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Astrobiology, Theology, and Ethics

Brian Patrick Green

Through his work, Ted Peters has given us a unique permission to dream¹—permission to dream about God’s creation not only as it is right now on Earth, but also how it might be elsewhere in the universe both now and in the future. He has taken three of the grandest fields of human endeavor—astrobiology, theology, and ethics—and pioneered them into the new field of astrotheology.²

In this chapter I will present three areas in which Peters’ work has motivated my own thinking. First, I want to consider the idea of convergent cultural, theological, and moral evolution between humans and other intelligent life-forms, terrestrial or otherwise. Second, I want to consider the possibilities for divergences between these two groups. Lastly, I want to consider some of the larger-scale evolutionary issues at play in this theorizing, consider a few scenarios, and suggest some directions for future inquiry.

Imagining the Other and Seeing Ourselves

Can we have any expectations of intelligent life-forms? First, we need to define what an “intelligent life form” is and to investigate whether we have any other data points for what intelligent life-forms look like. For the purposes of this essay I will define material intelligent life forms as “self-conscious, learning, tool-makers, and symbol-makers.” Humans clearly fit; we

1 Not only permission, but also something of a mandate: “I recommend the theological community begin a research program...” Ted Peters, “Detecting ET and the Implications for Life on Earth,” *Theology and Science* 8 (2010): 124. I am pleased to oblige.

2 Though as Peters notes, the term “astro-theology” originated in 1714 with Anglican clergyman William Derham. Ted Peters, “Astrotheology,” in *The Routledge Companion to Modern Christian Thought*, Chad Meister and James Beilby, eds. (London: Routledge, 2013). Peters has also previously used the term “exotheology.”

are self-conscious, and we need society in order to learn symbolic language and tool culture, especially during our long childhood development. These traits are necessary for society, culture, and technology.

What about other creatures on our planet? The great apes, elephants, some cetaceans, and magpies can all pass mirror-self-recognition tests.³ Many of them (as well as some other creatures) are also swift learners and tool-makers and can even manipulate and communicate via symbols.⁴ But none of them utilize these traits to the extent that humans do. They are semi-intelligent. We are more semi-intelligent.

Why is *the extent* of these traits so important? These traits make culture possible, and culture requires intelligence—it requires teachers and learners, as well as a means of communication between the two. Reliance on culture indicates an adaptable intelligence, one marked by communication and learning.

I think we can expect intelligent life forms of extraterrestrial origin also to be like us in these ways (provided they are not significantly more technologically self-modified than we are, i.e., they are not yet “post-alien”). They will most likely be socio-cultural toolmakers with symbolic language, related bodily systems for manipulating tools and generating symbolic representations, long childhoods for teaching and learning, and so on. In short, there may only be one way to be an intelligent species.⁵

The idea of convergent biological evolution raises the question of convergent cultural evolution. Might there also only be one way to have

3 See, for example, Gordon G. Gallup, “Chimpanzees: Self-Recognition,” *Science* 169 (1970): 86–7; Karyl B. Swartz, Dena Sarauw, and Sian Evans, “Comparative Aspects of Mirror Self-Recognition in Great Apes,” in *The Mentalities of Gorillas and Orangutans: Comparative Perspectives*, Sue Taylor Parker, Robert W. Mitchell, H. Lyn Miles, eds. (Cambridge: Cambridge University Press, 1999), 283–94; Diana Reiss and Lori Marino, “Mirror Self-Recognition in the Bottlenose Dolphin: A Case of Cognitive Convergence,” *Proceedings of the National Academy of Sciences* 98 (May 1, 2001): 5937–42; Joshua M. Plotnik, Frans B.M. de Waal, and Diana Reiss, “Self-Recognition in an Asian Elephant,” *Proceedings of the National Academy of Sciences* 103 (November 7, 2006): 17053–57; Helmut Prior, Ariane Schwarz, Onur Güntürkün, “Mirror-Induced Behavior in the Magpie (*Pica pica*): Evidence of Self-Recognition,” *PLoS Biology* 6 (August 2008): e202.

4 R. Allen Gardner and Beatrice T. Gardner, “Teaching Sign Language to a Chimpanzee,” *Science* 165 (15 August 1969): 664–72; Gavin R. Hunt, “Manufacture and Use of Hook-Tools by New Caledonian Crows,” *Nature* 379 (18 January 1996): 249–51.

