

Evolutionary Psychology

www.epjournal.net – 2010. 8(2): 297-302

Book Review

Climbing Mount Impossible: An Important Book Written Too Early

A review of Martin Brüne, *Textbook of Evolutionary Psychiatry: The Origins of Psychopathology*. Oxford University Press: New York, 2008, 385 pp., US\$67.95, ISBN 978-0-19-920768-8 (paperback).

Leif Edward Ottesen Kennair, Department of Psychology, Norwegian University of Science and Technology, Trondheim, Norway. Email: kennair@ntnu.no.

Introduction

Martin Brüne decided to climb Mount Impossible. He wished to write a general textbook on psychiatry, a daunting task in itself for a single author. To top this, he wanted to base it primarily on an evolutionary perspective.

But there is only one current treatment with any evidence of effect founded explicitly on evolutionary theory (Paul Gilbert's, 2009, compassion-focused therapy—not described in the book). Further, almost all of the research on specific disorders is in its infancy. The best and most original theories and approaches need more research and empirical support. I agree with Brüne that the diagnostic systems have important weaknesses, but there are no current nosologies/taxonomies based on evolutionary theory—thus the research so far on the vague and often biologically meaningless phenotypes will be of limited interest.

Do not misunderstand: I am an evolutionary psychopathologist, too, and I share Brüne's conviction that an evolutionary approach is fundamental to understanding human nature, including the nature of mental disorders. I just believe we need something firmer to stand on when informing clinical practice.

Brüne believes that current psychiatry only addresses half of what is needed to fully understand psychopathology—referring to Tinbergen's (1963) basic questions and the lack of ultimate level analysis in mainstream psychiatry. There is all reason to agree with him. Psychiatry also needs a science of “normalcy”, he claims. Yet again, I agree, and would like to point out that such a science exists: Psychology. As an evolutionary psychologist I believe this is the most relevant meta-theory for psychology, but at this point in time there is no reason to limit psychiatry to only considering evolutionary psychology when looking for a science of normalcy. When supervising psychiatrists in training, I recommend that they read basic psychology. Some do. I believe they will understand more.

The book therefore sets off on a difficult but important journey. To succeed it demands a comprehensive analysis of all aspects of psychiatry from an evolutionary perspective, most of

which will have to be original work by Brüne himself. This would be true, even if Brüne had provided an exhaustive synthesis of all available evolutionary work, which he does not.

It is probably not fair to expect that much. And therefore I should not be as disappointed as I am. So despite being let down by this first attempt, I would like to point out that I look forward to the next editions (note plural!) of this book. There are several levels that need addressing:

- Basic theory of evolution and genetics
- The understanding of pathology
- Causation/etiology
- Assessment
- The nature of specific psychopathologies/harmful dysfunctions
- Treatment and prevention

While some of the points I raise may be differences of opinions between Brüne and me, and some need to await future research, there are many improvements that may be implemented already.

Problems with the Basic Theory of Evolution and Genetics

In general, Brüne provides a fair and reasonable presentation of evolutionary theory, evolutionary psychology, and genetics. And although many preliminary theories are presented a wee bit too absolutely for my liking, he has a good understanding of most aspects of theory and research. Therefore there are some areas that surprised me:

Brüne explains the peacock's tail with genetic drift and seems to equate this with runaway selection, but does not explain the handicap principle. This seems a little odd to me. And while Brüne is positive about group selection, he describes gene-level selection as radical. Yet again, this is not the mainstream position within evolutionary psychology. Further, when discussing heritability and Generalized Anxiety Disorder (GAD), the lower heritability is considered to indicate that this disorder is more dependent on early experiences. This is a misrepresentation of what heritability explains. (See discussion on etiology of anxiety below).

One point that bothers me even more, though, is the idea that important new mental adaptations evolved during the last few thousand years—including the ability to read/write. If this did happen in a few city states in Mesopotamia 6000 years ago, how come Germans and Norwegians can read? Evolutionary psychology does not usually posit that there are fundamental, evolved psychological differences between humans that colonized different parts of the planet, due to recent human evolution (Cosmides, Tooby and Kurzban, 2003; Kurzban, Tooby, and Cosmides, 2001). There is no evidence of such. Thus, this idea seems to contradict his warning of the political consequences that poor evolutionary science can produce.

Defining Psychopathology

Mainly, Brüne conceptualizes mental disorder primarily as maladaptive extremes of normal phenotypes. This might be the case for some disorders. But depression is not necessarily an extreme version of normal sadness. Normal shyness does not necessarily include the cognitive processes typical of social phobia. It would seem that meta-worry about uncontrollability and the harmfulness of worry differs between normal worry and GAD. Manic episodes are not just a more enthusiastic state of normal mood.

