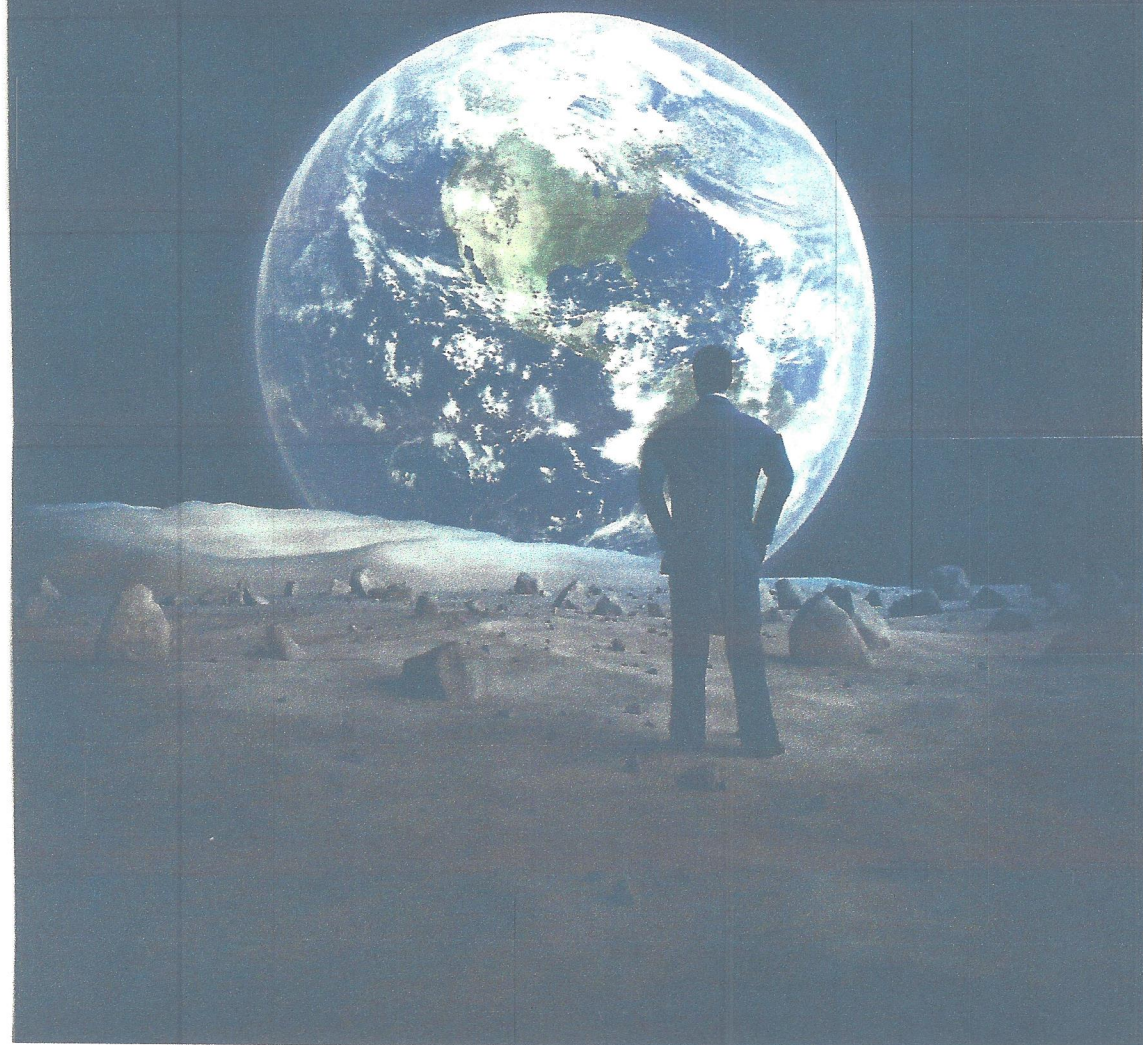


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# Space Exploration and ET

Who Goes There?

Edited by Jacques Arnould





## Intelligent Aliens and Astroethics

Ted Peters

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When we meet them, how should we act? By 'them' we refer to our new neighbors in space. We are not certain they are out there. But, just in case they are, we should get morally ready.

In order to ready ourselves, we will imagine three scenarios. In the first scenario, we will imagine communicating with extraterrestrial intelligent beings who, in some significant way such as intelligence level, are inferior to us. We will ask: would our moral obligations toward these intelligent creatures look like our current moral obligations to terrestrial animals? In the second scenario, we will imagine communicating with extraterrestrial beings who are our equals, our peers. As peers, they may be hostile or peaceful. We will ask: would our moral obligations to these intelligent creatures be analogous to our moral obligations to one another here on Earth? In the third scenario, we will imagine communicating with extraterrestrial beings who are superior to us in intelligence. As our superiors, they might be hostile, peaceful, or maybe even benevolent. In light of each of these possibilities we will ask: how should we act?<sup>1</sup>

Just who is the 'we' that we are talking about? For the purposes of this discussion, the 'we' refers to all *Homo sapiens* on Earth, both individually and as a whole. Because of the challenge posed to us by contact with off-Earth intelligent beings, we on Earth may discover a new sense of unity. Regardless of our diverse ethnicities

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1. This tripartite division for setting the ethical agenda is revised from previous explorations into this topic. See: Ted Peters, 'AstroEthics: Engaging Extraterrestrial Intelligent Life Forms,' in *Encountering Life in the Universe: Ethical Foundations and Issues and Social Implications*, edited by Chris Impey, Anna H Spitz, and William R Stoeger, SJ (Tucson AZ: University of Arizona Press, 2013).

and nationalities and ideologies, we may find it morally relevant and morally significant to think of earthlings as constituting a single community of moral deliberation.

