Evolutionary Special Interest Group of the Royal College of Psychiatrists

Evolutionary Psychiatry (EPSiG)

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Notes from the editor

This is our 7th EPSiG newsletter and we are pleased to have the preliminary timetable for our symposium in January 2018. We also have a review on " A Natural History of Human Morality" , Michael Tomasello, 2016, Harvard University Press, reviewd by Riadh Abed

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

There is also a new link to Professor Carmine Pariante's talk from May 2017 on our web pages.

Future SIG meetings

Further dates for meetings were discussed at the AGM in January Future meeting dates include:-

Second Symposium of the Evolutionary Psychiatry Special Interest Group (EPSIG) 12 January 2018

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: Professor George Ikkos**
9.35-10.05	**Evolutionary Models of Mental Disorders (I) ADHD** Dr Annie Swanepoel
10.15-10.30	**Q&A**

10.30-11.20	**Keynote: What Clinicians Can Learn from Evolutionary Psychiatry** Professor Alfonso Troisi
11.20-11.35	**Q&A**
11.35-12.05	**Evolutionary Models of Mental Disorders (II) Eating Disorders** Dr Riadh Abed
12.05-12.20	**Q&A**
12.20-13.20	**Lunch**
13.20-17.00	**Afternoon Session:** **Chair: Dr David Geaney**
13.20-14.10	**Keynote: An Evolutionary Account of Brain Laterality** Dr Iain McGilchrist
14.10-14.25	**Q&A**
14.25-15.15	**Keynote: Life History Theory: A Framework for the Understanding of Personality Disorder** Professor Martin Brüne
15.15-15.30	**Q&A**
15.30-16.00	**Coffee Break**
16.00-16.30	**Evolutionary Models of Mental Disorder (III): The Addictions** Dr Paul St John-Smith
16.30-17.00	**Q&A**
17.00-17.30	**General Discussion and Close**

This symposium is now open for booking. Interested delegates from all disciplines are welcome. Please visit the following link:

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

Brief biography of the keynote speakers:

Martin Brüne, Professor of Psychiatry at the Ruhr University, Germany is an eminent evolutionary scholar and author of the Textbook of Evolutionary Psychiatry and Psychosomatic Medicine, the second edition of which was published in 2015.

Iain McGilchrist, is author of the widely acclaimed 'The Master and his Emissary'. Dr McGilchrist is a former consultant psychiatrist and clinical director at the Bethlem and former fellow at All Souls College, Oxford. He came to medicine from the humanities and seeks to understand the mind and brain by viewing them in the broadest possible context—that of the whole of our physical and spiritual existence, and of the wider human culture in which they arise.

Alfonso Troisi, Professor of Psychiatry, University of Rome is one of the pioneers of the application of evolutionary theory to psychiatry and co-author of 'Darwinian Psychiatry' which is a landmark and foundational text in the field. His book 'The Painted Mind: Evolutionary Behavioral Science Reflected in Great Paintings' was published in 2017.

Future EPSIG events:

- **EPSIG Half-Day Scientific Meeting and AGM (program tbc) Friday 18 May 2018 at the college.**

Minutes of EPSIG Business Meeting

19 May 2017 RCPsych 4-5pm

1. Attendance:
   Mohammed Abbas
   Riadh Abed (Chair)
   Agnes Ayton (Terasurer)
   Andrew Blewett
   David Geaney
   Michael Robinson
   Paul St John-Smith (Newsletter Editor)
2. Apologies:
   Annie Swanepoel
   George Ikkos
3. Planning for Second Evolutionary Psychiatry Symposium 12 January 2018. The 2nd Evolutionary Psychiatry Symposium is planned for 12 January 2018 at the college and we have booked a hall with a capacity for 120 delegates. We already have confirmation from 3 guest speakers: Martin Brune (Germany), Alfonso Troisi (Italy) and Ian McGilchrist (UK). In addition to the keynote speakers we have 3 EPSIG members who have agreed to give short presentations on evolutionary models of mental disorders. However, the idea of inviting another guest speaker to increase the appeal of the symposium was discussed and it was agreed to invite a further keynote speaker. If a fourth keynote is confirmed then the short presentations will be reduced from 3 to 2. We have confirmed a chair for one of the sessions and will be inviting a colleague not at the meeting to chair the second half.

