Evolutionary Psychiatry Special Interest Group (EPSIG)

Newsletter June 2021

- Editor: Dr Annie Swanepoel (Consultant Child & Adol. Psychiatrist) annie.panzer@gmail.com
- EPSIG Chair: Dr Paul St John-Smith (Consultant Psychiatrist) paulstjohnsmith@hotmail.com
- Finance Officer: Dr Riadh Abed (Consultant Psychiatrist) abedrt@btinternet.com

- EPSIG YouTube Channel: https://www.youtube.com/channel/UCHyW9iyWB4jcQTequ-Nrq5w
- EPSIG web Pages: www.epsig.org

Contents:

1. Notes from the Editor

If you haven't visited Down House in Kent yet, where Darwin spent most of his life, you have a treat in store. It is steeped in history. You can see the study in which Darwin worked, and read about his family. Personally, I was a bit disappointed at the lack of emphasis on his scientific contributions, but from a historical perspective it was superb and I would certainly recommend a visit.

2. Charles Darwin EPSIG Essay prize for students and trainees

Do you want to be invited to speak at an international conference?

If you are a medical student, foundation doctor or a Psychiatry core or specialty trainee in the UK, you are eligible to apply.

What you can win:

a) Invitation to give a 10-min oral presentation at the EPSIG International conference held virtually on 29th October 2021 for the winners (and posters for highly commended other entrants)
b) £250 pound prize money for each of the two categories (1. Psychiatry core/specialty trainee and 2. medical student/foundation doctor)
c) Certificate
d) Have your essay printed in the EPSIG Newsletter that is distributed to all EPSIG members (currently around 1700 psychiatrists and other professionals worldwide)

What you need to do:

Write a 4000-word essay (including references) on any topic relevant to Evolutionary Psychiatry. The essay should be supported by a review of relevant literature and should be your own work. For inspiration on possible topics, you may want to visit the EPSIG YouTube channel at Youtube.com/EPSIGUK or read our published newsletters at epsig.org.

Submissions should be emailed to kelsey.hentschel@rcpsych.ac.uk **6th August 2021**.

What we will do:

Entries will be judged by a panel of three psychiatrists who sit on the EPSIG Executive Committee. Criteria for judging will include: clarity of expression, understanding of the evolutionary literature and evidence, testability of hypotheses or ideas, critical thinking and the overall ability to convey enthusiasm and originality.

The committee reserves the right not to award the prize if no entry reaching the agreed minimum standard is received. Winners and highly commended other entrants will be informed by 17th September 2021.

See https://www.rcpsych.ac.uk/members/special-interest-groups/evolutionary-psychiatry/events under "competitions".

3. Update on meetings

The annual general EPSIG meeting was held 11th June 2021 and following that, Dr Gillian Pepper gave a wonderful talk on the topic of *Perceived uncontrollable mortality risk and health behaviour: exacerbating socioeconomic inequalities*, which you can view on https://youtu.be/Sc_A_UVrXbA. It is highly recommended.

Please save the date of 29th October for our 4th Interntional Symposium. Details will follow.

4. A contribution from Dr Henry O'Connell

Henry O'Connell graduated from Trinity College Dublin in 1997 and has been employed as Consultant Psychiatrist in Portlaoise since 2008. Along with developing and enhancing clinical services in Portlaoise, he has also developed a clinical teaching programme with the University of Limerick School of Medicine and was appointed Associate Clinical Professor with the university in 2014.

He has also conducted research and published widely in a variety of fields, including autism spectrum disorders, psychosis, mood disorders, dementia, delirium, healthy ageing and medical education. He has written several textbook chapters and, with colleagues from the University of Limerick, published the textbook 'Problem-Based Psychiatry' in 2020.

For over twenty years he has also had an interest in Evolutionary Psychiatry and made contributions to the literature in this area, along with founding the College of Psychiatrists of Ireland Evolution and Psychiatry Special Interest Group in 2020.

