

# Darwin and Dostoyevsky: twins

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Late in the nineteenth century, Charles Darwin (1809–1882) and Fyodor Dostoyevsky (1821–1881) published accounts of their investigation of humankind. Darwin did so in 1871 in his book *The Descent of Man*, Dostoyevsky in 1880 in the parable of *The Grand Inquisitor* in his book *The Brothers Karamazov*. Last year we celebrated Darwin's anniversary; for biologists, 2010—the 130th anniversary of Dostoyevsky's book—might have been the year of Dostoyevsky.

Dostoyevsky was familiar with Darwin's doctrine and he was willing to admit "man's descent from the ape". An orthodox Christian, he put this sentiment in religious terms: "It does not really matter what man's origins are, the Bible does not explain how God moulded him out of clay or carved him out of stone." Yet, he saw a difference between humans and animals: humans have a soul.

The philosopher Nikolay Berdyayev noticed: "[Dostoyevsky] concealed nothing, and that's why he could make astonishing discoveries. In the fate of his heroes he relates his own destiny, in their doubts he reveals his vacillations, in their ambiguity his self-splitting, in their criminal experience the secret crimes of his spirit."

*The Grand Inquisitor* can be read as Dostoyevsky's treatise on human nature. In the tale, Jesus Christ revisits Earth during the period of the Inquisition and is arrested by the Church and sentenced to death. The Grand Inquisitor comes to visit Jesus in his prison cell to argue with him about their conceptions of human nature. He explains that humankind needs to be ruled to be happy and that the true freedom Jesus offered doomed humanity to suffering and unhappiness. Dostoyevsky's superposition of these two points of view on humankind reminds us of the principle of complementarity, by which the physicist Niels Bohr attempted to account for the particle-wave duality of quantum physics.

Dostoyevsky conceives of humans as complex, contradictory and inconsistent creatures. Humans perceive personal liberty as a burden and are willing to barter for it, as the Grand Inquisitor explained to Christ, for "miracle, mystery, and authority". In addition, "the mystery of human being does not only rest in the desire to live, but in the problem: for what should one live at all?" We might say that these faculties make *Homo sapiens* a religious species. Not in the sense of believing in gods or a god, but in the sense of the Latin word *religare*, which means to bind, connect or enfold. Humans are mythophilic animals, driven by a need to find a complete explanation for events in terms of intentions and purposes.

Research into the neurological bases of imagination, transcendence, metaphorability, art and religion, as well as moral behaviour and judgement (Trimble, 2007) is consistent with Dostoyevsky's views. It has identified areas of the brain that have been labelled as the 'god module' or 'god spot' (Alper, 2001). These areas represent a new stratum of evolutionary complexity, an emergence specific to the human species. Their mental translations might be tentatively designated as the Darwinian soul, anchored in the material substrate and neither immortal nor cosmic. As consciousness and volition have become legitimate subjects of neuroscience (Baars, 2003), the Darwinian soul, and with it spirituality, seems to be ripe for scientific inquiry: the quest for meaning, creation and perception of metaphors, the experience of the trinity of Truth, Good and Beauty, the capacity for complex feelings that Immanuel Kant called sublimity, the thrill of humour and play, the power of empathy and the follies of boundless love or hate. Secularization does not erase the superstructure of spirituality: it is reflected, however queer it might seem, in the hypertrophy of the entertainment industry and also, more gloomily, in spiritual conflicts on a global scale.

Dostoyevsky's views on the human soul might be closer to those of Alfred Russel Wallace, who believed that an unknown force directed evolution towards an advanced organization. We can identify this 'force' as the second law of thermodynamics (Sharma & Annala, 2007). By moving evolving systems ever farther away from equilibrium, the second law eventually became the Creator of the 'Neuronal God'.

Christ, in the parable of the Grand Inquisitor, might be conceived of as a symbol of the truth outside the human world. Christ was listening to the assertions and questions of his interlocutor, but did not say a single word. His silence is essential to the parable.

Similarly, the cosmos, to which humanity has been addressing its questions and predications, remains silent. By science, we increase knowledge only by tiny increments. The 'god modules' of our brains, unsatisfied and impatient, have hastily provided the full truth, deposited in the Holy Scripture. There are at least three books claiming to contain the revealed and hence unquestionable truth: the Judaic Torah, Christian Bible and Muslim Qur'an. A dogma of genocentrism in biology might offer an additional Scripture: the sequence of DNA in the genomes.

Dostoyevsky's legacy may suggest an amendment to the UN Charter. We, united humankind, solemnly declare: No truth has ever been revealed to us; we respect and tolerate each other in our independent searching and erring.

#### REFERENCES

- Alper M (2001) *The "God" Part of the Brain: a Scientific Interpretation of Human Spirituality and God*. New York, NY, USA: Rogue  
Baars BJ (2003) *J Consciousness Stud* **10**: 100–114  
Sharma V, Annala A (2007) *Biophys Chem* **127**: 123–128  
Trimble MR (2007) *The Soul in the Brain*. Baltimore, MD, USA: John Hopkins University Press

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