The human beings on our planet, as a group, constitute the relevant moral agent. In addition to our human responsibility for moral agency, however, our Earth community includes the physical planet itself along with all the flora and fauna and critters we share it with. All biokind and abiota on Earth make up our moral community, so to speak, even if humankind remains the moral agent. We need to think of Earth in terms of unity, oneness, wholeness. From this sense of a global communion we can approach our scenario questions with responsible answers.

We begin with a hurdle to jump. The good news is that our subject matter is important, dramatically important. 'The mere detection of life elsewhere would be one of the most profound discoveries of all time,' announces a *New Scientist* editorial.<sup>2</sup> SETI searcher Seth Shostak makes the same point. 'Proof of thinking beings beyond Earth would be one of the most profound discoveries ever.'<sup>3</sup> John Haught says this will be just as important for theologians as for scientists. 'Contact with ETs would provide an exceptional opportunity for theology to widen and deepen its understanding of divine creativity.'<sup>4</sup> That's the good news. The not so good news is that, to date, we have zero empirical evidence that anybody's there. 'No unambiguous signals from extraterrestrial intelligence have been detected' reports Steven Dick.<sup>5</sup> Because of this circumstance, space ethics must be speculative. So, speculate we will.

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2. 'Look, a galaxy fit for life,' editorial, *New Scientist* (26 February 2011) 13.
  3. Seth Shostak, 'Are We Alone? Estimating the Prevalence of Extraterrestrial Intelligence' in *Civilizations Beyond Earth: Extraterrestrial Life and Society*, edited by Douglas A. Vakoch and Albert A. Harrison (New York and Oxford: Bergbahn Books, 2011) 31-42:41.
  4. John Haught, *Deeper than Darwin* (Boulder CO: Westview, 2003) 179.
  5. Steven J. Dick, 'Extraterrestrial Life,' in *Encyclopedia of Science and Religion*, edited by J. Wentzel Vrede van Huyssteen, 2 Volumes (New York: Macmillan: Thomson/Gale, 2003) 1:316-318: 317.
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### Pioneering Space Ethics

Ethics is the 'science of the moral'<sup>6</sup> writes theologian Paul Tillich. Ethics is the theory that undergirds morality. Tillich adds, 'Ethics is the science of man's moral existence, asking for the roots of the moral imperative, the criteria of its validity, the sources of its contents, the forces of its realisation.'<sup>7</sup> Ethics is thinking about what is moral.

What, then, is *space ethics*? Or, *astroethics*? In our case, space ethics or astroethics consists of lifting up a vision of a future cosmic community—a single terrestrial and extraterrestrial society—that is morally integrated. Borrowing the concept of the *common good* from Roman Catholic ethicists—then applying the common good to the space frontier in the form of the *cosmic commons*--we imagine an ongoing cooperative relationship that is inclusive of all sentience in our cosmic neighborhood.

Ethicist Sergio Bastianel explains the common good as the good that is held in common; but also the good that accrues to individuals who share in what is common. 'The common good as sum of the goods possessed by many and directed toward the utility of individuals, will be the *common reaching out* to realise a way of living together that can be accurately called *communion*.'<sup>8</sup> Stated this way, this concept of the common good envisions a planetary communion, a global society. This leads to our next question: can an astroethicist jump from the common good to the cosmic good?

Boston University's John Hart makes the leap from earth ethics to space ethics by introducing the *cosmic commons*. 'The *cosmic commons* is the spatial and local context of interactions among corporeal members of integral being who are striving to meet their material, spiritual, social, and aesthetic needs, and to satisfy their wants... The cosmic commons includes the aggregate of goods which, beyond their intrinsic value, have instrumental value in universe dynamics or as providers for the well-being of biotic existence. In the cosmic commons, goods that will eventually be accessible on the moon, asteroids, meteors, or other planets should prove useful

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6. Paul Tillich, *Morality and Beyond* (San Francisco: Harper, 1963) 21.

7. Paul Tillich, *Love, Power, and Justice* (New York and Oxford: Oxford University Press, 1960) 72.

8. Sergio Bastianel, *Morality in Social Life*, tr Liam Kelly (Miami FL: Convivium Press, 2010) 115.



to humankind, to other intelligent life, and to biokind collectively.<sup>9</sup> I recommend we adopt the concept of the cosmic commons as the domain within which we exercise our ethical responsibility.

In addition, I suggest we divide the cosmic commons into two concentric spheres. The first circumterrestrial sphere refers to our local neighborhood surrounding our sun, the *solar ghetto*. So many ethical issues have arisen regarding life in the solar ghetto that it is difficult to list them all: planetary protection, space debris, scientific privilege, satellite surveillance, weaponisation of space, sending space tourists to the Moon, colonising or terraforming Mars, and such. We will leave these topics for others to address while, in this essay, we grapple with the second and more inclusive cosmic domain.

The second cosmic sphere is the *Milky Way Metropolis*. Because of the vast distances between galaxies, we can have little or no hope of ever communicating beyond the Milky Way. Just establishing community within the Milky Way will be a challenge. Yet, our imaginations can reasonably produce scenarios of minimal communication with extraterrestrial civilisations and, with a much lower probability, space travel and visitation. It is the second of these, the Milky Way Metropolis, which will provide the context for the following ethical speculations.

