Book Review

Good reasons for bad feelings: insights from the frontier of evolutionary psychiatry by Randolph M. Nesse. Penguin Random House. 2019. IBSN: 1101985666

Evolutionary science is an essential bedrock of biology and the evidence supporting evolution from palaeoanthropology, embryology and modern genetics is so overwhelming that any objection to evolution in modern times can only be seen in the context of a faith-based perspective. However, despite the crucial overarching importance of evolutionary science for biology, the world of clinical medicine and clinical psychiatry pays little heed.

For psychiatry in particular, an evolutionary perspective is potentially very helpful in reframing how we view symptoms such as anxiety and low mood as such symptoms may, at mild levels of severity, have protective and adaptive benefits for individuals and for us as a species.

At the more severe end of the spectrum conditions such as schizophrenia and bipolar affective disorder are unlikely to have adaptive benefits in themselves but, instead, they may represent pathological extremes of highly evolved human capacities related to language, social cognition and the capacity for mood variation.

Randolph M. Nesse has been one of the leading international experts in the area of evolutionary medicine and psychiatry for almost 3 decades now. In 1994 he published 'Why We Get Sick' with George C. Williams and this text remains essential reading for anyone interested in the field of evolutionary medicine. 'Good Reasons for Bad Feelings' is his 2018 publication, focusing on evolutionary principles applied to the study of mental disorders. This field has come to be known as Evolutionary Psychiatry.

'Good Reasons for Bad Feelings' is likely to become a classic in the field and should be essential reading not just for those interested in evolutionary psychiatry but for everyone working in the area of mental health.

The book is divided into four main sections. Part 1 begins with the question, 'Why are mental disorders so confusing?' In this section Nesse addresses why natural selection has left us vulnerable to mental disorders and how our current classification systems miss so much of the important detail in diagnosing these conditions. In this section he also outlines six key principles explaining why we are vulnerable to mental illness and illness generally. These six principles are fundamental to a sound understanding of evolutionary science applied to medicine and psychiatry and are thus worth outlining here explicitly.

The first principle relates to the mismatch between our bodies and minds and our modern environment in comparison to the environments in which we as a species have spent the vast majority of our existence.

The second principle relates to the evolutionary 'arms race' between ourselves as a species and the far more rapidly replicating microorganisms that can sometimes cause us to become unwell, as so dramatically highlighted in the year just gone.

The third principle relates to the constraints of evolution and the fact that evolution cannot ever deliver on certain outcomes (e.g. producing elephants that can fly).

The fourth principle relates to trade-offs, in that all adaptations have both advantages and disadvantages, such as our relatively slender forearm bones providing high levels of dexterity but increasing our risk of fractures in later life.

The fifth principle relates to the fact that natural selection shapes us to maximise our reproductive potential and not necessarily our mental health or wellbeing.

The sixth principle relates to defences and the fact that many symptoms perceived as being disorders, such as anxiety, low mood or pain are in fact defensive responses.

In part two of the book, Nesse goes on to outline how emotions have been shaped over the aeons of time to cope with different situations. He describes his very compelling 'smoke detector principle' in relation to anxiety, in that having a highly responsive anxiety-based system, while unpleasant, is potentially protective and adaptive especially in the more dangerous and threatening environment of our ancestors. He then goes on to outline how our capacity for mood variation is generally adaptive but that when it reaches pathological levels, it may become dysfunctional, as seen in mood disorders.

Part three looks at the pleasures and perils of social life. Here Nesse talks about relationships, sexuality and the wide variations of normal and abnormal phenomena in these areas.

Finally, in part four he outlines how 'out of control actions and dire disorders' can lead to psychosexual problems and problems related to, for example, how choosing the wrong foods can impact on our mental and physical health. In the last chapter he focuses on major mental disorders such as schizophrenia and autism and how these may represent small numbers

of every generation going over a cliff edge in terms of social cognition and language development, features that are exquisitely developed in the majority of every generation.

Nesse's book is well written, accessible and easy to follow and it comprises a distillation of three decades of work by the world's leading evolutionary physician. It is likely to be of interest to clinicians from all fields and at different levels of experience. For more experienced and enthusiastic evolutionists it is a very useful repository of key research and it includes Nesse's visions for the future of this field. For those with only an emerging interest in evolutionary principles applied to clinical medicine and clinical psychiatry, Nesse's book is an essential introduction.

Conflicts of interest

H O'C, MP and DB have no conflicts of interest to declare.

H. O'Connell
Triogue Community Mental Health Centre, Portlaoise, Co Laois, Ireland and School of Medicine, University of Limerick, Ireland
(Email: hpoconnell@yahoo.ie)

M. Petrut
CAMHS, Limerick, Ireland

D. Boyle
Kilmallock Community Mental Health Centre, Kilmallock, Co Limerick, Ireland