

Reviews

The feeling of what happens: body, emotion and the making of consciousness by A Damasio; Heinemann (William), London, 2000, 385 pages, £20.00 (US \$28.00) ISBN 0 434 00773 0

These days hardly a month goes by without the appearance of a new book on consciousness. They almost all make quite different proposals regarding the mechanisms and functions of consciousness. They are usually pretty plausible, but surely they can't all also be right? One problem, recently highlighted by Nicholas Humphrey (2000), is that these authors don't define the problem they are addressing precisely. Humphrey suggests that Damasio is no exception and Damasio comes in for severe criticism of an assertion early in *The Feeling of What Happens* which says that "the first problem of consciousness is the problem of how we get a movie in the brain" (page 9). I agree that this doesn't augur well; however, in the end Damasio discusses what he does and doesn't mean by consciousness with great care. Crucially, Damasio is not simply concerned with sensation in general, he is concerned with possession of a sense of self, with the ability to know that you are the subject of your feelings. This is not, therefore, a book about visual perception or any other special sense in isolation. Neither is it a book primarily about that related topic—qualia. For Damasio "Being conscious goes beyond being awake and attentive: it requires an inner self in the act of knowing" (page 250).

In order to survive, an organism must integrate its knowledge of the outside world and the demands of its internal milieu in order to produce action. The simplest method of dealing with this problem is through reflexes. Damasio suggests, however, that systems in which a representation of external objects is integrated with one representing the intended action to be made in response allows greater flexibility. The notion that consciousness arises when organisms have malleable mental representations of their own bodies and emotions would not be very profound if Damasio were not such a neurological scholar. It is supported by some dazzling neurological and neuroanatomical arguments in which the intimate relationships between the processing of body representation, of emotion, of attention in the medulla, pons, midbrain, and beyond are traced out and related to disorders of consciousness. If one wanted to be trite (which Damasio is not) then one might conclude that consciousness begins just above the entry point of the trigeminal nerve into the pons. Damasio's main aim is not, however, to determine which nuclei and circuits are critical for an alert purposive sense of self; he is also trying to explain why, for example, anterior brainstem lesions cause 'locked-in' syndrome where patients lose all ability to move voluntarily apart from that in a few eye-muscles, but remain conscious, whereas a lesion a few millimetres posterior causes deep coma. This involves discussion of many fascinating neurological conditions; all of these discussions are, moreover, motivated by the model Damasio is constructing rather than just the amazing and often sad fact of their existence.

Overall the book is a success. It can be hard going at times, although the writing style is never dull. Keeping track of whether one is meant to be thinking about emotion or about the process of feeling emotion can be tricky as can Damasio's concept of emotion itself. Sometimes terms are used in extraordinary ways, although it is usually explicit that this is the case. 'Emotion' often stands for 'emotional behaviour'. The broad scope of Damasio's definition of emotion and his entertaining writing is obvious from this extract: "Aplysia (the marine snail) may not have feelings such as you or I do, but it has something not unlike emotions. Touch the gill of an Aplysia, and you will see the gill recoil swiftly and completely while the heart rate of Aplysia goes up and it releases ink into the surrounding to confuse the enemy, a bit like James Bond when he is hotly pursued by Dr. No." (page 70)

I would recommend this book to any reader with an interest in consciousness, although some of the material in the latter portion of the book might be daunting to those without some basic knowledge of neuroscience. At first Damasio may seem to set himself an insurmountable

goal by approaching consciousness as a sense of self, but in the end the reader (or at least this one) comes away with a feeling of really knowing something concrete about it.

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Reference

Humphrey N, 2000 “How to solve the mind–body problem” *Journal of Consciousness Studies* 7
5–20

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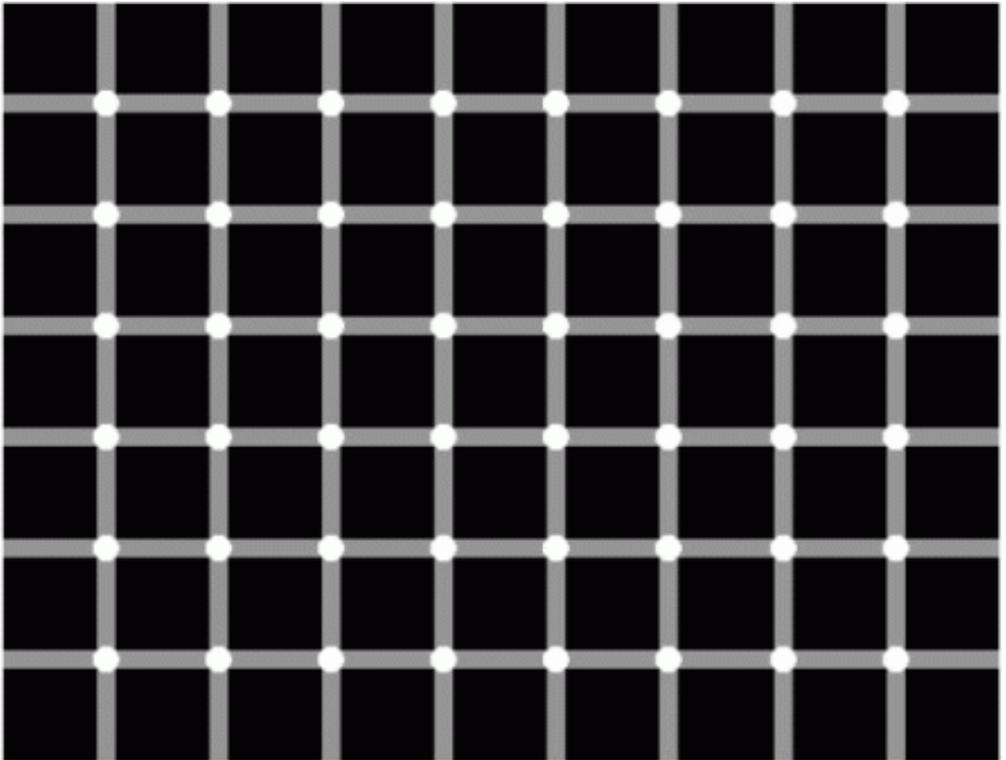
Stephens G L, Graham G *When Self-consciousness Breaks: Alien Voices and Inserted Thoughts*

MIT Press, Cambridge, MA, 2000, 198 pages, \$32.00 (£21.50) ISBN 0 262 19437 6

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Humour

Al Gore and George Bush in a Hermann gridlock



Scintillating black dots (flashing chads) belong to Al Gore, white circles (changing chads) belong to George Bush—all subject to Florida State recount, of course.

[This is a variation on the Hermann grid described by Schrauf and Wist (1997 *Perception* 26 Supplement, 28) and discussed at length by Ninio and Stevens (2000 *Perception* 29 1209–1217)]