Could a theologian work with a worldview that is cosmic in scope? Could the cosmic commons include extraterrestrial neighbors? Theologian Mark Worthing would answer affirmatively. He celebrates the prospect of including aliens in our biblical worldview. 'Any extraterrestrial life, if it exists, must be seen as a part of God's good creation.'<sup>10</sup> John Puddefoot would add, 'we are debarred—not by morality, but by the demands of coherent theological thought—from claiming that our God has an *exclusive* preference for our tribe, tradition, culture or planet.'<sup>11</sup> The God of creation is the God of this

9. John Hart, 'Cosmic Commons: Contact and Community,' *Theology and Science* 8:4: 371-392 (November 2010) 377.

10. Mark Wm Worthing, 'The Possibility of Extraterrestrial intelligence as Theological Thought Experiment,' ed Terence J Kelly and Hilary D Regan, *God, Life, Intelligence and the Universe* (Adelaide, Australia: ATF Press, 2002) 61-84: 72.

11. John Puddefoot, 'The Last Parochialism? Reason, Knowledge and Truth in Perspective; Human Intelligence and Cosmic Life,' *Ibid.*, 141-166: 149.

cosmos, the God of the Milky Way and beyond. This grounds the concept of the cosmic commons.

Where are the scientists? Astrobiologists and SETI searchers have begun the conversation regarding astroethics. When it comes to ethical guidelines for sharing confirmation of the existence of ETI, SETI has prepared a basic statement: *The Declaration of Principles Concerning Activities Following the Detection of Extraterrestrial Intelligence*. The nine principles adumbrated here prescribe steps for following scientific best practices; they remind researchers to seek independent confirmation and to announce the discovery publically only after consultation with international leadership.<sup>12</sup> This is, at best, a set of guidelines solely for scientists. What we need now is to think ethically on behalf of the wider human community on planet Earth.

Whether in church or laboratory, space ethicists are exploring new intellectual territory. Jacques Arnould refers to space ethicists as pioneers. 'Space ethics appear today as a new *terra incognita*, an unknown country,' writes Arnould. Like pioneers, space ethicists should begin their journey with humility, seeking first to learn the new territory. 'That is the reason too why the first challenge is not to organise, to legalise and to reduce ethics to its repressive aspect. At the present time, we need to explore the field of space ethics. We need to determine the responsibilities; and to debate them. Major decisions about space cannot remain in the hands of individual leaders or the property of politic, scientific or financial lobbies.'<sup>13</sup> While astrophysicists and astrobiologists explore space, we explore space ethics.

### Proleptic Astroethics

Space ethics, like other ethical deliberations, requires the construction of a vision of what lies beyond. We go beyond in two respects. First, ethics must peer beyond the limits of what we receive from science. 'Although science can, and arguably should, inform ethics, science

12. SETI, 'The Declaration of Principles Concerning Activities Following Detection of Extraterrestrial Life,' *Acta Astronomica*, 21:2 (1990) 153-154; [http://www.seti.org/online\\_mss/SETI-DofP90.pdf](http://www.seti.org/online_mss/SETI-DofP90.pdf).

13. Jacques Arnould, 'The Emergence of the Ethics of Space: The Case of the French Space Agency,' *Futures* 37: 245-254 (2005)252.



cannot dictate ethics,' says astrophysicist Grace Wolf-Chase.<sup>14</sup> And, we would hope, scientists themselves would see the need to extend their work to include the ethical dimension. Nobel Prize winning astrophysicist, Martin Rees, makes this point. 'Scientists shouldn't be indifferent to the fruits of their ideas. They should try to foster benign spin-offs, and they should prevent, so far as they can, dubious or threatening applications.'<sup>15</sup>

Second, astroethics must peer beyond the present situation into the future. It is a commonplace to distinguish between what is and what should be. Dinesh D'Souza reminds us: 'morality isn't merely about what you do . . . it is about what you should do.'<sup>16</sup> We know what is in the present. Now, just what ought to be in the future? Our ethical speculation begins with a theological vision of new creation, perhaps as Neil Ormerod sees it. 'It is in and for this creation and its completion that we are both created and re-created in Christ.'<sup>17</sup> This divine promise for a new creation provides the ontological grounding for an ethic of the cosmic commons.

Projecting a vision of what ought to be done so that we know what we should do is what I dub the task of *proleptic ethics*.<sup>18</sup> Such an approach by Christian ethicists begins with the biblical vision of the coming Kingdom of God; then it moves toward incarnating that future kingdom in the world of the present. We begin with the vision of a coming new creation promised us by God in the Easter resurrection of Jesus. 'The resurrection and the final participation of creation in it, had always been the very meaning of creation,' writes Denis Edwards; 'the resurrection is that for which the processes and regularities of the natural world exist. The God of resurrection

14. Grace Wolf-Chase, 'Astronomy: From Star Gazing to Astrobiology,' in *The Routledge Companion to Religion and Science*, ed James W Haag, Gregory R Peterson, and Michael L Spezio (London: Routledge, 2012) 103-112: 110.

15. Martin Rees, 'The Royal Society's Wider Role,' *Science* 328:5986 (25 June 2010) 1611.

16. Dinesh D'Souza, *Life After Death: The Evidence* (Washington DC: Regnery Publishing, 2009) 179.

17. Neil Ormerod, 'Resurrection and Cosmic Eschatology,' *From Resurrection to Return*, ed by James Haire, Christine Ledger, and Stephen Pickard (Adelaide: ATF Press, 2007) 171.