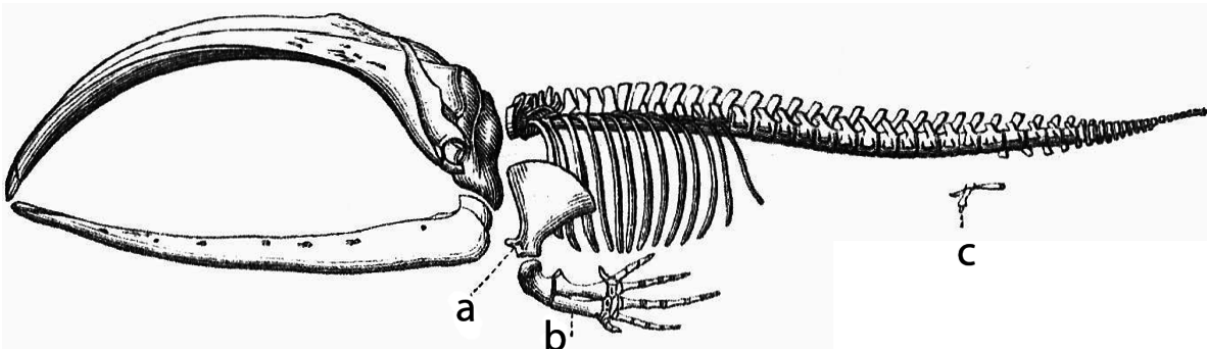
Henry is also a keen runner, having once managed a (barely) sub 3 hour marathon, and he is an avid supporter of Tipperary hurling and Liverpool Football Club. He lives in his native village of Ballina, Co. Tipperary with his wife Kathy and children Sophie, Isabelle and Henry.

Evolution and Psychiatry – my personal journey

'There is grandeur in this view of life…from so simple a beginning endless forms most beautiful and most wonderful have been and are being evolved'.

Charles Darwin, On the Origin of Species (1859)

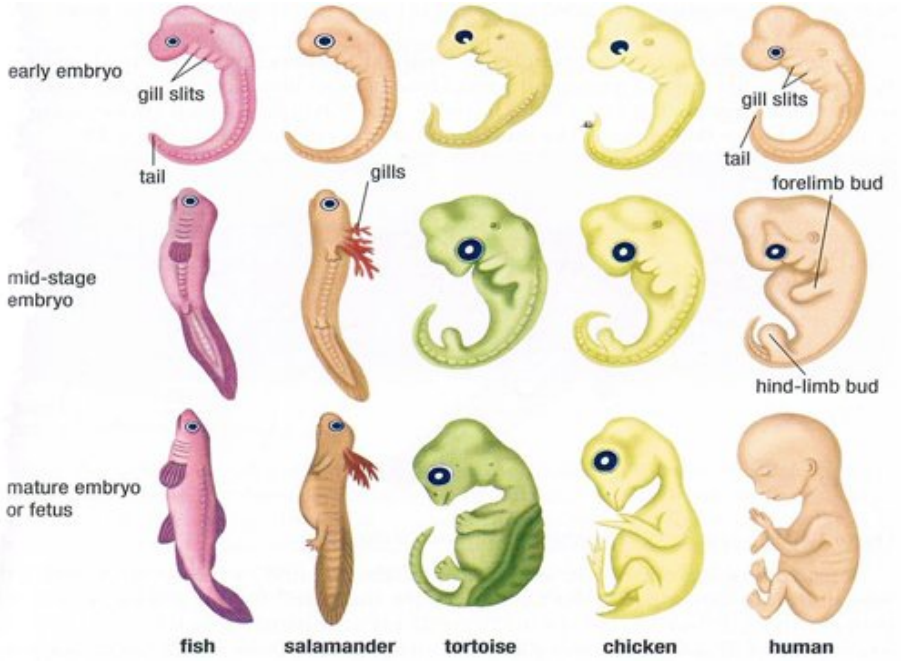
I had my first brush with the above mentioned grandeur of evolutionary thinking in my early teens in the so called 'dead zoo' in Dublin, otherwise known as the Natural History Museum. Just as a simple picture can paint a thousand words, I learned there and then that a skeleton can convey a whole world of scientific thought. The skeleton in question was the sprawling 20 metre long carcass of a fin whale, suspended from the ceiling of the museum and dwarfing all the other specimens in the collections beneath it. I remember looking up and making out first the different sections: the huge pointed skull, the chunky vertebral chain that seemed to tail off forever, the rib cage, the comparatively tiny shoulder blades and, most enthralling of all, the flippers at the front.



