



James C. Peterson

Evangelicals, Neural Organoids, and Chimeras

While it has seemed all-hands-on-deck to fight the coronavirus, other research has continued—some investigations with remarkable speed. In December, I was surprised when a working group at the National Academy of Sciences asked me to meet with them for an hour to describe and discuss an evangelical perspective on the ethics of neural organoids and chimeras. A frequent first step in seeking to understand any malady is to find or develop an animal or lab model. They told me that in seeking to address Alzheimer’s, autism, and other neural issues, human neural organoids have been grown now to the point of significant neural activity.

It is wise that this working group took the time to hear from scholars on Evangelical, Roman Catholic, Jewish, and Islamic thought. Especially the first two constitute a majority of the people in the United States. Such broad input to the ethics of research, not only helps to maximize funding and minimize regulation, but also acknowledges that all will be affected by this new technology, increases the likelihood of developing more comprehensive consensus, remembers that error is harder to detect, but easier to correct at the start of new technology, and keeps in mind that the eventual majority consensus almost always starts as a minority perspective. For example, advocating social security for seniors was once a fringe movement, but is now assumed.

As to a specifically Evangelical perspective on neural organoids and chimeras, I could find only two op-ed length notices in the literature. And since “Evangelical” refers to the hopes and dreams and thoughts and actions of 83 million people in the US, and many more than that globally, one would expect significant variety. It is still possible though, to enumerate some likely questions and concerns among evangelicals, including relevant points of variation.

Having described who evangelicals are, I suggested four points of contact between evangelicals and the ethical questions of neural organoids and chimeras. The first was that Christians have a long history of

participating in the sciences as an intrinsic good. For example, the Oxford University chemist Robert Boyle, who discovered the relation between pressure and heat that we still call Boyle’s Law. He directed in his 1691 will that all the proceeds from his estate should be spent to translate the New Testament into Native American languages. A renowned scientist, his first priority was to make it possible for people to hear the Bible directly for themselves. An example in our current day would be Francis Collins, who found the gene for cystic fibrosis, directed the international human genome project, and now serves as the Director of National Institutes of Health under yet a third president. As a medical student, Collins was impressed with the thoughtful and confident faith of some of his patients facing death. He decided that he should spend some time investigating life’s biggest questions, and to his surprise, found the Christian faith convincing.

Maybe you have seen for yourself the stone carving in Latin over the door at the entrance of the Cavendish Laboratory at Cambridge University. It is Psalm 111:2. I translate it as “Great are the Works of the Lord, a delight for all who seek to understand them.” Rodney Stark offers a study that the great majority of 52 notable scientists as the discipline formed, were quite devout, and the rest were conventionally faithful for their day. The only skeptical exception he could find was Edmond Halley.¹ Widespread theistic convictions did not disappear as science progressed. When the laboratory complex was recently enlarged, that quotation of Psalm 111:2 was carved again over the new entrance to the now extended Cavendish Laboratory.

In contrast, some philosophers such as A. J. Ayer in the 1900s posited logical positivism, that pure material is the only reality, and only science can discover what is true. That position has been all but abandoned in philosophical circles, but some writers of popular science such as Richard Dawkins and Christopher Hitchens have claimed vociferously that

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science shows God to be a delusion.² Evangelicals who are convinced that God does exist, from first cause arguments such as those delineated by William Lane Craig,³ from fine-tuning cosmological constants noted by Walter Bradley and Richard Swinburne,⁴ from basic beliefs as discussed by Alvin Plantinga,⁵ from comprehensive coherence by Alister McGrath,⁶ ... get the message then, that since science is so wrong about God's existence, science might not be trustworthy at other points too. This then opens 40% of the American population to think that anatomical human beings first came to exist less than 10,000 years ago,⁷ and many to be part of the anti-vaccine movement. There are evangelical organizations, such as the ASA, actively working to dispel misunderstandings of both science and faith. They advocate that where well understood, science and Christian faith can work together. Where they seem to conflict, such an anomaly is an opportunity to see both better.

A second point of contact with the ethics of neural organoids is that the sciences can be an instrumental good toward healing. There is clear consensus within an evangelical perspective that caring about people's physical health and healing was characteristic of the life of Jesus Christ, and so should also be of his followers. One of the most effective ways we have available to us to heal people is through medical science.