4. EPSIG Newsletter.
   a. Articles
   b. Book reviews
   c. Interviews
   d. Other ideas.

We were informed that Annie Swanepoel had agreed to take up the position of Associate Editor of the newsletter in place of Dan McQueen who has many current commitments and is unable at present to devote the required time to this task.

We were also apprised of the need to canvass for material for the newsletter under the headings above.

5. Future WPA events (email list, elections, future symposia). Those present were briefed regarding the forthcoming elections of the officers (Chair, vice chair and secretary) of the section of evolutionary psychiatry at the WPA and also urged to join the WPA evolutionary psychiatry email list which is moderated by Mohammed Abbas.
6. RSM events. Those present were briefed regarding the forthcoming RSM event (May 2018) which members of EPSIG will be contributing to. Details of the event will be publicised by EPSIG.
7. Curriculum updates. There was no specific developments on this front other than to say that the place where evolution may be added if accepted will most likely be in the Neuroscience module. Also, it was suggested that we should consider submitting an editorial to the Bulletin on this subject.
8. AOB. There were no items under this heading.

Articles for the newsletter

We welcome submissions for future newsletters in the form ofarticles, reviews and interviews. Please send to me at paulstjohnsmith@hotmail.com

Onto the reviews; PSTJS Ed.

Book review:

A Natural History of Human Morality, Michael Tomasello, 2016, Harvard University Press. Reviewer: Riadh Abed

This is a relatively small book (163 pages of text) which, according to the author, is a companion to his previous book 'A Natural History of Human Thinking'. The book expounds the ***Interdependence Hypothesis*** (IH) that attempts to uncover the phylogenetic roots of human morality. Tomasello traces the evolutionary history of human morality over a period of 400,000 years or so. He distinguishes between early humans of 400K years ago, modern

humans of 100K years ago and contemporary humans of the post Neolithic (around 10K years ago).

According to the IH, the roots of human morality arose from human cooperation. Around 400K years ago, as a result of major climatic changes, humans abandoned their solo foraging in favour of cooperative dyadic foraging where a process of partner choice and an interdependent collaborative bond was forged.

This developed into 'obligate interdependency' and led, through a process of social selection, to the shaping of the human moral drive for concern for the welfare of others as, from that point onwards, humans, unlike other great apes could no longer survive through their individual efforts and had no choice but to cooperate with others. This was the case for all vital activities including hunting, foraging and child care (among others).

The important point that Tomasello makes is that this concern for others goes far beyond reciprocity and is distinct from it. Evidence for this includes the sense of satisfaction humans get when another person's needs are met even when this is done by someone else and the so-called 'paternalistic helping' of seriously physically compromised others where help is provided to deal with the immediate danger rather than comply with the other person's wishes.

Also, it is of interest that children are more likely to help others in need if it is part of a collaborative activity and are more likely to help if the other person has been harmed by someone else than if they had not been.

The author describes this phenomenon as 'Smithian Empathy' where humans have the capacity to feel sympathy for another person's misfortune even though they themselves are not feeling bad. Examples, following Adam Smith (1759), include feeling sympathy for a dead or a mentally incapacitated person. This leads to a situation where: 'I fetch him not what he wants but what I would need if I, given my current knowledge, were in his shoes'. This perspective taking, it is argued, is based on the uniquely human sense of self-other equivalence. This is the first and crucial step towards a modern human morality that expands sympathy to include non-kin and non-friends.

The building blocks for human cooperation which lie at the root of human moral systems include: Joint intentionality, second-personal agency and joint commitment. Great apes do not engage in joint attention whereas human infants do. Hence, I and you will produce a 'we';

a concept that does not exist for great apes that provides the basis for the emergence of the moral sense of fairness in humans.

