This newsletter and the SIG is a start. An email list is a priority. We are also hoping to do some interviews and get opinions from prominent clinicians and researchers in the field of EP. Riadh will be contacting people in due course and the replies printed in the newsletters.

Talks on Why people are interested in EP

At SIG meetings it is suggested that people might like to give their story as to why they are interested in evolution and how they came to the field. Perhaps short talks or presentations at SIG meetings could enable this. Alternatively a paragraph or two in a regular section of these

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newsletters may also be useful for those less inclined to talk but able to put what it means to them in writing.

Getting Evolutionary Psychiatry into mainstream MRCPsych and exams

One aspiration of the SIG is to get Evolutionary Psychiatry ideas into mainstream psychiatry. This is something that we consider a high priority. This involves getting it into the MRCPsych curriculum (Probably paper1) and to have a few questions each exam.

Lectures, Symposia and conferences

We are looking at setting up our own one day conference at the college this autumn. This would be open to members of the college and others interested in the area. Guest speakers and those from related disciplines will be welcome.

Also later this year, the World Congress of Psychiatry (WPA) International Congress 2016 will be held in Cape Town, South Africa in November 18-22, 2016. The World Congress of Psychiatry (WPA) International Congress 2016 will cover topics such as evolutionary psychiatry. We are sending a contingent from Europe.

Lectures

Riadh is giving an EP lecture at the Leicester Secular Society Annual Darwin Lecture 2016: Darwinian Theory: Medicine's Neglected Basic Science.

“Evolution has shaped the human body and mind, yet modern medicine has paid scant attention to this fact. Dr Riadh Abed argues that evolutionary science can provide insights into dysfunction and disorder that cannot otherwise be attained”.

It is at Secular Hall, 75 Humberstone Gate, Leicester LE1 1WB Sunday, 14 February 2016 at 18:30 GMT all are welcome

Minutes January 12th 2016 (Inaugural Meeting) will become available when the website is finalised

Books and Book reviews

In due course we hope SIG members will contribute to at least 1 book review of a relevant book on Evolutionary topics every Newsletter. It may also be worthwhile reviewing some of the past seminal books as part of the reading list. (See reading list at the end).

Articles for the newsletter

Articles (A few hundred words) on evolutionary figures in psychiatry and evolution would be most welcome for each newsletter. Many famous psychiatrists from Freud, through Bowlby to modern writers have appreciated aspects of evolutionary theory and written cogently about the issues. We welcome articles revealing their insights. The history of evolution and its influence on psychiatry is of particular interest. One of our Members Dr Hannah Sheftel is doing a Masters degree and we hope she can share her insights and presentations.

We would also welcome similar articles on Evolutionary topics. Perhaps people could choose a topic of their own interest, such as “Kin Selection” or “Parental Investment” to the more basic science areas as topics such as “Antagonistic pleiotropy” or “Biocultural evolution”. Clinical topics would also be welcome such as De Catanzaro Theory of suicide or

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explaining Randolph Nesse's Smoke detector model in anxiety. Finally for those interested in further reading or just starting out, here is some suggested reading.

Suggested Further Reading

Brune M. 2015. Textbook of Evolutionary Psychiatry & Psychosomatic Medicine: The Origins of Psychopathology. Oxford.

David M. Buss The Handbook of Evolutionary Psychology ISBN: 978-0-471-26403-3

Dunbar, R. (2005) Evolutionary psychology: A Beginner's Guide Oneworld Publications (28 April 2005) Robin Dunbar, Louise Barrett, John Lycett

Dunbar, R. & Barrett, L. (2007) The Oxford Handbook of Evolutionary Psychology. OUP

Glanz and Pearce (June 1989) Exiles from Eden: Psychotherapy from an Evolutionary Perspective

McGuire, M.T. and Troisi, A. (1998) Darwinian Psychiatry. Oxford University Press.

Mithen, S. J. (1996) The prehistory of the mind: a search for the origins of art, religion, and science, London : Thames and Hudson, ©1996

Nesse RM, Williams GC. 1994. Are mental disorders diseases? Why We Get Sick: The New Science of Darwinian Medicine. Vintage Books: New York.

Smith EO. 1999. Evolutionary Medicine, in TrevathanWR, Smith EO,McKenna, JJ (eds). Oxford University Press: New York; 375–405.

Stevens, A. & Price, J. (2000) Evolutionary Psychiatry: A New beginning. London: Routledge.

Happy New Year everyone and well done in initiating this SIG. Eds. Jan 2016