5 Simon Conway Morris describes this very well in his book, *Life's Solution: Inevitable Humans in a Lonely Universe* (New York: Cambridge University Press, 2003).

morality, or certain moral norms? Might the religions of other life-forms, terrestrial or otherwise, resemble human ones purely due to convergent evolution and the necessities built into creation from the beginning?

This raises the question of whether there could be multiple incarnations of Jesus in the universe.⁶ I assert that multiple incarnations are likely to be found among extraterrestrial intelligent (ETI) civilizations *even if God did not exist*. Call them false-positive Jesus Christs, or even “false-messiahs.”

In general, it should not surprise us that if at some point in the future we encountered ETIs with religion, we would see similarities. We should expect prophet traditions, mystical traditions, asceticism, avatars, god-kings, and the like. Assuming these ETIs are technologically comparable to us, they probably also have the scientific method, which means we will probably also share some metaphysical presuppositions with them. And if we have shared metaphysical presuppositions, then perhaps we will have religious similarities, even incarnating gods. Certainly on Earth the idea seems to have appeared multiple times, in various ways.

So are there multiple incarnations? If there are ETIs at all, then I think the answer will be yes. But beware the false-positives, and we may have no way of distinguishing true from false. Of further theological interest would be that multiple incarnations, true or false, could make Christianity more similar to Hinduism, where particular avatars gain the allegiances of devotees. Will Christians someday worship the incarnations of other worlds? And will it be right to do so? The speculation may never be answered, but I think it is worth trying to stretch our theology to see if it is steadfast, bends, or breaks.

On the larger ethical scale, I believe we can expect ETIs to be ethically similar to us.⁷ This is both good and bad. Good because we will be comprehensible to each other. Bad because we may not treat each other well. Convergent evolution will be both our friend and foe if we meet ETIs. With all the good and evil that entails, they will be like us.

6 See, for example, Ted Peters, “The Implications of the Discovery of Extra-Terrestrial Life for Religion,” *Philosophical Transactions of the Royal Society A* 369 (2011): 651–52, and Ted Peters, *The Evolution of Terrestrial and Extraterrestrial Life: Where in the World Is God?* Carl S. Helrich, ed. (Kitchener, Ontario: Pandora Press, 2008) 123–32, 163–64.

7 As Conway Morris notes in *Life’s Solution*, 313, referencing G.K. Chesterton, “The Blue Cross,” in *The Innocence of Father Brown* (London: Cassell, 1940) 22; also Robert John Russell, “What Are Extraterrestrials Really Like?” in *God for the 21st Century*, Russell Stannard, ed. (West Conshohocken, Pennsylvania: Templeton Press, 2000) 65–67; and Peters, “The Implications of the Discovery of Extra-Terrestrial Life for Religion,” 649–51.

Imagining Ourselves and Seeing the Other

Except that they may no longer be like us. History has not yet ended. As Francis Fukuyama noted in *Our Posthuman Future*, his follow-up book to *The End of History and the Last Man*, political-economic history, which he predicted would “end” on democratic liberalism because that best suits human nature, might not “end” there because technology could change human nature.⁸ And then history would be on the move again.

The contemporary tranhumanist/posthumanist/humanity+ movement seeks to improve human nature, enhancing us towards a nearly unimaginable future.⁹ In its most conservative it seeks to use eugenic means to make humans smarter, healthier, stronger, and so on. In its most outlandish it seeks to upload humans into computerized immortality.

Some transhumanist ideas are not worthy of serious consideration, but others are very possible indeed. Humans are already being mechanically and electronically integrated with artifacts, for example, with implanted neural stimulators that can restore sight to the blind and move robotic arms by thought alone.¹⁰ What are currently medical treatments for dire conditions could turn into piloting drones by thought, or connecting one's brain to a bat to experience bat-ness.¹¹ Rats have

8 Francis Fukuyama, *Our Posthuman Future: Consequences of the Biotechnology Revolution* (New York: Picador, 2002) and Francis Fukuyama, *The End of History and the Last Man* (New York: The Free Press, 1992).

9 Ted Peters has covered the intellectual territory on transhumanism as well: Ted Peters, *Anticipating Omega: Science, Faith, and Our Ultimate Future* (Göttingen: Vandenhoeck and Ruprecht, 2006) 106–53; Ted Peters, “Progress and Provolution: Will Transhumanism Leave Sin Behind?” in *Transhumanism and Transcendence: Christian Hope in an Age of Technological Enhancement*, Ronald Cole-Turner, ed. (Washington, DC: Georgetown University Press, 2011); and Ted Peters, “H-: Transhumanism and the Post-Human Future: Will Technological Progress Get us There?” *Metanexus* (September 1, 2011) <http://www.metanexus.net/magazine/tabid/68/id/10546/Default.aspx> (accessed March 28, 2013).