18. My own development of proleptic ethics is found in Ted Peters, *Anticipating Omega* (Gottingen: Vandenhoeck und Ruprecht, 2008).

is the God of creation.<sup>19</sup> The Easter resurrection of yesterday is the prolepsis of the new creation coming tomorrow. 'The eschatological future reaches back and is revealed in the event of the resurrection of Jesus,' contends Robert John Russell; 'both creation and New Creation are part of a single divine act of creation *ex nihilo*.'<sup>20</sup> When we try to realise tomorrow's reality in today's world, we are engaging in proleptic ethics, an ethical vision founded ontologically in creation, in ultimate and final reality.

Inspired by this eschatological vision, in our ethical deliberation we construct an anticipatory picture of an eschatological cosmic commons. The theoretical ethicist should project a vision of a cosmic commons characterised by traits we expect to be authorised by the promised kingdom of God: peace, justice, and mutual caring. This is the *ought*. What is the *is* with which we begin?

### Granting Assumptions

We begin with the present situation, complete with a set of assumptions. The present situation is this: we have no empirical knowledge regarding the existence of extraterrestrials let alone knowledge of what they are like. Still, our scientists work with a number of assumptions. The assumptions with which we will frame our astroethical picture are those already relied upon by astrophysicists and astrobiologists. These assumptions provide the scaffolding on which the current research programme is built.

*Assumption One.* The primary assumption at work here has to do with a particular interpretation of Darwinian evolution. This assumption includes the evolution of life from prior abiotic materials; and it includes the notion that over time simple life will evolve into complex and intelligent life. Scientists must speculate on the basis of what we know from the evolution of life on Earth and then be ready for surprises. Might we find intelligence that is silicon based rather than carbon based? Might we find intelligence expressed in entities other than biotic individuals? Might intelligence belong to

19. Denis Edwards, *How God Acts: Creation, Redemption, and Special Divine Action* (Minneapolis: Fortress Press, 2010) 104.

20. Robert John Russell, *Time in Eternity* (Notre Dame IN: University of Notre Dame Press, 2012) 15.



groups rather than individuals? Such would count as surprises, to be sure. Having made room for surprises, speculations seem most reasonable when we project the image of an extraterrestrial being who looks somewhat like us, a biotic individual. In short, the first assumption is that evolution is both universal and progressive. The other assumptions follow from this.

*Assumption Two.* The corollary to the above is this: extraterrestrial individuals may be more or less advanced on a scale of evolutionary development, a scale of evolutionary progress. If ETI forms have evolved longer than we, they might be more complex and more intelligent. If they have evolved for less time than we, they might be simpler and less intelligent. This pair of assumptions permits us to speculate about three classes of ETI: those more highly evolved and more intelligent; those less highly evolved and less intelligent; and those whose evolutionary development roughly matches our own.

*Assumption Three.* Now, let's add another assumption: we will at some point find ourselves in an interactive engagement with ETI either on Earth or on the home planet of the ETI in question. The stage of interactive engagement we are picturing here would come sometime after initial passive contact by SETI. Even though we must consider the possibility of face to face engagement; more than likely electronic communication will predominate, at least at the beginning. SETI searchers look forward to what they call high-impact communication.

*Assumption Four.* A fourth assumption looks like this: extraterrestrial intelligent creatures will in fact be creatures, intelligent individuals living together in a society. This parameter is a sub-assumption, so to speak. It is warranted because of the primary assumption made in the field of astrobiology that life might originate elsewhere in a fashion similar to what happened on Earth; and that a history of evolutionary development parallel to what has happened on Earth might follow.

*Assumption Five.* We will also assume that the level of advance achieved by ETI would be measured primarily in terms of intelligence. Even though relevant to terrestrial ethics could be alternatives to intelligence such as achievements in culture, aesthetics, or morality, we will limit this discussion solely to intelligence. This restriction is warranted because intelligence is the single category most frequently identified by astrobiologists as a measure of evolutionary progress.

We are deliberately tying astroethical speculation to the scaffolding provided by the relevant sciences: astrophysics and astrobiology.

*Assumption Six.* In the spirit of cooperative speculation, we are asking the space ethicist to indulge the space scientist in one more assumption. It goes like this: the level of ETI intelligence would be measured by scientific or technological achievement. Rather than subject aliens to IQ tests or Turing Tests, we will draw conclusions about their level of intelligence by observing their level of scientific and technological production. Many astrobiologists believe that science and technology are what intelligent beings naturally produce: the more highly evolved, the more science and technology. If ETI exhibit a high level of scientific and technological achievement, we will conclude that they are at least our equals if not our superiors in intelligence. This is obviously a self-serving criterion exacted by the scientific community; but we will grant it for the time being in order to proceed with the agenda of space ethics. We will grant this assumption; but we will keep a critical eye open, aware of other metrics regarding intelligence.

In general, we ask the space ethicist to keep assumptions made by scientists consciously at the level of assumption, not conclusion. If we suspend these propositions in a bamboo hammock of assumptions, they cannot be taken as grounded in proven truths. Rather, they are tentative hypotheses. These assumptions have not been empirically demonstrated; even though they might eventually find confirmation. In the meantime, we are constructing a vision of future contact built on a bamboo sling rather than a concrete foundation.