Hence, young pre-literate children but not apes can: form joint goals and joint attention, reverse roles in collaborative activities that shows perspectival knowledge of interchangeability of roles and communicate cooperatively. They also regularly share the spoils of collaborative efforts even when these are readily monopolizable. In addition they share these equally and prefer collaborative over solo foraging even when the returns are identical. Humans are also capable of joint commitment e.g. to continue to collaborate in a joint activity even after receiving the full payoff and no further reward is forthcoming.

These studies show that humans but not the great apes are uniquely biologically adapted to collaboration. Hence, the biological roots of the sense of fairness and the emotion of guilt arise not from a process of strategic reputation management, rather, of socially normative self-regulation. Thus, humans have evolved the ability to apply impartial judgement to non-cooperative acts including condemning one's own acts when they fall short of these internalised norms.

Thus the ***Interdependence Hypothesis*** contends that 'obligate interdependency' has shaped a human moral psychology that resulted in a genuine morality that had as its proximate goal treating others fairly. It will be a real eye opener for many to discover that evolution does not only produce selfish organisms but also those who are genuinely moral.

With the advent of culture, human morality was then scaled up to the cultural in-group. Culture, according to Tomasello, arose as an adaptation for large group living. The success of early humans led to an expanding population which progressively outstripped their (early human) moral psychological resources (designed primarily for dyadic cooperation). Culture therefore arose as a means to manage life in a large group with many strangers and the commitment that arose in early humans within the context of dyadic interactions was up-scaled to collective commitment to the cultural in-group. These moral adaptations arose initially through kin and social selection and finally through cultural group selection (not to be confused with conventional group selection).

Hence, whereas 'early humans made their own joint commitments (with dyadic partners), modern humans had the largest of their collective commitments already made for them in the form of cultural conventions, norms and institutions into which they were born'.

The hypothesis attempts to go further than other existing formulations which primarily or even exclusively explain the Type I moral cognitions (the innate, rapid, emotion-based moral intuitions), to also explain the Type II moral cognitions which are the slower, conscious deliberate process of rational thinking.

Much has been written in the psychology literature about the distinction between moral and conventional rules where moral rules broadly involve rules about harming others. However, according to IH, this distinction is blurred and many conventions take on a moral tone as they relate to respect for others (respect for dyadic partners in early humans and for the cultural community or ingroup in modern humans). Hence, turning up dressed as a clown to a funeral may be considered to be a mere breach of convention but the disrespect this shows to the mourners and to the community norms is such that many would consider such an act to have a moral dimension worthy of sanction and chastisement. According to IH this is an infringement of a group social norm and an abrogation of one's obligation for respect to one's in-group that should normally result in a sense of guilt by the perpetrator.

This is a profoundly important book and although a relatively slim volume it is written in such a condensed manner that skipping a paragraph can lead to losing the thread of the argument. It is testament to the author's great skill and grasp of his subject that he has been able to fit such a wide-ranging evolutionary account as well as a review of the available literature on the subject into such a compact space. The book also presents an optimistic and positive view of human nature while being fully cognizant of the darker side of human psychology. In this reviewer's opinion, this book is one that should be studied carefully rather than skimmed or read quickly. Although the author describes his hypothesis as highly speculative (and it is), he does provide, wherever possible, supporting empirical data for its various components and stages.

Psychiatrists not deeply immersed in anthropology and evolution will find some of the material in this book unfamiliar. However, the effort involved in coming to grips with some novel concepts and terminology is amply rewarded with important insights into fundamental aspects of human nature.

I would argue that this book is relevant to both psychiatrists and psychologists as well as to psychological therapists as it touches on the evolution of many human emotions commonly expressed by our patients such as sympathy, concern, guilt, resentment as well as the senses of commitment, responsibility, loyalty and obligation.

The author's stated objective is ' To provide a very general account to show that genuinely moral beings….. could plausibly have emerged during the course of human natural history without violating any of the basic principles of evolution by means of natural selection'.