He is critical of the statistical manuals, but despite this the *Diagnostic and Statistical Manual of Mental Disorders* (APA, 2000) criteria are provided throughout the book as

authoritative descriptions of phenotypes. Wakefield's (1999) Harmful Dysfunction analysis is not discussed at any length in the book (merely mentioned under selected further reading). This is one of the most influential current contributions to the conceptualization of mental disorder, and it is based on evolutionary reasoning. This approach would have provided one of the major current pillars for erecting an evolutionary understanding of mental health.

One of the fundamental problems of evolutionary approaches to psychopathology is that the current diagnostic manuals are not influenced by evolutionary analyses. These manuals do not address when and if a specific clinical state is a dysfunction. Without a more critical analysis of the different and overlapping phenotypes, evolutionary psychopathologists may be attempting to explain conditions that do not exist.

Assessment

The chapter on psychiatric assessment is part of what makes this a psychiatry textbook. It is thorough, but oddly uninformed by evolutionary analysis. It is a classical psychiatric approach to assessment with an extra focus on nonverbal behavior. But there are no details on how to apply the analysis of nonverbal behavior, and there is no integration with the other behavioral measures. There is not provided any clear rationale why nonverbal behavior needs an ethological approach. Language is also an evolutionarily relevant human adaptation, and suggesting that nonverbal communication is more evolutionarily relevant than language seems odd.

Further, despite being typical of the classical psychiatric anamnesis, there are several questions that are routinely asked—but never used for any diagnostic or treatment purposes. The fact that these questions are repeated in this book, without direct connection to relevant chapters, such as those on life history and psychotherapy, is yet another symptom of the textbook having too high aspirations and a low level of synthesis. It adds to the perception that an evolutionary analysis *is* an extra level of analysis, and maybe a mere luxury. It is not, of course, but still this is mainly true in a research setting, rather than in an applied clinical setting.

Causes of Psychopathology

We do not know the causes of any mental disorder. Our best answer is “genes and environment”—and we cannot specify any specific causes. Actually “random causes” is a more probable answer than any of the theoretically defined experiential causes.

But the chapter on anxiety disorders is an interesting example. Despite many years of belief that these conditions are the results of conditioning, the latest research supports a more evolutionarily informed position. Poulton and Menzies (2002) have provided data that suggest that age-relevant fear is due to maturation, rather than aversive experiences. This is supported by twin research (Kendler, Myers, and Prescott, 2002). Despite being among the best understood conditions, the *causes* of anxiety are no longer obvious.

In a book that has a chapter on behavioral genetics it is therefore surprising that the author nevertheless advocates the role of shared environment and classical theories such as attachment theory. The risk factors listed are correlates, but hardly etiological causes. The continuous explanation of disorders using theories that have not been empirically supported detracts from the general scientific value of the book. It is not unusual; despite being attracted by the science of evolution or evidence-based mental health care, many colleagues have pet theories that are not subject to the same scientific rigor. This needs to be addressed.

The Most Common Disorders –Two Examples

Anxiety disorders. Anxiety disorders are the conditions that are most informed by evolutionary insights. The evolutionary understanding of the function of fear is probably one of the reasons that we have developed efficient treatments, and also provided more differentiated diagnostic categories for anxiety disorders compared to, for example, depressions (Kennair, 2007). The chapter on anxiety disorders therefore seems surprisingly superficial.

Yet again, there is a too broad treatment of different phenotypes. These differ in so many ways that considering general risk factors is unreasonable. Different anxiety disorders have different targets, different cognitive processes, different behavior, and even the cognitive behavioral therapy differs from disorder to disorder (e.g., Wells, 1997).

Further, as mentioned above, Brüne believes too much in conditioning. The risk factors are merely correlations. And the importance of attachment and negative experiences is overstated.

Treatment is only described very cursorily. Why the National Institute for Health and Clinical Excellence (NICE, <http://www.nice.org.uk/>) guidelines are not mentioned, while Australian recommendations are provided is a little puzzling—as the NICE guidelines generally have higher status.

Depression and suicidal behavior. The important phenotypic discussion of different types of depression is missing. Thereby important evolutionary psychological research, such as Hagen's work on possible post-partum depression is also missing, as is discussion of Seasonal Affective Disorder. It is important to note that there is no consensus that these phenotypes actually exist—still, there is consensus that depression is a large collection of different states with different causes and clinical presentations.

To a large extent only one of several evolutionary perspectives is discussed. And while I am fond of Paul Gilbert's work, there are several approaches that could have been addressed. It is important to note that the major evolutionary work on suicide by de Catanzaro (1995), or other evolutionary psychology work on self-harm is not mentioned. These perspectives could have provided a greater theoretical and empirical base. Why this research was not included is a mystery. The chapter on suicide includes no references to evolutionary science.