Of course I knew about evolutionary science at the time and the key principles involved, or at least I thought I did. However, it was not until I looked up at that whale skeleton that the true grandeur of this view of life really dawned on me. Because of course in the skeleton of the whale, especially those funny little flippers, I could see the same bony components as are seen in the front paws of a dog or the wings of a bat or in my own arms and hands. I could make out clearly the bones of the wrist, hand and fingers. The sudden realization that so many apparently disparate creatures were in fact so similar, under the skin at least, was both humbling and awe inspiring. And squinting my eyes and imagining the whale's skull, vertebrae, rib cage and flippers in different ratios to each other I could easily conjure up images of the skeletons of gorillas, squirrels, elephants and, again, humans.

My next brush with evolutionary science came a few years later, during my first years studying Medicine in Trinity College Dublin. Our Embryology lectures were frustratingly complex and hard to follow but, in the clear likenesses of the embryos of different species, I was again given a glimpse of the overarching importance of evolutionary science and the uncanny similarities between disparate species when viewed in the earliest stages of development.

And around that time I remember having late night philosophical discussions with my then classmate, flatmate and lifelong friend Dr Dermot Shearer about the 'natural selection' of ideas themselves and how ideas survive and are transmitted and multiplied if they are coherent and attractive in themselves. The specific example we discussed was the idea of going to the cinema. The idea would pop up in one's mind every now and then and, if it was a useful and pleasant enough proposal, you would eventually follow through and go to the cinema, at the same time dismissing other less practical or attractive ideas, such as e.g. studying for an Embryology exam.



After graduation from Medical School in 1997 and subsequent internship I embarked on my career in Psychiatry in 1998. And it was while working as a Trainee Psychiatrist in St. Patrick's Hospital Dublin in 1999 that I was introduced to the idea of Evolutionary Psychiatry by Dr Tom McMonagle and my nascent interest in evolution suddenly seemed to be of relevance to my everyday clinical work. Tom spoke passionately about the topic and told me

(quite prophetically) that the ideas within Evolutionary Psychiatry would change how I viewed everything.

I started to think of mental health and illness as being on a continuum. I started to realise that 'mental illness', in milder forms at least, could at times be helpful and protective. For example, I became interested in the idea that the capacity for low mood (as opposed to clinical level depression) was a universal human experience. Furthermore, I was interested to find that the experience of low mood was sometimes associated with clearer or more objective thinking, so called 'depressive realism'. Could it be, then, that low mood was a normal mental state with advantages in terms of problem solving and helping us avoid overly ambitious or dangerous situations, whereas more severe, clinical level 'depression' was a pathological extreme that would need treatment with medication and psychotherapy? On the flip side of that, having an innate capacity for bursts of elevated mood, increased energy and unquestioning optimism could perhaps be helpful in times of opportunity, with mania being the pathological and dysfunctional extreme variation on this.

Likewise for anxiety, panic and phobias – these human experiences were clearly unpleasant but it was plausible that they could have had an adaptive and protective role at different stages of our lives (i.e. our ontological development) or at different stages of our evolutionary development as a species (i.e. our phylogenetic development), especially considering the significantly more dangerous and inhospitable environments experienced during the vast majority of our evolutionary history as a species.

The question of psychotic disorders such as schizophrenia was clearly more complicated. Some theorists argued (unconvincingly, in my opinion) that the psychotic state conferred advantages of charisma, leadership and 'shaman' qualities in our primitive past, thus ensuring high levels of reproductive success for those experiencing psychotic states and persistence of conditions such as schizophrenia in our genome. But having started to treat people with severe psychosis I found it hard to see how such individuals could function well, lead, prosper and out reproduce their peers, regardless of the environmental context. A more compelling, albeit less attractive, theory stated that schizophrenia was the high price that 1% of every generation pays when the exquisitely developed language and social

cognition capacities that the rest of us enjoy go over a 'cliff edge' of development and become dysfunctional.