It is almost certain that the detail of the evolutionary scenario of the emergence of human morality given here will prove incomplete or even wrong in places but it is the most comprehensive evolutionary account currently available. I would highly recommend it.

Special Article

Naturalism, subjectivism and Evolutionary Psychiatry

By Paul St John-Smith, Annie Swanespoel and Riadh Abed.

The naturalist understands not only that we are not exceptions to natural laws, but that we don't need to be in order to secure any central value (freedom, human rights, morality, moral responsibility) or capacity (reason, empathy, ingenuity, originality). We can positively affirm and celebrate the fact that nature is enough. Indeed, the realization that we are fully natural creatures has profoundly positive effects, increasing our sense of connection to the world and others, fostering tolerance, compassion and humility, and giving us greater control over our circumstances. This realization supports a progressive and effective engagement with the human condition in all its dimensions. So we can justly call it worldview naturalism: an overarching cognitive, ethical and existential framework that serves the same function as supernatural worldviews, but without trafficking in illusions. By staying true to science, our most reliable means of representing reality, naturalists find themselves at home in the cosmos, astonished at the sheer scope and complexity of the natural world, and grateful for the chance to participate in the grand project of nature coming to know herself. — ***Tom Clark***

Introduction

Evolutionary psychiatry (EP) rests on a scientific world-view and the philosophy of 'naturalism', which is the view that an explanation is justified in so far as it rests on evidence of an empirical kind. Naturalism has also been very important in the philosophy of mind and moral philosophy. Adherents of naturalism consider that natural laws are the rules that govern the structure and behaviour of the natural world, and that the changing world, at every stage,

is a product of these laws. Naturalism is sometimes viewed as a process in opposition to the views of some philosophers, sociologists, anti-psychiatrists and historians of science who have different or opposing worldviews. Methodological naturalism is related, being concerned not with claims about what exists, but with methods of learning what nature is. Naturalism provides a framework within which to conduct the scientific study of nature. Methodological naturalism is thereby a scientific way of acquiring knowledge. Science performed in this way is therefore more than a hasty or ideological opinion, social construction, matter of taste or subjective appraisal. Science as a body of knowledge is neither infallible nor final. The history of science is scattered with the remains of failed theories such as phlogiston, caloric, creationism, miasma, spontaneous generation and the luminiferous aether. But that is how we know science is making progress.

The postmodern belief that discarded scientific theories and ideas mean that there is no objective reality, and that all theories are equal and mere opinion is more wrong than all the errors in the wrong theories combined. This "Wronger than wrong" is the fallacy that occurs when it is asserted that different degrees of "right" or "wrong" are all the same the same. This is a form of equivocation of degrees of truth. Wronger than wrong thus describes any idea that equates errors that clearly isn't equal. The example originally given is that a belief in a flat earth is wrong, but a belief in a spherical earth is also wrong (as it's actually a distorted spheroid) however, saying that a spherical and flat earth are equally wrong, is more wrong than both those errors combined. Blurring concepts into the same category of "wrong" or "improbable", despite their obvious difference in the magnitude of how "wrong" and "improbable" they are, is an example of the continuum fallacy. This has important implications regarding the nature of scientific theories and aptly describes how the scientific method builds up knowledge and understanding, theories may change and adapt, but calling them outright wrong is not necessarily the right way to go about it. Shermer has described it as a great tool for "arming oneself against the inevitable anti-science attack that one often hears that theories are always preliminary and the implications that naturalists and science really doesn't 'know' anything" **Shermer (2006)**. Shermer states that being wronger than wrong is actually worse than being "*not even wrong"* which is a similar fallacy which describes any argument that purports to be scientific but fails at some fundamental level, usually in that it contains a terminal logical fallacy or it cannot be falsified by experiment (i.e. tested with the possibility of being rejected), or cannot be used to make predictions about the

natural world. This latter category is also common in explanations of or about the human condition.