Treatment and Prevention

The chapter on psychotherapy is somewhat superficial, and despite making a few important observations, it is a little outdated. The fact that cognitive behavioral therapists have been positive to evolutionary approaches is understated (see, for example, Alford and Beck, 1997; Gilbert, 2004). Psychoanalytic and psychodynamic approaches get their traditional mention. I believe any such chapter in a scientifically inspired textbook ought to be founded on evidence-based therapy, not history. Also, while most of the further reading is based on chapters in only one book, compassion-focused therapy—the only explicitly evolutionary informed therapy with any evidence—is not described. As mentioned above, the treatment recommendations could have been more authoritative (e.g. the NICE Guidelines or The Cochrane Library of Systematic Reviews, <http://www.thecochranelibrary.com/>).

Prevention is covered in a few pages. Prevention of mental disorder needs to receive more attention, as the cost of treating mental disorder increases. This is also probably one of the areas of modern health care research that is most in need of a hypothesis guiding theory. The cross-disciplinary, biopsychosocial and ecological nature of evolutionary approaches would

suggest that this might be a relevant area for an evolutionary approach to mental health care.

Conclusion

I expected to find the book Brüne decided not to write: an up-to-date introduction to current evolutionary approaches to psychopathologies. But Brüne raised the bar much higher. This gave me high expectations. It ended in disappointment.

Is an evolutionary perspective “absolutely essential for diagnosing and treating mental disorders?” No. This is currently a too extreme position. One cannot discard either descriptive diagnostic or mainstream evidence-based treatments based on current evolutionary perspectives. The book provides neither alternative examples of evolutionary diagnostics nor treatments.

I supervise psychiatrists (and psychologists) in training. I believe that some of the chapters of this book could provide a lot of helpful and important perspectives to mental disorder, and that most chapters could be included in larger textbooks to provide a broader perspective and important insights into the possible evolved nature of some disorders. At the same time, I regret to have to conclude that I would not recommend any of the clinicians I supervise to use this as their major textbook.

The book provides important beginnings, but at this stage it is premature. The author needs to be as scientific about his pet theories as those about which he is critical. False beliefs in knowledge about causation are possibly detrimental to treatment, as one may create beliefs about causes that are not true, possibly causing iatrogenic suffering. The treatment chapters need to be more detailed.

Psychology, not merely evolutionary psychology, is a basic science of psychiatry, and especially if one wishes to base the medical discipline on the study of normal functions. An evolutionary foundation could provide a relevant, integrative meta-theory for both disciplines.

Further research into evolutionary psychopathology demands a more critical evolutionary analysis of the phenotypes that are considered harmful dysfunctions. This would provide a better critique of current diagnostic systems. Further, for research a more thorough analysis of what constitutes pathology is necessary. Studying the current diagnostic categories as if they were real will probably provide a too imprecise analysis.

As mentioned above, I look forward to future editions of this book, or future books like this. I believe evolutionary psychopathology will prove to be fundamental for both psychology and psychiatry (Kennair, 2003; Nesse, 2002). I share Brüne’s vision. The current book was merely written too early.

References

- Alford, B. A., and Beck, A.T. (1997). *The integrative power of cognitive therapy*. New York: Guilford Press.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (Revised 4th ed.). Washington, DC: Author.
- Cosmides, L., Tooby, J., and Kurzban, R. (2003). Perceptions of race. *Trends in Cognitive Sciences*, 7, 173-179.
- de Catanzaro, D. (1995). Reproductive status, family interactions, and suicidal ideation: Surveys of the general public and high-risk groups. *Ethology and Sociobiology*, 16, 385–394.
- Gilbert, P. (Ed.) (2004). *Evolutionary theory and cognitive therapy*. New York: Springer Publishing Company.

- Gilbert, P. (2009). Introducing compassion-focused therapy. *Advances in Psychiatric Treatment*, 15, 199-208.
- Kendler, K. S., Myers, J., and Prescott, C. A. (2002). The etiology of phobias: An evaluation of the stress-diathesis model. *Archives of General Psychiatry*, 59, 242-8.
- Kennair, L. E. O. (2003). Evolutionary psychology and psychopathology. *Current Opinion in Psychiatry*, 16, 691-699.
- Kennair, L. E. O. (2007). Fear and fitness revisited. *Journal of Evolutionary Psychology*, 5, 105-117.
- Kurzban, R., Tooby, J., and Cosmides, L. (2001). Can race be erased? Coalitional computation and social categorization. *Proceedings of the National Academy of Sciences*, 98, 15387-15392.
- Nesse, R. M. (2002). Evolutionary biology: A basic science for psychiatry. *World Psychiatry*, 1, 7-9.
- Poulton, R., and Menzies, R. G. (2002). Non-associative fear acquisition: A review of the evidence from retrospective and longitudinal research. *Behaviour Research and Therapy*, 40, 127-149.
- Tinbergen, N. (1963). On Aims and Methods in Ethology. *Zeitschrift für Tierpsychologie*, 20, 410-433.
- Wakefield, J. C. (1999). Evolutionary versus prototype analyses of the concept of disorder. *Journal of Abnormal Psychology*, 108, 374-399.
- Wells, A. (1997). *Cognitive therapy of anxiety disorders: A practice manual and conceptual guide*. Chichester, UK: Wiley and Sons.