Of course a bigger overarching question was why nature and evolution has left us all so vulnerable to mental and indeed physical illness. The lifetime prevalence rates for major psychiatric disorders are shocking: 1% for schizophrenia, 1-5% for Bipolar Affective Disorder and at least 20% for depression. And this doesn't include all the rest of the population who manage to get through life unscathed by these major disorders but who spend much of their lives suffering emotionally. Could it be that evolution had shaped us in ways to suffer emotionally, that such suffering was in some way adaptive and good for our genes and that in a relatively small number of each generation this capacity became so extreme as to be dysfunctional and disabling?

Through a lucky stroke I got an invite to the World Psychiatric Association meeting in Hamburg, Germany in August 1999 and there, at a conference bookstall, I bought my first book on Evolutionary Psychiatry: 'Evolutionary Psychiatry', by John Price and Anthony Stevens. I remember reading it enthusiastically and sharing my views with Dr Tom McMonagle when I got back to St. Patrick's Hospital in Dublin. But Evolutionary Psychiatry appeared nowhere in the curriculum for those early days in my training as a Psychiatrist. I completed my Royal College of Psychiatrists membership examinations in 1999 and 2001 and for those years I immersed myself completely in reading the major textbooks and doing countless examination questions and honing my assessment and clinical interview skills.

But there was never a mention of evolutionary science anywhere in the curriculum or the examinations. A truism of education is that assessment shapes how and what students learn. In other words, if something doesn't come up in the examination, most students won't waste their time learning it. So it was with Evolutionary Psychiatry. It remained a hobby for me in the background but my immediate focus was on the conventional curriculum. Years later I would realise that my detailed studies in the early years of my career on topics such as neurotransmitters, neurophysiology and psychopharmacology were by definition addressing 'proximate' perspectives, i.e. asking questions about 'how' things worked. I would learn over the years that the evolutionary perspective could add considerably to this limited approach by asking ultimate questions, i.e. 'why' things work as

they do. Of course I was also influenced at the time by Riadh Abed's editorial in the British Journal of Psychiatry **(Reference: Abed RT. Psychiatry and Darwinism. Time to reconsider? 2000:177;1-3)**

Then there was nothing for a few years until Kathy, my wife, told me one day in early 2004 that there was an event known as 'Darwin Day' held on February 12th (Darwin's birthday) every year to mark the importance of evolutionary science. Latching on to the idea, I wrote a letter to the Irish Journal of Psychological Medicine on how evolutionary science was ignored in clinical psychiatry and psychology and on how an evolutionary perspective could be both interesting and useful. In what would be my first publication in the area, the Irish Journal of Psychological Medicine printed my letter and I felt very pleased with myself, and with Kathy, for giving me the idea of writing the letter.

(Reference: O'Connell H. Evolutionary theory in psychiatry and psychology. Ir J Psychol Med 2004;21(1):37)

And then there was another long gap. Having worked hard to pass my membership examinations in Psychiatry I then went on to do lots of research in the area of Old Age Psychiatry. All along, I was developing my CV in preparation for the all-important Consultant interviews that I would need to have a go at in the coming years. Again, however, the evolutionary perspective seemed to be absent from any of these postgraduate training and research years. Even at the time, I couldn't see how evolutionary science would have a role in Old Age Psychiatry. Surely the race was run, in genetic and reproductive terms, by the time an individual reached old age. It was only several years later when I read about fascinating topics such as antagonistic pleiotropy and the 'grandmother hypothesis' that I realised that the evolutionary perspective would have also enriched my approach to Old Age Psychiatry.

Antagonistic pleiotropy argues that genes that confer survival and reproductive benefits in earlier life (e.g. the capacity to calcify broken bones) may have deleterious consequences in later life (e.g. an increased risk of calcifying coronary arteries). The grandmother hypothesis postulates that the long postmenopaual period of humans (in comparisons to other primates) may be inherited because a longer living grandmother gets to invest more care in her children and grandchildren, thus enhancing their survival and reproductive chances (and

by extension, the reproductive chances of her own genes, which her children and grandchildren have inherited).

My first successful effort at a Consultant interview was in 2007 and that was also the year I had my next small contribution to Evolutionary Psychiatry published. I had read an article in the British Journal of Psychiatry on attachment disorders and, seeing an opportunity to highlight the evolutionary perspective, I sent in a letter and it was duly published.

