

the Brain : a Very short introduction

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Abstrak

Think for a few moments about a very special machine, your brain ? an organ of just 1.2 kg, containing one hundred billion nerve cells, none of which alone has any idea who or what you are. In fact the very idea that a cell can have an idea seems silly. A single cell after all is far too simple an entity. However, conscious awareness of one's self comes from just that: nerve cells communicating with one another by a hundred trillion interconnections. When you think about it this is a deeply puzzling fact of life. It may not be entirely unreasonable therefore to suppose that such a machine must be endowed with miraculous properties. But while the world is full of mystery, science has no place for miracles and the 21st century's most challenging scientific problem is nothing short of explaining how the brain works in purely material terms. Thinking about your brain is itself something of a conundrum because you can only think about your brain with your brain. You'll appreciate the curious circularity of this riddle if you consider the consequence of concluding, as you might, that your brain is the most exquisitely complex and extraordinary machine in the known universe. Clearly this is, and may be nothing more than, the opinion of your brain about itself: the brain's way of thinking about the brain. So it seems we are caught in the logical paradox of a self-referencing, and in this case also a self-obsessed, system. Perhaps the only reliable conclusion from this thought experiment is that the brain is about as conceited as it is possible to be! Notwithstanding the brain's well-developed personal vanity, we must grant that it provides you with some very distinctive abilities. It operates in the background of your every action, sensation, and thought. It allows you to reflect vividly on the past, to make informed judgements about the present, and to plan rational courses of action into the future. It endows you with the seemingly effortless ability to form pictures in your mind, to perceive music in noise, to dream, to dance, to fall in love, cry, and laugh. Perhaps most remarkable of all however is the brain's ability to generate conscious awareness, which convinces you that you are free to choose