Objectivity and subjectivity

In Evolutionary Psychiatry (EP) we must consider some ways of viewing reality that may give rise to some criticisms. Reality for our purposes, may be defined as the state of things as they actually exist, rather than just as they may superficially appear or might be imagined. Scientists and philosophers make a distinction between eternal reality and thought corresponding to reality, coherent abstractions (thoughts of things that are imaginable but not real), and that which cannot even be rationally thought. By contrast existence is often restricted solely to that which has physical or material existence or has a direct basis in the way that thoughts do in the brain. On a subjective level, private experiences, and the selectivity involved in personal interpretation of events shapes reality as seen by one and only one individual and consequently is called phenomenological. Pain is phenomenological. While this form of reality might be common to others as well, it may be unique to oneself as to never be experienced or agreed upon by anyone else. Scientific realism is at the most general level, the view that the world described by science (perhaps ideal science) is closest to the real world, as it is, independent of what we might take it to be.

Naturalists and scientists are also called Objectivists and accept there are things that can be known independent of thought or an observer as part of reality. Objectivists (though not necessarily all naturalists or materialists), reject the notion of purely a subjective reality holding that while each individual may indeed have their own perception of reality, that perception has no effect on what reality actually is. Idealists (subjective idealists) hold the view that, there isn't one particular way things are, but rather that each person's personal reality is unique, arguably from their own perspective. Whereas a molecule or a tree or a planet may have objective reality objectivists do not accept the idea of there being different possible realities for different people, rather than different beliefs about one reality. Pain, paranoia and psychoses defy a pure objectivist position, as they may only be experienced by an individual. Pain for instance cannot have an independent material existence outside a sentient organism. So for objectivists only the first usage of the term reality would make sense. To them, someone believing otherwise, where the facts have been properly established, might be considered misguided and labouring under self-deception.

Pure “subjectivism” in comparison is a theory of knowledge, and how it is achieved, asserting that knowledge is generated from within the mind, without requiring a necessary cross-reference to reality. Subjectivism holds that gaining knowledge about issues and even the universe can be adequately achieved through introspection maintaining that metaphysically, the world is (effectively or only) a process of our mind. The “model” implies that because ideas or “perceptions” of reality occur as aspect of our minds, reality is not just reflected or the ideas constructed in mind but they are the mind and reciprocally affected or even caused by thought. In psychiatry and medicine the pure subjectivist position cannot be held consistently in practice because the effect of trying to hold it could result in a fatal inability to interact reliably with the world. The theory would predict a doctor can just wish for things to be "better", and expect them to automatically or even axiomatically become better. This denial would be dangerous. In a way this extreme subjectivism leads to a type of solipsism i.e. one is only one’s mind which all that exists and everything that you experience and sense is purely your consciousness functioning. Subjectivism thus characterised appears as the claim that the mind controls all or particular aspects of human opinions about reality but in extreme cases moves to belief that externally triangulated facts of reality don't exist, and the world can be whatever you mind construes. Thus subjectivism can be proposed as the cause of yet simultaneously a denial of any external reality.

There is debate about the relative importance of these concepts in psychiatry. **McGilchrist (2009)** further clarifies the issues, subdividing the possibilities into 4 categories of how the relationship of our brains, to that something whatever it is that exists apart from ourselves could be:

(1) no relationship at all – which returns us to solipsism, since a brain would be the sole source of everything the individual experienced;

(2) receptive – in the sense that, perhaps like a radio set, the brain picked up at least something of whatever it was from out there, and that became what is experienced;

(3) generative – in the sense that the brain created at least something of the whatever it is that exists apart from ourselves; or

(4) reverberative, that is to say, both receptive and generative – both picking up, receiving, perceiving, and in the process making, giving back, creating ‘whatever it is that exists apart from ourselves but includes ourselves’.