10 Eberhart Zrenner et al, “Subretinal Electronic Chips Allow Blind Patients to Read Letters and Combine Them to Words,” *Proceedings of the Royal Society B* (3 November 2010) <http://rspb.royalsocietypublishing.org/content/early/2010/11/01/rspb.2010.1747.full> (accessed March 28, 2013), and Jennifer L. Collinger et al, “High-Performance Neuroprosthetic Control by an Individual with Tetraplegia,” *The Lancet* 381 (16 February 2013): 557 – 64.

11 Thus answering Thomas Nagel's famous article asking “What Is It Like to Be a Bat?” *The Philosophical Review* 83 (October 1974): 435–50.

already had their brains linked to each other in this way.¹² The next step, I offer with only mild humor, will be undergrads.¹³

How will human nature change when we can command computers by thought alone and communicate with each other via telepathy? Previous generations have a hard enough time understanding youngsters now, with their texting and Twitter, just wait until *they* can't understand *their* children, with telepathy, telekinesis, and who-knows what.

All of this makes the future extremely unpredictable. By the time we are getting any distance into space we might be sending crews who are neurally integrated with each other and their onboard computers. And their onboard computers will likely be good approximations of artificial intelligences. This is a possible future, one that might occur if we let it.

Now imagine this strange human-crew-ship-entity encountering another intelligent species, one that has also technologically modified itself. Likely at some point in the past these two sides would have resembled each other and been comprehensible to humans of the early twenty-first century. But even the "humans" in this scenario are too alien to comprehend, much less the actual aliens. How can we envision the truly-alien when we cannot even envision ourselves in fifty or one hundred years?—assuming we still exist in fifty or one hundred years.

And this brings us to a few scenarios which I would like to propose as possible futures.

Where Act Becomes Being

It is a fundamental axiom of Catholic natural law that *agere sequitur esse*: action follows being. The identity of a thing will determine how it behaves. A rock will act like a rock. A sapling will act like a sapling. A human will act like a human.

Ontologically, action follows being. But epistemologically, we know being by its actions.¹⁴ Thus, if the activity of something changes we may

12 Miguel Pais-Vieira, Mikhail Lebedev, Carolina Kunicki, Jing Wang, and Miguel A.L. Nicolelis, "A Brain-to-Brain Interface for Real-Time Sharing of Sensorimotor Information," *Scientific Reports* 3 (28 February 2013): article 1319, <http://www.nature.com/srep/2013/130228/srep01319/pdf/srep01319.pdf> (accessed March 28, 2013).

13 Indeed, shortly after writing this, a human brain-to-brain interface was done, though not undergrads. See Rajesh P.N. Rao et al, "A Direct Brain-to-Brain Interface in Humans," *PLOS One* 9 (5 November 2014): e111332.

14 This relates to Peters' excellent question "Where's 'Nature' in 'Natural Law'?" *Theology and Science* 7 (2009): 115–17. Natural science is a good place to turn for information for natural law.

well have to re-describe the identity of that thing. For example, a caterpillar may become a butterfly. The caterpillar contained an unrealized potency, a potency which later actualized, and if we did not expect such an occurrence we would have to alter our future expectations of such similar creatures. What we believed to be the identity of the creature would need to be updated.

But humans are particularly difficult to deal with for natural law, especially now that we are gaining the ability to actually manipulate our own human nature.¹⁵ The first question is whether this transformation is more like that of a caterpillar to a butterfly—that humans always could do this but merely never expressed the potency (thus humans would be something like “the creature whose nature is to change its nature”), or whether this is more properly thought of as an act unnatural to humans, that it is not a proper potency being realized, but rather an improper expression of human nature’s power being directed towards damaging itself rather than perfecting itself. And if this is a moral question for human self-manipulation, it also raises the question of the morality of evolution as a whole.

Evolution is that process by which efficient causes lead to changes in formal cause over time. In other words, actions change being. Like in virtue ethics, only across generations, actions become identity. Long ago some creatures evolved more towards eating meat and others more towards eating plants. Eventually some creatures became extremely specialized towards one side or the other. Biology in conjunction with behavior yielded permanent changes in both biology and behavior. And at this point we might ask ourselves: was this the right thing to do? Where is morality in all of this?

