

Whatever Became of the Soul?



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“You, your joys, and sorrows are no more than the behaviour of a vast assembly of nerve cells and their associated molecules,” wrote Nobel laureate Francis Crick. “The idea that man has a disembodied soul is as unnecessary as the old idea that there was a life force,” and this, Crick believes, “is in head-on contradiction to the religious beliefs of billions of human beings alive today.” More recently, *Nature Neuroscience* editorialized: “The rapid progress of neuroscience has . . . deep and possibly disturbing implications”; its findings are “interpreted by some as providing new ammunition for a materialist account of human nature, and thus as an attack on traditional belief systems.”

Few neuroscientists any longer believe that humans are composed of two distinct and separable parts, called brain and mind, or body and soul. With every neuroscience advance comes further confirmation of the inseparable bond between brain and mind. In *Descartes’s Error*, the neuroscientist Antonio Damasio contends that the distinction between the diseases of “brain” and “mind” is an unfortunate cultural inheritance that reflects ignorance of the actual brain/mind relationship.

But what about the soul? It’s true that many people of faith continue to speak and sing words that assume that our human nature includes an entity called a soul that interacts with our bodies but leaves at our death. This body/soul dualism—the legacy of Plato, St. Augustine, and René Descartes—cannot be ruled out on scientific grounds. Another Nobel laureate, Sir John Eccles, believed that mind and soul are indeed non-material entities that interact with the physical body. Many adherents of New Age religion and devotees of parapsychology hold a similar view.

As a neuroscientist and Christian, I do not, however, feel led by either my science or my faith to believe that I am made up of two separate entities, body and soul. Rather, I believe I am a unified living being (which is

one translation of soul found in some modern versions of the Bible), with physical and mental aspects. The mental dimension of my being is as important as the physical body/brain on which it depends. Indeed, the emerging scientific evidence, fueled by psychology's so-called cognitive revolution, gives as much weight to the mental aspect of our nature as to the physical.

As the past century of Jewish and Christian biblical scholarship reminds us, our "souliness" can be understood as our relatedness to God, to other humans, and to all of creation. The biblical idea is remarkably similar to the neuroscience view that we are psychosomatic unities, not dualistic packages. I do not *have* a soul, I *am* a living being or soul. People of faith should therefore pause before they rush to the barricades to defend their beliefs in the soul against what they see as the latest scientific effort to reduce everything to physical explanation.

But what about the animals? If humans do not possess a separate "thing" called the soul or mind, is there no difference between humans and other animals? We share more than 98 percent of our DNA with the apes. As many programs on "animal minds" have reminded us, animals can think and solve problems. Do they also possess "souliness"?

Support for such an idea comes from an unlikely source. The opening chapters of the Hebrew and Christian Scriptures refer to both animals and humans. However, the evidence accumulated by psychologists makes it clear that animals differ greatly from humans in "souliness"—so much so that the difference seems qualitative. This is surely evidenced in the absence of libraries, observatories, nuclear science laboratories, and high-tech medical procedures among chimps.

An analogy may help. The same materials, when mixed in different proportions, can behave quite differently. A weak mixture of gas and air

may contain the same molecules as a richer mixture that burns. Below a certain minimum concentration, the mixture is simply nonflammable. Similarly, a complex human brain embodies conscious mental and spiritual qualities not found in animals. Humans, it seems, have the critical capacities for personal relatedness, for complex language, for forming a “theory of mind,” for historical memory, and for contemplating the future. Such highly developed “souliness” makes humans unique and, I believe, confers the capacity for personal relationship with God.

To defend human dignity, we do not need to assume Plato’s pre-Christian idea of an immortal soul or to denigrate animals. Both humans and other animals are part of the creation of the one who knows even when a sparrow falls.

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