EP recognises there is a complex organismic integration of these perceptual and processing systems so the subjective and objective both can both potentially lead to organismic reactions. These are often based on pre-existing responses based on experience in previous experiences (developmental) and environments (evolutionary). Individuals with the most effective or adaptive responses have an advantage whereby (in a population on average) it leads to increased chances of survival and particularly reproduction in or for that environment. If such changes are hereditable, this can lead to changes in relevant gene frequencies within in a particular population. The preservation and increase in these abilities and their facility for survival and reproduction is evolution. Thus capacities for detecting and processing the world progress according to environment and the utility of the organism’s perceptions and both objective processing and subjective responses are involved in the evolutionary processes.

Some aspects or organisation of the world such as classifications can be seen as a social construction which concerns the meaning, notion, or connotation placed on an object or event by a society, and adopted by the inhabitants of that society with respect to how they view or deal with the object or event. In that respect, a social construct as an idea would be widely accepted as natural by the society, but may or may not represent a reality shared by those outside the society, and would be an "invention or artifice of that society."A major focus of social constructionism is to uncover the ways in which individuals and groups participate in the construction of their perceived social reality. It involves looking at the ways social phenomena are created, and made into tradition by humans. So from an EP perspective regarding subjective experience and in matters of culture and taste we accept there is no dispute, one can feel very differently about the external or internal world; but in science, there is (legitimate) dispute, so accordingly, science is more questioning than just a matter of taste. There remain many legitimate disputes within the science of EP around individual contributions of the subjective nature as well as objective actions of stimuli and their corresponding theories, as well as its application in the clinic. That is what a science thrives on.

EP also uses a wider paradigm for a psychiatric model such as the broadly based Tinbergen's model (**Tinbergen, 1963**) incorporating current reactions to the immediate environment (often social) and incorporating the subsequent often unique, subjective appraisal as being a legitimate reaction affecting biology which is subservient to the needs of the organism as a whole. This is more holistic, applicable, and practical as a general model for evolutionary psychiatry and mental disorders. Tinbergen's questions of any behaviour include:-

1. What are the mechanisms that cause the biological phenomenon?
2. How does that develop in an individual (ontogenesis)?
3. How did it evolve (phylogenetic history)?
4. What was the function and fitness value of the trait/system/behaviour?

See the Diagrams in previous newsletters (PSS Ed). It can be useful to see Evolutionary Psychiatry as a meta-theory or paradigm rather than a single theory. EP does have a distinct set of concepts, thought patterns, and a model that includes theories, research methods, postulates, and standards for what constitutes legitimate contributions to the field. In "The Structure of Scientific Revolutions" Kuhn defines a scientific paradigm as: "universally recognized scientific achievements that, for a time, provide model problems and solutions for a community of practitioners. The paradigm of Evolutionary Psychiatry thus provides some ideas and their prerequisite predictions it does not have to explain everything and be infallible in all circumstances. It only has to be the best, most useful and accurate theory at present. It can provide a structure for what to observe and how to interpret the findings so often missed in current atheoretical diagnostic classification systems. See Box 1.

Box 1 **Evolutionary Psychiatry provides some ideas on the following:**
1) what (psychiatric) phenomena need to be observed and scrutinized
2) what questions then need to be asked and probed for answers in relation to this subject
3) how these questions are to be structured
4) what predictions are made by the primary theory within the discipline
5) how the results of these scientific psychiatric investigations should be interpreted
6) how any particular experiment needs to be conducted, and what equipment is available to conduct the experiment.
7) what treatments should flow in applied medicine/science as the result of the above

Prior to 1990 and Nesse's work on Darwinian Medicine (**Nesse, 1996**), psychiatrists almost exclusively studied proximate, often material causes, whereas behavioural ecologists tended to rely on ultimate causation, predicting how organisms should behave to maximize fitness in their current environment. Nesse reviewed these positions, arguing that people do not directly perceive and maximize biological fitness. Instead, people are directly motivated by things often experienced subjectively, such as emotions, hunger, desire for status, desire for sex, avoidance of danger, and caring for one's young, which reliably increased biological fitness in the past. Furthermore, proximate material explanations are also insufficient alone to explain the function of or "purpose of behaviours". Also mechanisms that work well in the "Environment of Evolutionary Adaptedness" (EEA) can go spectacularly wrong in a different environment. Nesse gave a list of evolutionary causes (**Nesse & Dawkins, 2010**) also remarking that some illnesses are not only NOT adaptations but stating that some illnesses, accidents and traumas etc may just have proximate causes.