Because perhaps it is immoral to eat meat. Genesis 1–3 seems to imply that possibility since God explicitly tells Adam and Eve to eat of the fruit of the garden (except one). Eating of the fruit of the garden implies

15 As I have discussed previously: Brian Patrick Green, “Could Transhumanism Change Natural Law?” presented to the American Academy of Religion’s Transhumanism and Religion Group at the national meeting in San Francisco, California, November 19–22, 2011; Brian Patrick Green, “The Human Future: Changing Human Nature and Changing Natural Law,” presented to the 3rd annual Student Symposium on Science and Spirituality of the Zygon Center for Religion and Science, Chicago, Illinois, March 25, 2011; and Brian Patrick Green, “Transhumanism and Catholic Natural Law: Changing Human Nature and Changing Moral Norms,” in *Religion and Transhumanism: The Unknown Future of Human Enhancement*, Calvin Mercer and Tracy J. Trothen, eds. (Santa Barbara, California: Praeger, 2015) 201–16.

eating of its excess, not its essential being. Eating an animal kills it. Eating a fruit just prevents another plant from growing; it does not harm the plant itself.

So has evolution forced us into immoral natures? And if so, do these natures need correction? And if our natures are morally flawed and need correction, should we do so? And—and this is a desperately dangerous “and”—should we also impose those moral understandings on other humans and creatures? Perhaps all carnivory on Earth ought to be stopped. Furthermore, if we adopt this ethic, then if or when we encounter extra-terrestrial creatures, will we see fit to do the same to them? Even if they are intelligent and disagree with us? And if we do not choose this ethic, what if we encounter another intelligent species that has? And what if it thinks it ought to impose these morals upon us? Here we enter the realm of science fiction.

Artificial intelligence theorist Eliezer Yudkowsky once wrote a short story called “Three Worlds Collide” about just such a dangerous, first-contact encounter between three highly divergent intelligent species.¹⁶ The first are humanity. The second are the “Babyeaters”—crystalline beings that eat the majority of their own offspring. The third are the “Superhappies”—blobs that reject permitting any form of pain and whose genetic and neural information are the same substance.¹⁷ All three species immediately find the others intolerably defective, immoral, and dangerous.

The issue of “technological humanitarian intervention” becomes a moral question when confronted by the “defective” natures of other species. In “Three Worlds Collide,” the natures and concomitant moralities of the ETIs in question are incompatible. The Superhappies, being the most powerful, demand to alter the natures of all three alien species, in order to make all acceptable to all. If the other species refuse, they will be destroyed.

16 Eliezer Yudkowsky, “Three Worlds Collide,” *Less Wrong* website, http://lesswrong.com/lw/y4/three_worlds_collide_08/ (accessed 27 March 2013).

17 It should be mentioned that the Superhappies are the epitome of everything that transhumanism stands for: the unrestrained pursuit of happiness and unlimited control over the human body’s information, both genetic and neural. This ultimate control over nature is, by the way, extremely dangerous. There is good reason that we cannot, simply by one thought, mutate the DNA in our cells. It would be suicide. God, as necessary Being-in-Itself, could do it, but humans, as contingent creatures, cannot. This is a very theologically relevant point for transhumanism.

Returning to the ideas of convergent and divergent evolution, in “Three Worlds Collide,” the ETIs do manage to be significantly different from humanity, and furthermore, bent on doing good, become “alien enemies” of a particularly nefarious sort: Interstellar do-gooders—missionaries of the right and just—as they see it—empowered with advanced technology. Cultures on Earth are still experiencing this. And so they hate us for our lack of their morals.

Peters has discussed the “alien enemies” paradigm before, usually in conjunction with the benevolent “ETI myth,” but—despite having written an entire book on sin¹⁸—I think he has perhaps not taken the potential “evilness” of the enemies seriously enough.¹⁹ Whether do-gooders or cold-blooded killers, ETIs even slightly more advanced than we are—in other words with technology we can already envision today—could exterminate humanity before we even knew they existed. In the novel *The Killing Star*, by Charles Pellegrino and George Zebrowski, the authors create a story around the simple fact that any species capable of interstellar flight at relativistic speeds is also capable of destroying entire planetary ecosystems just by crashing a ship into a planet at relativistic speeds.²⁰ Such weapons are called “relativistic bombs.” In fact, destroying a planetary ecosystem would actually only take half the energy of a successful interstellar flight because it would only have to accelerate towards the target, not accelerate and then slow down again. It is actually easier to devastate planets than to travel between them. And the weapon yield is limited only by the amount of energy the enemy is willing to put into it.