We must remain particularly wary of the working assumption that evolution is progressive and that we can measure intelligence on a scale of advancement. Our wariness is due to the reluctance on the part of both theologians and scientists to grant that nature is progressive, that it advances due to an inner design or purpose. The idea of progress is a myth; not a proven factor in evolutionary development and certainly not in culture. NT Wright is particularly scathing: 'the myth of progress' is ubiquitously present in 'political discourse today . . . politicians are still trying to whip up enthusiasm for their versions of this myth—it's the only discourse they know, poor things—while the rest of us have moved on.'<sup>21</sup>

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21. NT Wright, 'Cosmic Future: Progress or Despair?' in *From Resurrection to*



Progress within evolution is similarly rejected by some prominent evolutionary biologists. Harvard's Ernst Mayr, for example, has argued that the development of intelligent civilisations with the ability to communicate is so improbable as to render SETI a useless enterprise. Because 'evolution never moves in a straight line toward an objective (intelligence),' therefore, we cannot expect a repeat of what has happened on Earth somewhere else.<sup>22</sup> This position is not without its detractors. Astronomer and committed Christian, Owen Gingerich, sees signs of design and purpose in nature. Contrary to Mayr, Gingerich contends that 'there does seem to be enough evidence of design in the universe to give some pause.'<sup>23</sup> In sum, the jury is out on the first assumption.

Our point here is that the assumptions widely made by space scientists are questionable. Nevertheless, astroethicists needs to make these very assumptions in order to proceed with a research programme that targets ETI. The ethicist should remain vigilant in discriminating between what has been empirically demonstrated and what is still speculative. And proceed.

### Astroethics for Less Advanced ETI

In light of these assumptions, we must make forecasts about our yet-to-be-discovered space neighbors. Although it may appear elementary, let us project three possibilities: the aliens we engage may be our inferiors, our peers, or our superiors. Given the astrobiological assumptions above, we might very well encounter beings less fully evolved and, hence, less developed in intelligence than we are. We are also likely to meet some ETI who approximate our level of evolutionary development. And certainly we might meet some whose evolutionary history is much longer than ours and whose level of achievement is far more complex than ours. We will begin with

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Return, 7.

22. Ernst Mayr and Carl Sagan, 'The Search for Extraterrestrial Intelligence,' *The Planetary Report*, XVI:3 (May-June, 1996) 4-13: 6.

23. Owen Gingerich, 'Is there a role for natural theology today?' in *Science and Theology: Questions at the Interface*, ed by Murray Rae, Hilary Regan, and John Stenhouse (Grand Rapids MI: Wm B Eerdmans, 1994) 29-48: 42.

a vision of a future cosmic commons; and from this we will draw middle axioms to illuminate and guide our ethical speculation.

One way to approach our speculative ethics with less advanced ETI would be to ask: might the ethical framework for discerning our responsibility toward aliens be analogous to our responsibility toward Earth's animals? If we answer affirmatively, then we would find ourselves in a classic dialectic. On the one hand, the human race exploits all other life forms—both plants and animals—for human welfare. Animals provide food, work, clothing, and even company. Animals can be sacrificed in medical research to develop therapies that will benefit only human persons. On the other hand, we human beings have a sense of responsibility toward the welfare of animals. We respect them as intelligent beings; and we are concerned about preventing suffering to animals. In some instances, we exert considerable energy and effort to preserve their species from extinction and to insure the health of individual animals. In the case of pets, we love them to a degree that rivals loving our own family. In sum, we have inherited this double relationship to our inferiors already here on Earth. This double relationship implies human responsibility toward living creatures in the cosmic commons.

Denis Edwards reminds us that 'each sparrow is known and loved by God.'<sup>24</sup> Because the divinely promised new creation is inclusive all that is, both life and non-life, then we must incorporate animals on Earth within our community of moral responsibility. 'There is reason to hope that animals participate in resurrection life in Christ,' he says.<sup>25</sup> If we may extrapolate from a theology of animal care on Earth to the cosmic commons, we may construct a middle axiom of caring for the welfare of our new space neighbors.

One of the issues already rising among space scientists regarding the possibility of microbes living on planets or moons in our solar ghetto is this: would such living creatures have intrinsic value? Would their habitats have intrinsic value? If the answer is affirmative, then we ask: would our astronauts be morally obligated to treat alien habitats with deference, perhaps with the ecological sensitivities we are developing here on Earth? Margaret Race and Richard Randolph borrow from terrestrial eco-ethics and provide us with a middle axiom applicable

24. Edwards, *How God Acts*, 164.

25. *Ibid.*, 165.



to circumterrestrial sites: 'respect the extraterrestrial ecosystem and do not substantively or irreparably alter it (or its evolutionary trajectory).'<sup>26</sup> Would such an off-Earth eco-ethic fittingly express our care for God's living creatures elsewhere in the Milky Way? My own answer is this: yes, indeed.

### Astroethics for Engaging ETI who are our Equals

If we conclude that ETI are our peers in rational intelligence, then we might find appropriate the Golden Rule as our middle axiom. Jesus' version of the Golden Rule is familiar to us all: <sup>NRS</sup> Matthew 7:12 (Luke 6:31): 'In everything do to others as you would have them do to you.' If peerage implies moral equality, then we should treat peers as equal to ourselves; and we should care for their welfare just as we would care for our own.