Conclusions

Evolutionary Psychiatry is an interdisciplinary field at the intersection of Naturalism and Subjectivism (for instance the effects of genes and there interaction with experiences) involving evolutionary psychology, psychiatry, medicine, public health, epidemiology, genetics, biochemistry & cell biology. It uses insights from comparative animal evolution, ethology, palaeo-anthropology, and in particular more subjective and nonbiological areas such as culture, philosophy & other humanities. Humans are animals and have evolved as shown by their DNA and fossils and the human brain has also evolved but so has culture. The truth, slowly emerging from science (from evolutionary biology to psychiatry and neuroscience, from philosophy of mind to ethology) is that we are indeed unique as individuals and very special kinds of creature. We nevertheless remain animals yet deeply social and deeply cultural, "living in worlds that are saturated with meaning" (**Tallis, 2014**). EP recognises we have capacities as well as vulnerabilities that are shaped by not only or genes and development but also the environment, culture, meaning, the current context thus not only by our ontology but also our phylogeny; our deep ancestral history. Mental disorders have repeatedly been shown to have genetic and hereditable components so they clearly have some biological underpinnings as well as an interacting subjective and psychosocial basis. Mental processes were naturally selected and have important functions resulting in human evolutionary heritage generating mental mechanisms including cognitive, motivational,

affective, hedonic, linguistic, and behavioural dispositions and structures. Some processes are disadvantageous in certain situations, other mental conditions interfere with the ability of these mental mechanisms to perform the functions that they were selected or designed by Natural Selection to perform (**Wakefield, 2007).** The concept of disorder in evolutionary psychiatry must also refer to dysfunctions that harm the person in the current environment and social circumstances, thereby incorporating aspects of subjectivity and objectivity into one model.

Humans are capable of shaping our own as well as the lives of others, consciously, as well as unconsciously, and we can alter society in the light of reason, not by transcending our biology but as a consequence of it. The end products of the human mind/brain are behaviour patterns, emotions and cognitions which are the phenotypic characteristics of our brains that have been shaped by selection. Brain circuitry and neurotransmitters are subservient systems that have evolved to generate those end products. Many critics of EP appear to not want an understanding of the human condition in scientific terms, they appear to want it to remain a mystery and purely subjective. Others politically want no understanding based in any biology and others dismiss EP on ethical or ideological grounds. We too do not want an understanding based only in Naturalism if only defined by biochemical or cell biology terms but a nuanced rich interactive dual inheritance biopsychosocial model where complex gene environment interactions are considered and individual development, meaning, affect experience and where the human mind is not reduced to its necessary but not sufficient explanations.

Progress in psychiatry cannot be made just through the naturalistic study of body structure or cell biology; it requires the study of subjective or personal situation, information and meaning accounts, followed by the challenging task of integration. The Evolutionary approach is to integrate these internal and external factors in order to understand the multiple including design mechanisms that derail the key mind/brain functions that are disordered in psychiatric illness. The challenge for evolutionary psychiatry is to move from general facts to evidentially well-supported specifics about the adaptive processes that shaped the mind and thus created the vulnerability to illness. It may be that there are many things about the evolution of the human mind that we will never know and about which we can only hypothesise. At its very best, however, it can aid the discovery of knowledge of why all our complex human psychological characteristics evolved and why we have vulnerabilities to

illness and ultimately what we might do about that in terms of prevention and treatment. Finally, research into, understanding of and dissemination as well as application of EP within clinical psychiatry is the primary purpose of the EPSiG. This process is our long term goal and it will be the subject matter of our future articles.

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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:-

paul.stjohnsmith@hpft.nhs.uk **or** **paulstjohnsmith@hotmail.com**