Furthermore, the authors propose a reason why the Fermi Paradox may be the case: all ETIs are hiding, trying to escape detection, lest they be targeted and destroyed. Like a sort of nightmarish galactic “Central Park” at night,²¹ the only sounds ever heard are occasional pleas for help and death-screams, or perhaps a bumbling ignoramus, new to the neighborhood and thinking only the best of people, who just walks through whistling happily, not knowing what lies ahead. Likewise ETIs may have

18 Ted Peters, *Sin: Radical Evil in Soul and Society* (Grand Rapids, Michigan: Wm. B. Eerdmans Publishing Co., 1994).

19 Peters, “The Implications of the Discovery of Extra-Terrestrial Life for Religion,” 648–51; even while discussing Stephen Hawking’s warnings of “alien enemies” in “ET: Alien Enemy or Celestial Savior,” *Theology and Science* 8 (2010): 245–46, the ETIs are less evil than possible.

20 Charles Pellegrino and George Zebrowski, *The Killing Star* (New York: Avon Books, 1995).

21 *Ibid.*, 126–27.

the motivation to launch these attacks as well—because they know just as well that we might someday do the same to them. Any risk of extinction is too high. Therefore the logic is simply to strike first, following the old saying that it is better to “get them before they get you.”

Of course, those searching for ETIs already know these things.²² Luckily, ETIs must be godlike in both their technology and their morality—or at least so goes the myth.²³ “The Peters ETI Religious Crisis Survey” revealed this bias among non-religious participants, and it is an entirely unwarranted assumption.²⁴ Broadcasting our presence, then, might be a bad idea, but surely just listening could not be dangerous, right? Surely if the universe is a dangerous place, we ought to at least listen and learn about it, right?

Well, maybe not. Pellegrino and Zebrowski, as well as other researchers, have suggested that ETIs could also send malicious computer viruses through interstellar messaging,²⁵ even instructions to build an unfriendly artificial intelligence, or to build a universal replicator—a sort of ultimate 3D printer—as a “gift.”²⁶ But this gift would be an interstellar Trojan Horse, perhaps generating dangerous products such as nanotechnological robots that would proceed to devour everything on the Earth; the “grey goo” or “global ecophagy” scenarios visited upon

22 For example, Seth D. Baum, Jacob D. Haqq-Misra, and Shawn D. Domagal-Goldman, “Would Contact with Extraterrestrials Benefit or Harm Humanity? A Scenario Analysis,” *Acta Astronautica* 68 (2011): 2114–29.

23 The ETI myth has been a major interest of Peters; see Ted Peters, “Astrotheology and the ETI Myth,” *Theology and Science* 7 (2009): 3–30; Ted Peters and Julie Froehlig, “The Peters ETI Religious Crisis Survey,” *Counterbalance: New Views on Complex Issues* website, (2008), <http://www.counterbalance.org/etsurv/fullr-frame.html> (accessed March 28, 2013); Peters, “The Implications of the Discovery of Extra-Terrestrial Life for Religion,” 648–51; Peters, “ET: Alien Enemy or Celestial Savior,” 245–46; Peters, *The Evolution of Terrestrial and Extraterrestrial Life*, 101–32. See also Albert A. Harrison, “The ETI Myth: Idolatrous Fantasy or Plausible Inference?” *Theology and Science* 8 (2010): 51–68; and for the opposing myth, Christopher Partridge, “Alien Demonology: The Christian Roots of the Malevolent Extraterrestrial in UFO Religions and Abduction Spiritualities,” *Religion* 34 (2004): 163–89.

24 Peters and Froehlig, “The Peters ETI Religious Crisis Survey,” 13–14.

25 Pellegrino and Zebrowski, *The Killing Star*, 123–24; Baum et al, “Would Contact with Extraterrestrials Benefit or Harm Humanity?” section 6.2; and R.A. Carrigan, Jr., “Do Potential SETI Signals Need to Be Decontaminated?” *Acta Astronautica* 58 (2006): 112–17.

26 In light of this, a novel like Carl Sagan’s *Contact* (New York: Simon and Schuster, 1985), where humans follow intricate ETI instructions to build a powerful machine, seem extremely naïve.

us just by listening to space.²⁷ Moreover, given that 3D printing technology is already progressing extremely quickly, maybe they wouldn't need to even send instructions to build the Trojan Horse. We can build it for them, and then the virus can just commandeer a few and set them to print replicators until they eat everything.