Third, neighbor love should be extended as far as possible. Jesus taught a famous story that concluded that your neighbor is whoever you can help. Rather than narrow who is your neighbor, he extends that call as widely as possible. If in doubt about the presence or moral status of another, do what you can to bless them. This applies of course to differently abled human beings. They warrant our best care and support at every stage and condition of life. This care may in part extend to animals as well who are of God's good creation and world. They can be used to pull a plow or eaten for needed nutrition, but they should be helped to flourish in their own way, and not caused needless suffering.

Fourth, human beings have particular responsibility because they are uniquely in the image of God. For example, only human beings have the ability to intentionally end the life of a species. We do that too often by accident, but we also did so quite deliberately in wiping out smallpox. Human beings, male and female, are described as dust, very much of the earth, yet we are also made uniquely in God's

image. From the Genesis text which first declares that human beings are created in the image of God, on through 2,000 years of reflection, the image has been characterized in three parts: capacity, relationship, and calling. *Capacity* is the uniquely human ability to know God and know that one knows God. *Relationship* is a mirror that reflects the image of something that it is oriented toward. Human beings uniquely can live rightly with God and one another. *Calling* is a job to do, that includes along with God, to sustain, restore, and improve God's world temporarily entrusted to us.

This image was for the first time reflected perfectly, by Jesus Christ. For the rest of us, the image of God is often marred by our destructive choices. Since we are prone to do harm, we must take particular care not to degrade respect for our fellow human beings. We already have a decided human tendency toward downplaying or even rejecting the personhood of others. We see this, for example, in the pervasive worldwide phenomena of both genocide and slavery. In 1857, the US Supreme Court declared Dred Scott to be property, not a human being. Whether the soul, that human degree of consciousness and self-awareness, is assigned in the dualism of say J. P. Moreland, or an emergent phenomenon as in the nonreductive physicalism of Nancey Murphy, any soul deserves due respect as a fellow being. We should not create a neural human being in vitro or in an animal host because such would intentionally condemn a fellow person to be less than they could have been. There would be loss of full life and potential for that particular person who is the subject of the experiment. We have already gone down that path, and rejected the Tuskegee experience. *Primum non nocere* (first do no harm).

So, from an evangelical perspective, research using unconscious tissue inside an animal model or in a laboratory setting is welcome. In parallel to raising food, harvesting a porcine heart valve to replace an ailing human heart valve is already welcome as long as suffering was not inflicted on the animal source. The animal was part of God's creation too. If we could develop a way for an animal to grow a whole human organ such as a kidney for transplant to a human, that would be welcome, if the animal has a good life and suffering is avoided in obtaining the organ. Growing a human organ or some portion outside of a human body, for study or transplant would also be welcome. Growing brain tissue not networked to the point of potential suffering,

in an animal host or laboratory for transplant into a human being to support a damaged brain, or for study, would be welcome.

The likely boundary for evangelicals will be against enhancing the intelligence of nonhuman animals beyond species-typical norms, or conferring human-like cognitive capacities to an entity, because this would cause suffering from a mismatch in the animal, or worse, a locked-in experience to the degree that there is presence of humanity. Scientific research and medical technologies, animal models and sources, building lab tissue models and sources, including neural organoids and chimeras for research, are welcome practices toward understanding, healing, and stewardship, as long as they do not involve killing a fellow human being, or cause an unjustified negative experience for any living creature. This last concern might be met at a *prima facie* level, a subject for a later piece. ⇔

Notes

¹Rodney Stark, *How the West Won: The Neglected Story of the Triumph of Modernity* (Wilmington, DE: ISI Books, 2017), 306–12.

²Richard Dawkins, *The God Delusion* (Boston, MA: Mariner Books, 2008).

³William Lane Craig first stated the full history of this argument in *The Kalām Cosmological Argument* (London, UK: Macmillan, 1979).

⁴Walter Bradley, “The Fine Tuning of the Universe,” *Perspectives on Science and Christian Faith* 70, no. 3 (2018): 147–60; and Richard Swinburne, *The Existence of God* (Oxford, UK: Oxford University Press, 2004).

⁵Alvin Plantinga, *Warranted Christian Belief* (Oxford, UK: Oxford University Press, 2000).

⁶Alister McGrath, *A Scientific Theology*, vol. 1 *Nature* 2001; vol. 2 *Reality* 2002; and vol. 3 *Theology* 2003 (Edinburgh, UK: T&T Clark and Grand Rapids, MI: Eerdmans, 2001–2003).

⁷Megan Brennan, “40% of Americans Believe in Creationism,” Gallup Poll, July 26, 2019, <https://news.gallup.com/poll/261680/americans-believe-creationism.aspx>.

⁸Luke 10:29–37.

James C. Peterson
Editor-in-Chief

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