

as red could be what she experiences as what we call blue.

Another topic Hofstadter considers frivolous is the concept of a zombie. Zombies are persons who think, talk, and behave exactly like ordinary people but are entirely lacking in all human feelings and emotions. The concept arises in relation to computerized robots. Baum's wind-up robot Tik-Tok, who Dorothy rescues in *Ozma of Oz*, has a metal plate on his back that says, "Thinks, Speaks, Acts, and Does Everything but Live." It is hard to believe, but entire books have been written about zombies

Consciousness for Hofstadter is an illusion, along with free will, although both are unavoidable, powerful mirages. We feel as if a self is hiding inside our skull, but it is an illusion made up of millions of little loops. In a footnote on page 374 he likens the soul to a "swarm of colored butterflies fluttering in an orchard."

Like his friend Dennet, who wrote a book brazenly titled *Consciousness Explained*, Hofstadter believes that he too has explained it. Alas, like Dennet, he has merely described it. It is easy to describe a rainbow. It is not so easy to explain a rainbow. It is easy to describe consciousness. It is not so easy to explain the magic by which a batch of molecules produce it. To quote a quip by Alfred North Whitehead, Hofstadter and Dennet "leave the darkness of the subject unobserved."

Let me spread my cards on the table. I belong to a small group of thinkers called the "mysterians". It includes such philosophers as Searle (he is the scoundrel of Hofstadter's book), Thomas Nagel, Colin McGinn, Jerry Fodor, also Noam Chomsky, Roger Penrose, and a few others.

We share a conviction that no philosopher or scientist living today has the foggiest notion of how consciousness, and its inseparable companion free will, emerge, as they surely do, from a material brain. It is impossible to imagine being aware we exist without having some free will, if only the ability to blink or to decide what to think about next. It is equally impossible to imagine having free will without being at least partly conscious.

In dreams one is dimly conscious but usually without free will. Vivid out-of-body dreams are exceptions. Many decades ago, when I was for a short time taking tranquilizers, I was fully aware in out-of-body dreams that I was dreaming, but could make genuine decisions. In one dream, when I was in a strange house, I wondered if I could produce a loud noise. I picked up a heavy object and flung it against a mirror. The glass shattered with a crash that woke me. In another OOB dream I lifted a burning cigar from an ashtray, and held it to my nose to see if I could smell it. I could.

We mysterians are persuaded that no computer of the sort we know how to build—that is, one made with wires and switches—will ever cross a

threshold to become aware of what it is doing. No chess program, however advanced, will know it is playing chess anymore than a washing machine knows it is washing clothes. Today's most powerful computers differ from an abacus only in their power to obey more complicated algorithms, to twiddle ones and zeroes at incredible speeds.

A few mysterians believe that science, some glorious day, will discover the secret of consciousness. Penrose, for example, thinks the mystery may yield to a deeper understanding of quantum mechanics. I belong to a more radical wing. We believe it is the height of hubris to suppose that evolution has stopped improving brains. Although our DNA is almost identical to a chimpanzee's, there is no way to teach calculus to a chimp, or even to make it understand the square root of 2. Surely there are truths as far beyond our grasp as our grasp is beyond that of a cow.

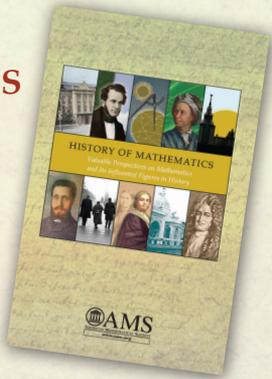
Why is our universe mathematically structured? Why does it, as Hawking recently put it, bother to exist? Why is there something rather than nothing? How do the butterflies in our brain—or should I say bats in our belfry—manage to produce the strange loops of consciousness?

There may be advanced life forms in Andromeda who know the answers. I sure don't. Nor do Hofstadter and Dennet. And neither do you.

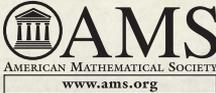
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