One of the unique traits of the Golden Rule is that it appears in so many diverse cultures. We find a version of it in the teachings of Confucius in ancient China; Thales and Aristotle teach it in ancient Greece; the *Mahābhārata* provides a version in ancient India; and elsewhere. Might this be due to an inherent moral logic bequeathed to the human race by our evolutionary development? Marcus Singer puts before us a challenge. 'The fact that it is basic to moral codes of so many and such different peoples would seem to entail that it is a fundamental normative moral principle, connected inextricably with human nature, and this inference from an *is* to an *ought* surely deserves examination.'<sup>27</sup> With this in mind, let us speculate. If the Golden Rule is grounded in what is natural, then perhaps peer aliens may themselves have stumbled upon it. Whether it belongs to existing alien morality or not, at least an alien would likely understand our appeal to the Golden Rule as a moral standard. This might require

26. Margaret S Race and Richard O Randolph, 'The Need for Operating Guidelines and a Decision Making Framework Applicable to the Discovery of Non-Intelligent Extraterrestrial Life,' *Advances in Space Research*, 30:6 (2002)1583-91. [http://www.seti.org/pdfs/m\\_race\\_guidelines.pdf](http://www.seti.org/pdfs/m_race_guidelines.pdf).

27. Marcus G Singer, 'Golden Rule,' *Encyclopedia of Ethics*, ed by Lawrence C Becker and Charlotte B Becker (3 Volumes: London and New York: Routledge, 2nd ed, 2001) 1:615.

a two step process for both earthlings and aliens: first, establish equality; then, second, apply the Golden Rule.

The Golden Rule comes in two forms, the negative and the positive. Negatively, don't do to others what you don't want done to you. Positively, do unto others what you want others to do to you. If we employ the negative version, we could justify withdrawing from any kind of relationship with aliens; we could withdraw from taking any moral responsibility. The positive variant would require earthlings to take an initiative, to plan to do good on behalf of alien interests. Regardless, the Golden Rule at most provides a generic principle, not a specific set of rules applicable to each interaction.

Appeal to the Golden Rule is warranted largely because of peerage, because of equality between ourselves and extraterrestrial intelligent beings. Does this require that we impute dignity to aliens? Shall we invoke our own modern Western values such as equality, liberty, dignity, justice, and mutuality? When it comes to dealing with ETI as individuals, I recommend that we impute dignity to them—that is, we would treat each as a moral end and not merely as a means. 'Act in such a way that you always treat humanity, whether in your own person or in the person of any other, never simply as a means, but always at the same time as an end,' wrote Immanuel Kant.<sup>28</sup>

The imputation of dignity toward ETI should be accompanied by a denial of our own right to unilaterally exploit them. We might encourage the development of bilateral commerce, of course; but we should do so presuming the equality and liberty of our trading partners. We might also restrict our intrusion into their ecosphere. In sum, the ethical principles we invoke to deal with peer ETI might draw upon the Golden Rule amplified by our Enlightenment values.

### War? Peace? or Something Else?

Our moral behavior will be strongly affected by an undeniably decisive factor, namely, whether or not the aliens are hostile. For the most part, science fiction accounts of aliens have provided countless scenarios of Earth's invasion by aliens bent on our enslavement or

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28. Kant, Immanuel Kant, (1948). *Groundwork of the Metaphysic of Morals*, tr HJ Paton (New York: Harper, 1948) 96.



outright destruction. But, that's science fiction. UFO aficionados, in contrast to sci fi, separate themselves sharply from the science fiction model. Instead of hostile, the aliens pictured by UFO followers are either benign or salvific. According to the extant UFO eschatology, salvation comes to Earth in the form of a highly evolved technology descending from the skies in flying saucers. Astrobiologists think more like the UFO community than the sci fi community. For the most part, space scientists tout their own variant of the salvific scenario; but they also maintain a caution that extraterrestrials could very well be hostile. Until we meet them, we simply will not know for certain.

In the meantime, we on Earth may worry. We may become anxious. Anxiety all by itself can be quite dangerous. The anxiety associated with insecurity leads us *Homo sapiens* to strike out with violence.<sup>29</sup> We on Earth will find ourselves uneasy, on the verge of violence, until we can be assured that the ETI we confront mean us no harm. Whether the high minded among us find it moral or not, the reality is that no rational discourse about ethics can take place when anxiety is high and security is low. To determine whether ETI are a threat or not will inescapably become our planet's first priority.

In the event that the ETI in question are in fact hostile, our moral challenge will be to impute dignity to the aliens while preparing for war against them. This double relationship to other human persons usually fails here on Earth. We know from experience that whenever we are confronted with a hostile enemy from without, we find ourselves compromising human dignity. Our political leaders try to persuade our society that our targeted enemies should be reduced to inhuman if not demonic status; and this justifies going to war. What this indicates is that the social psychology of self-defense pits human dignity against the mustering of military support. Security trumps dignity, even if the high minded among us object. If threatened by alien hostility, we can forecast that military rhetoric will attempt an equivalent of dehumanising and, hence, de-dignifying the ETI enemy. A nation's leaders simply cannot embrace Jesus' peace ethic of loving our enemies combined with turning the other cheek (Matthew 5-7).

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29. On anxiety and security, see: Ted Peters, *Sin: Radical Evil in Soul and Society* (Grand Rapids: Eerdmans, 1994).

So, as difficult as it may sound, we will need an ethic that affirms the dignity of ETI while rallying our Earth allies in planetary defense.

