

Blueprint: How DNA Makes Us Who We Are by Robert Plomin



Robert Plomin is a pioneer in the field of behavioural genetics, a field of scientific research that uses genetic methods to investigate individual differences in behaviour. Behavioural genetics argues that it has solved the age-old question of nature vs nurture and in this book Plomin applies it to psychology and personality.

What can DNA tell you about your psychology?

By studying identical twins for over 45 years, Plomin has identified the genetic component to our personalities. According to Plomin, most of the environmental factors that we think are so important, including home life and education, are irrelevant and the only thing that matters is our DNA.

This is akin to saying it doesn't matter about your weight or exercise; if you have a predisposition to cardiovascular disease you will have heart problems.

In the future we may have to completely rethink our views on personality, psychology and potentially even free will – with potentially dangerous implications for medical science and insurance as well as criminal responsibility.

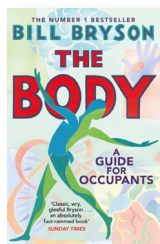
While I'm on board with genetics offering potential for mental development including personality traits, I'm not sure I agree with the premise that nurture and the environment have so little influence and this book did nothing to change my mind. I remain firmly in the nature via nurture camp.

The first few chapters are somewhat repetitive, making claims and statements often without any additional evidence being presented. I didn't find the writing style particularly engaging and it is perhaps most illustrative to say that even in lockdown, I haven't managed to pick this back up.

Emma Pettengale

(Biochemical Society/Portland Press)

The Body: A Guide for the Occupants by Bill Bryson



Bill Bryson is normally known for his travel books, which are excellent reads; he is such an easy raconteur. Anyone interested in weird and wonderful facts about how we are put together and how we work should read this book; it is pitched at the right level for everyone to find something of interest, though aimed primarily at the medical layman. Every inch is covered, from the skin to the gut, the nervous system and pain, the immune system, movement, food

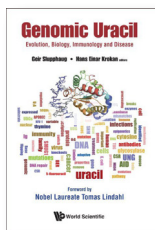
and sleep, to the beginning and the end of life. Balancing his sources between the published scientific and popular media, to interviews with friends and other key scientists from the medical and wider scientific community, you have anything but a dry account of who we are, how

we got here and how we work. I defy you to not be amazed and breathless about the breadth and the complexity of the human body, after reading this book. I read this during the current coronavirus pandemic, and the chapters 'Microbial you' and 'When things go wrong: diseases' were scarily accurate with some of the statements, regarding what we are currently facing. The reference list includes sources for key quotes within the book and a good selection of further reading. Overall, an excellent, well-written book, interspersed with Bryson's trademark humorous style; there are lots of laugh out loud moments in there too!

Peter Wareing

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Genomic Uracil: Evolution, Biology, Immunology and Disease edited by Geir Slupphaug and Hans Einar Krokan



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Genomic Uracil surveys uracil's proposed roles in evolution, immunity and disease. It describes cellular uracil synthesis and the complex regulatory pathways that work to keep uracil incidence tightly controlled.

Uracil and uracil regulatory proteins are believed to be intimately linked with the evolution of early life. Certain modern viruses hint at a uracil-DNA world that pre-dates the thymine-DNA genome. The book discusses the transition from primitive life to modern uracil synthesis, incorporation and removal. The uracil-DNA glycosylase (UNG/UDG) family is responsible for uracil-DNA excision, forming part of the DNA repair pathway. UDG enzymes feature heavily in the book, which reports their prevalence, structure and proposed catalytic mechanism. Biologically, uracil is a key intermediate of mammalian innate and adaptive immunity. The enzymatic deamination of cytosine to uracil is thought to be the innate defence against viral replication and spreading. Uracil is also important in generating a second-line adaptive immune response that develops highly specific antibodies against infecting pathogens. Uracil incorporation, however, must be tightly controlled. U:G mismatches constitute a major mutational DNA lesion and have been linked to numerous human cancer types.

This book is an interesting read; however, for an interdisciplinary work, it can neglect to expand upon subjects sufficiently – at times, resembling more a review article than a fully fledged textbook. It can often use acronyms, whose meaning and biological context sometimes go unexplained, making it difficult to decipher for the non-expert reader. To help alleviate this, a glossary of terms would be a welcome addition.

Overall, the book is an impressive account of uracil research to date. Its emphasis on discussing experimental detail, techniques and potential therapeutic targets makes it a powerful research accompaniment for anyone in the fields of cancer or immunological research.

Leah Taylor-Kearney

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