Reference: O'Connell HP. Attachment disorders: an evolutionary perspective. Br J Psychiatry 2007;191:459

Around this time I also touched base again with Dr Tom McMonagle and we agreed to keep in contact regarding all things evolutionary, but it was a vague plan. I attended the American Psychiatric Association meetings of 2007 (San Diego) and 2009 (San Francisco) and I remember reflecting on the absence of any mention of Evolutionary Psychiatry in the extensive programmes of those conferences and how it would be nice to have the topic covered at future conferences. However, I did manage to pick up Martin Brune's 'Textbook of Evolutionary Psychiatry' at the latter conference so I was still keeping the flame alive.

Also at this time there were of course some key anniversaries in the history of evolutionary science: 2009 marked 200 years since Charles Darwin's birth and 150 years since the publication of 'On the Origin of Species'. I wrote a letter on the topic and the British Journal of Psychiatry published it. Again, I was highlighting the potential value to psychiatry of adopting a more evolutionary perspective but I had done nothing to advance the area since my first published letter in 2004.

Reference: O'Connell HP. 150 years of evolutionary theory. Br J Psychiatry 2008;193(3):258-9

In 2009 I also paid a visit with my family to Charles Darwin's home, Down House, while visiting the UK. Soon after that came another publication on evolution, when I had an article on the co-discoverer with Darwin of evolutionary theory, Alfred Russel Wallace, published in the Journal of Medical Biography in 2009.

Reference: O'Connell HP. Alfred Russel Wallace (1823-1913): evolution and medicine. J Med Biogr. 2009;17(4):214-6.

And after that, I was busy with our young family and my first Consultant post. Again, evolutionary science was never discussed at conferences or in any psychiatric journals so it remained a hobby, going further and further back into my mind. But there were a few more evolutionary highlights. Chief among these was the meeting in Delmenhorst in April 2011, entitled 'Conference Determinants of Psychiatric Disorders'. This was essentially the 'Woodstock' of Evolutionary Psychiatry and attendees included many of the biggest researchers and writers in the business, including Randolph Nesse, Martin Brune, Alfonso Troisi, Paul Gilbert, Joseph Polimeni and, the grandfather of them all and author of that first textbook of mine on Evolutionary Psychiatry, John Price. I had made contact with Dr Price a few months before the conference, in yet another effort to get something going on my nascent interest and to get his advice on how to progress my own writing and potential research in Evolutionary Psychiatry, unaware that the Delmenhorst conference was coming up. Not only did he respond to my query (from his retirement home in Goa, India) but he got back to me again a few months later to very kindly offer me a 'Junior Scientist' bursary to attend the Delmenhorst conference.

The clinical commitments of my Consultant post, along with our expanding family (Henry, our third child, was born just a few weeks after Delmenhorst) meant that I neglected Evolutionary Psychiatry again for another long gap. I heard about the Royal College of Psychiatrists Evolutionary Psychiatry Special Interest Group (EPSIG) being set up by Riadh Abed and colleagues in 2016 but it all seemed like a distant and dreamy enterprise to me.

Dr Tom McMonagle then reappeared, sending me a nice email in early 2018. He had attended a Royal College EPSIG meeting and, at Alfonso Troisi's lecture, had taken an image of one of Troisi's introductory slides. The slide contained a quotation from me, from my 2008 letter to the British Journal of Psychiatry on the 150th anniversary of the publication of 'On the Origin of Species'. Troisi had referred to my statement as being 'elegant'. This was quite a compliment, coming from such an eminent expert in the field. So I was pulled back in again to the world of Evolutionary Psychiatry, and again thanks to Dr Tom McMonagle.

Then for 'Darwin Day' 2019 I decided to dust down my books and do an overview lecture on Evolutionary Psychiatry for Consultant and Trainee colleagues at my then place of work. The lecture went down well and there were two particularly enthusiastic attendees, Dr. Mara Petrut and Dr. Diarmuid Boyle. Mara and Diarmuid went on to do a joint presentation on the topic at the University of Limerick Psychiatry Winter conference of 2019 and, buoyed up by the success, the enthusiasm followed through to 2020 when we joined up again to present on the topic at the College of Psychiatrists of Ireland Winter 2020 meeting in November. The presentation provided an overview of the subject and we received very positive feedback from Randolph Nesse in the US and Riadh Abed in the UK, both of whom were able to attend live online because of the COVID induced 'virtual' nature of the conference.