Perhaps we need not only to be quiet, but also to cover our ears.

It All Comes Back to (the Problem of) Evil

All these ideas for horrible outcomes raise, again, a theodicy problem for Christianity. "The Peters ETI Religious Crisis Survey" revealed that most religious believers did not feel that their faith would be personally threatened by the discovery of ETIs. After all, Christianity has already dealt with the discovery of one New World; what problem would a few more be? However, in the survey comments another possibility was suggested. *It depends on the kind of aliens.*²⁸

I agree. If the aliens are just regular folks like we are, then they present no difficulties for theology. But what if they are disturbingly different from us, or they are evangelical atheists, or they simply destroy us before we even get to say hello? Of course, if we are dead we cannot personally lose our faith, but the theodicy question would still stand even in the absence of humans to ask it: how could God permit such things? Would God permit the extermination of humanity by ETIs? God already has permitted the extermination, by *Homo sapiens*, of the Neanderthals, the Denisovans, and *Homo floresiensis*, barring the few that may have interbred. What are we to think of a God who would make a nature where such things can occur? How can we trust a Lord who has permitted and who will continue to permit such atrocities?²⁹

One traditional response to this argument was once offered to me by a Hasidic rabbi. If God does not exist, then such evils are not evil. They

27 K. Eric Drexler, *The Engines of Creation: The Coming Era of Nanotechnology* (New York: Anchor Press Doubleday, 1986) 172–73.

28 Peters and Froehlig, "The Peters ETI Religious Crisis Survey," Appendix 4, 65–101.

29 We might also note that if humans are the only intelligent species to have experienced a true Incarnation of God, this might "protect" us as bearers of the revelation of God, or it might not. Perhaps God would allow this revelation to go silent, by allowing us to be destroyed, thus leaving the universe forever in theological darkness. Or God could always raise up another species elsewhere to replace us. Relatedly, if there are multiple incarnations, that might make us less special and therefore less likely to receive special protection after all, if we go extinct, there will still be other incarnations to reveal God's presence to the universe.

can only be evil if God exists. This dissolves the problem, but still leaves God's character in question. Do we really just have to have faith, even in the face of such disturbing evidence of God's lack of interest in our temporal welfare? Yes. There are other ways to answer it, but they all just boil down to "yes." Jesus Christ makes a big difference, but in some ways, through his horrible death, he just re-emphasizes the "yes." We either accept that or we don't.

Many will not accept this answer. So I will offer one last thought before concluding. In the face of a universe that seems broken, and in the face of a lack of convincing evidence that, to quote Julian of Norwich "all shall be well," there is an understandable human drive to correct things on our own. Nature is broken. Human nature is broken. Both nature and human nature leave room for improvement, it seems, and we cannot sit idly by and live in that brokenness. If we have the power to act, and empowered by our technology we will, it seems by all that is right, that we should.

With that decision we have chosen the path of the knowledge of good and evil. What was once the exclusive province of nature we shall have stolen and bent to our will—or it will be bent to our will—technology and government willing. The universe must be corrected, and we are the only ones to do it. "You will be like gods," the snake promised. And to preserve our integrity, we must make the lie true.

To resist these interventions would be immoral. Or so it might seem.³⁰

Conclusion

The intersection of astrobiology, theology, and ethics is fanciful intellectual territory. It is a land for dreamers. The questions raised are fascinating and difficult. But in the absence of any kind of evidence for non-terrestrial life we must ask ourselves, ultimately, what we can gain from it. The answer is that we gain our humanity. With difficult ideas we stretch our theological and ethical horizons. We strive for excellence. And we might even have practical benefits as well, though we may never know. What once seemed unimportant can suddenly become catastrophically important. Multiple incarnations? Currently irrelevant. If

30 Karl Rahner addressed some of these issues with the neurotic pursuit of power over life and nature in two famous essays: "Experiment Man," *Theology Digest* 16 (1968): 61, and "The Problem of Genetic Manipulation," *Theological Investigations* 9 (1972): 205–22, as has Alasdair MacIntyre in "Seven Traits for the Future," *The Hastings Center Report* 9 (1 February 1979): 5–7.

we discover an ETI civilization that *has one*? Good thing to have thought about it first.

Then, until then, we search. We dream. We try to think the impossible. We sometimes succeed.

And that is something ETIs can do for us, whether they are angelic or demonic, and whether they really exist or not.