This may create a conscience challenge for the morally sensitive among us. Bastianel reminds us that 'the horizon of meaning of all that belongs to the sphere of morality has its focal point: a relationality qualified by gratuitousness, acceptance, and fraternity.'<sup>30</sup> This is the moral horizon within which Jesus asked us to love our enemies. Yet, if the aliens present themselves as our enemies, we earthlings may need to pull our wagons into a circle for self-defense. You cannot pursue a fraternal relationship if you are dead.

In the event that peer ETI prove to be neutrally peaceful or even benevolent, then the principles giving expression to Enlightenment values should prevail without challenge: equality, liberty, dignity, and mutuality.

### Astroethics for Engaging More Advanced ETI

When entertaining these thought experiments, it is difficult to *imagine up*. It is easier to *imagine down*. When comparing humans with animals, for example, we can imagine down by distinguishing things we humans can do that are beyond the capability of the animal with whom we already share a planetary commons. When it comes to imagining ETI who might be superior to us in intelligence, it is difficult to imagine up. It is difficult to imagine what superior intelligence could manifest that is beyond the very human intelligence that is doing the imagining. This puts initial constraints or limits on how we can begin to approach the topic of ethics when engaging ETI more advanced than Earth's *Homo sapiens*. Nevertheless, it is incumbent in astrobiological ethics to speculate about the possibility of engaging with intelligent beings who are superior to us.

If we meet ETI superior to ourselves, will they be hostile? Neutrally peaceful? or salvific? Can we construct middle axioms for each of the three?

Given the assumptions made by astrobiologists that extraterrestrial evolution will follow a path toward increased intelligence as it has on Earth, the prospect of ETI fitting the hostile category should be

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30. Bastianel, *Morality*, 49.



expected. Charles Darwin's key evolutionary principle is 'natural selection,' which he identifies with 'the struggle for existence' and with Herbert Spencer's phrase, 'survival of the fittest.'<sup>31</sup> In the struggle for existence, living creatures undergo cruelty, suffering, and waste.<sup>32</sup> And the species to which virtually every individual creature belongs will eventually go extinct to make way for a more fit species. The strong devour the weak. The big eat the small. The fit survive in a world that is, as Tennyson put it, blood 'red in tooth and claw.'

Given astrobiological assumptions regarding a repeat of evolution on extraterrestrial planets, hostility is what we should expect on the part of ETI. Yet, surprisingly, some SETI speculators anticipate meeting intellectually superior ETI who will benevolently help us on Earth. A more advanced extraterrestrial civilisation, it is frequently said, will have evolved beyond war; and they may even offer to bring peace to Earth. For this reason, I add the subcategory of *salvific*. Now, how do we get from the struggle for existence to extraterrestrial saviors? How does evolution transcend itself?

Paul Davies illustrates the evolutionary logic of ETI salvation. 'Any alien civilisation the SETI researchers might discover is likely to be much older, and presumably wiser than ours,' writes Davies. 'Indeed, it might have achieved our level of science and technology millions or billions of years ago . . . it is more likely that any civilisation that had surpassed us scientifically would have improved on our level of moral development, too. One may even speculate that an advanced alien society would sooner or later find some way to genetically eliminate evil behavior, resulting in a race of saintly beings.'<sup>33</sup> The conceptual set from which Davies draws his assertions includes the presupposition that evolution is progressive; it leads over time to the development of science and technology. In addition, it leads also to advances in morality. Note that the advance beyond evil in Davies' scenario is not achieved spiritually, but genetically—that is, scientifically. In short, science saves. Because science on Earth is the most evolutionarily

31. Charles Darwin, *The Origin of Species By Means of Natural Selection of the Preservation of Favoured Races in the Struggle for Life* (New York: Signet, 6th ed, 2003) 89.

32. *Ibid*, 445.

33. Paul Davies, 'ET and God,' *The Atlantic Monthly* (September 2003) 114-115; <http://www.theatlantic.com/issues/2003/davies.htm>.

advanced achievement, an extraterrestrial science with a longer time to evolve would be even more advanced and more perfect than ours. If we on Earth engage in high-impact information sharing with such advanced extraterrestrials, we will benefit. We on Earth may be saved from our evils by the more highly evolved, more intelligent, more moral, more spiritual beings coming to us from our skies.

We are trying to discern the logic inherent within such SETI thinking. As we have noted, some in the astrobiology community project an image of a more highly evolved extraterrestrial creature who would like to rescue us earthlings from the ignorant habits we have developed due to our inferior level of intelligence. Because we on Earth have not yet achieved the level of rationality necessary to see that international war and planetary degradation are inescapably self-destructive, we could learn from more advanced ETI. Such thinking is obviously myth, not science. No empirical evidence justifies such speculation; yet such dreaming of redemption descending from the skies is tantalising to the terrestrial imagination. The essence of the ETI myth is that science saves. Science can save Earth from its inadequacies, its evolutionary backwardness, its propensity for self-destruction. If terrestrial science is insufficient, then extraterrestrial science just might be.

Yet, we must ask: how does a zebra change his stripes? If evolution has taught us to be blood 'red in tooth and claw,' how can evolution produce a civilisation that transcends this evolutionary struggle? Yet, today's scientists press forward with this incoherent belief system. Oxford's notorious Richard Dawkins, exemplifies the incoherence. On the one hand, he says that the entire history of evolution has been driven by the 'selfish gene' while, on the other hand, he also says that we in the modern world can overcome our genes and adopt liberal ethics. 'We have the power to defy the selfish genes of our birth and... cultivating and nurturing pure, disinterested altruism—something that has no place in nature.'<sup>34</sup> Dawkins articulates what seems to be assumed by some SETI voices: even though evolution to date has been cruel and selfish and destructive, eventually with more highly evolved intelligence creatures will become so altruistic as to leave their evolutionary background behind. The Darwinian model explains

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34. Richard Dawkins, *The Selfish Gene*. (Oxford: Oxford University Press, 1976, 1989) 200-201.



the past, evidently; but we can throw the Darwinian model out the window when speculating about the future. This is utterly incoherent and does not deserve to be called 'science.' Despite the incoherence on the part of our laboratory colleagues, however, we will ask about the ethical implications of such an optimistic prediction right along with predictions based on the more standard Darwinian model.