After that College of Psychiatrists of Ireland November presentation, I also set up a WhatsApp group for psychiatrists interested in evolutionary science. This has proven to be a really efficient and convenient way to share ideas and reading material with like-minded people.

And the interest that was stoked at a national level from the November 2020 presentation led us on to establish the College of Psychiatrists of Ireland Special Interest Group on Evolution and Psychiatry. Thankfully we were able to schedule the inaugural meeting for February 12th 2021, i.e. Charles Darwin's birthday and recognised internationally as 'Darwin Day'.

Professor Mike Watts, Consultant Physician at University Hospital Limerick and one of the most erudite and enthusiastic evolutionists I know, very kindly agreed to give the main lecture for that meeting. In a fascinating and wide ranging talk, Mike took us from the very

origins of matter through to the origins of life itself, the principles of evolution and the applications of evolutionary science to his chosen field of clinical medicine. Mike made many profound and mind bending observations during his talk, from the origins of DNA and the first cells through to genetic comparisons between the closely related whale and hippopotamus right through to why suppressing pyrexia, a natural and evolved bodily response to infection, may sometimes be misguided. In the ensuing discussion, Mike made some even more profound observations and chief among these was to ask why no curious minded philanthropist has even considered putting some money into researching the origins of our species and indeed the origins of life itself: surely our uniquely human capacity to reflect on ourselves and the world around us, from the origins of the universe and molecular biology through the very nature of consciousness itself should be enough to drive countless major research enterprises. But then again, perhaps most of the time we're just too busy trying to survive and reproduce.

Here is a link to Mike's talk:

https://www.youtube.com/watch?v=DJ_7C9N9Mak&t=115s

Before that initial Darwin Day Special Interest Group meeting, there were to be two other key developments. Firstly, I joined forces again with Dr. Mara Petrut and Dr. Diarmuid Boyle to do an overview presentation on Evolutionary Psychiatry at the University of Limerick Psychiatry Conference, on December 17th 2020. And then our overview article on the topic was published in 'Think Tank', a newsletter for College of Psychiatrists of Ireland Psychiatry Trainees, in early 2021. This article focused primarily on evolutionary thinking applied to clinical psychiatry. Along with the input of Mara Petrut, Diarmuid Boyle and Tom McMonagle, we also had the very welcome input in this article of international experts Randolph Nesse and Riadh Abed for that paper. And then on the night of the Darwin Day 2021 meeting I had one of those ultimate career highlights when I had a private audience with Randolph Nesse, via Zoom. In the space of an hour we covered a whole range of topics relating to Evolutionary Psychiatry. Despite being somewhat star-struck and talking too much at times, I was thrilled to be able to talk with the world's leading evolutionary physician, on Darwin Day of all days.

And that brings us right up to the present. On May 21st we had the second meeting of our College of Psychiatrists of Ireland Evolution and Psychiatry Special Interest Group via Zoom and we had the pleasure and privilege of having Dr Riadh Abed give the keynote talk. For the talk, Riadh covered evolutionary perspectives on eating disorders, one of his main areas of expertise. In a fascinating and wide ranging talk, Riadh took us on a journey through his own research and writing on eating disorders over the past quarter of a century, focussing on intrasexual competition as one of the key factors in both normal behaviour and in the aetiology of eating disorders. Here is a link to Riadh's talk:

https://www.youtube.com/watch?v=K-X-qnpK_h8&t=3936s

So that is an overview of my journey through the world of evolutionary science and psychiatry to date. And now that our children are older and more independent and I have finally got the hang of being a Consultant Psychiatrist, I feel that I have more time, mental space and energy to do something meaningful in this area or at least add something new to the tiny contribution that I've made to date.

****

Many thanks for reading the Newsletter and please don't hesitate to get in touch with any contributions or suggestions.

Please note that our EPSIG YouTube channel is a wonderful resource:

https://www.youtube.com/channel/UCHyW9iyWB4jcQTequ-Nrq5w