Within the framework of the standard Darwinian model, we should expect superior ETI to be hostile, and perhaps even likely to treat us as we treat our animals. Superior aliens might even enslave earthlings, whether we like it or not. If this is the case, could we develop for ourselves a slave ethic? Is there a moral way to live within servitude? Should our middle axioms be formulated in light of our status as slaves? Again, we are trying to work out the implications of astrobiological assumptions, and evolution plays a decisive role in the astrobiological worldview.

If superior ETI follow the Darwinian model and confront us with hostile and exploitative enslavement, then perhaps we will frame our ethics accordingly. The New Testament provides instructions for slaves. <sup>NRS</sup> 1 Peter 2:18: 'Slaves, accept the authority of your masters with all deference, not only those who are kind and gentle but also those who are harsh.' This may seem unrecognisable and even repulsive to us in the modern world. The treatment of the superior master by an inferior slave has fallen into disuse in our post-Enlightenment period. This is because of the erasure of the line between superior and inferior human beings within modern Enlightenment culture. We are all equal—that is, we are all ethically equal. Each of us has dignity by virtue of our belonging to a single moral set: the human race; and slavery violates the principle of dignity which we ascribe to every individual member of this moral set. Should a master-slave relationship rear its ugly head somewhere on our planet, we children of the Enlightenment would encourage the slaves to rebel and strive for their own liberation. Such a moral commitment to liberation would be justified by the assumption that both masters and slaves are equal.

When we use the assumptions made by many in the astrobiology field, in contrast, we cannot coherently make the argument that all intelligent beings are equal. Those who have evolved longer and who have attained a higher level of rational intelligence would be, by

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definition, superior to us. We could not justify liberating ourselves from their rule with an argument based upon equality. Whether our SETI friends had intended this or not, such a moral consequence cannot be avoided. Granting the questionable scientific assumptions and allowing a New Testament influence, we might consider developing an ethic of slave responsibility. Our middle axiom: express loyalty and perhaps love for our alien masters.

Let us now abandon the trajectory of the enslaving ETI and turn to the second subcategory: peaceful. In the event that ETI approach the civilisations on Earth in a peaceful manner, we would want to respond with an appropriate middle axiom: maintain peace. Maintaining peace would become an immediate moral commitment. We might even find ourselves organising to quiet down and restrict earthly voices among us that would disturb the peace. We would want to police ourselves in the name of peace. Peace would benefit life on Earth. In addition, moral policies we set would likely treat our alien superiors with dignity, respect, and courtesy due to their position of superiority and potential power.

In the event that ETI turn out to be not only more intelligent but also altruistic toward us, then an ethic of gratitude might be included in our responsibility. We would receive and make use of the gifts that increased intelligence would allegedly provide us: such as the means for maintaining a healthy planetary ecology, improvement in our medical care, and more justice in our social practices. Then, we would build upon what we have already said about maintaining terrestrial peace and treating our superiors with dignity; we would add a measure of grateful respect. Our middle axiom: show gratitude.

In sum, we should treat superior ETIs with dignity, respecting and even caring for their welfare. If they are hostile and enslave us, we should invoke an appropriate slave morality that maintains their dignity. If ETI are peaceful toward us and open up avenues of conversation and commerce, then the principles of justice and the striving to maintain peace should obtain. If out of their superior wisdom and altruistic motives ETI seek to better our life here on Earth, we should accept the gifts they bring and respond with an attitude of gratitude.

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## Conclusion

Astroethics today is necessarily a speculative endeavor. The field of astrobiology upon which astroethics deliberates is itself speculative. When it comes to extraterrestrial intelligent life forms, terrestrial scientists are comfortable using their imaginations to export to habitats in space the idea of a separate genesis of life and a story of evolution parallel to Earth's story. Evolution in this case is assumed to be progressive, following an entelechy toward increased rational intelligence. In the case where the length of evolutionary development is less than or comparable to our own, we can expect inferior or equal levels of rational capacity. In the possible case where an extraterrestrial race has had more time to evolve, we can expect a level of rational intelligence superior to our own. Speculation on the part of the astroethicist should be ready to construct a framework for moral responsibility that corresponds to these three relevant moral communities. Our proposal here has been to draw from the Roman Catholic concept of the common good and expand its scope into a cosmic commons. Within the domain of the cosmic commons we construct middle axioms for differing scenarios.

Blockbuster movies in the sci fi genre seem fixed on a single model—the warfare model—to depict future interactions between earthlings and aliens. The aliens are frequently depicted as humanoid in form but unfeeling and almost machine-like in their demeanor. Perhaps this depiction is intentional to make it easier to justify earthlings when they kill the aliens. Might there be some risk that by the time actual contact occurs that this warfare model would influence Earth's initial reaction? Will earthlings automatically assume our new space neighbors will be hostile before we get to know them? Might we need to put this concern on the agenda of the astroethicist?

There is much to do to get ready.

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