

Introducing *Verba Vitae* –

Life: Its Abundance and Scarcity

I

FOR ALL WE KNOW, life is unimaginably rare in the universe. We believe, in fact, that life likely only occurs on exoplanets, i.e., planets orbiting stars like the earth orbits the sun, and as I write today, we can confirm only 5,535 exoplanets.¹ Since we estimate that there are about two trillion (2×10^{12}) galaxies in the universe,² totaling perhaps two billion trillion (2×10^{21}) stars or so,³ the ratio of confirmed exoplanets to stars is exceedingly small. It is worth remembering that while there could be billions of such planets, with some having life, we only know for certain that life exists on earth.

But what do we mean by life? Perhaps this definition is as good as any: “Life is a quality that distinguishes matter that has biological processes, such as signaling and self-sustaining processes, from matter that does not, and is defined descriptively by the capacity for homeostasis, organization, metabolism, growth, adaptation, response to stimuli and reproduction.”⁴ Notice that this definition only addresses the *floor* conditions for life. Human life is very much more complex than this, carrying with it, *inter alia*, intelligence, the capacity to create, consciousness, and self-consciousness. Furthermore, human life is characterized by such higher-level intentionalities as John believing that Patti knew of his intentions towards Molly. Clearly, humans have life in a very different way than amoebas.

While generations of science fiction writers have accustomed us to believe that the universe is teeming with life having intelligence, creativity, and self-consciousness, we have no evidence that such life exists, for despite decades of observations, we have never observed any intelligent signals coming from beyond our universe.⁵ This result has been disappointing to many and wholly inexplicable to some.

In the summer of 1950, a casual conversation on the way to lunch between physicists Enrico Fermi, Edward Teller, Herbert York, and Emil Konopinski on the possibility of alien life produced a response from Fermi to the effect, “But where is everybody?” If the evolution to intelligent life on earth can be facily explained and predicted, then there has surely been more than enough time for alien intelligent life to develop and populate not only our galaxy, but the entire universe. But there is no evidence of this. The discrepancy between what might be expected and what is observed has been dubbed the *Fermi Paradox*.⁶

Moreover, even if there were intelligent life in the universe, most of it would likely fall outside of our cosmic horizon and thus be causally isolated from us. While some might rejoice in the metaphysical presence of life that is wholly causally isolated from us, such celebration would surely go against the spirit of our times, for if any claim was ever in principle not falsifiable, it would be the claim that there is life that is forever causally cut off from us and *in principle* not amenable to empirical verification or falsification. Such a claim would be consistent with any way that the world might go.⁷

Howard Smith calls a thing for what it likely is: “Despite fervent imaginings and enthusiastic reassurances about ETI [extraterrestrial life], the indications are still that we are likely to be alone, presiding over our volume of the galaxy like inhabitants of a magnificent but remote island. Even after 100 generations, humanity might not have received a cosmic greeting or know whether one will ever arrive.”⁸ Playing on the notion of the *anthropic principle*, Smith writes:

My feeling is that a *misanthropic principle* could also be applicable. I use this term to express the idea that the possible environments and biological opportunities in this apposite cosmos are so vast, varied and uncooperative (or hostile), either always or at some time during the roughly 3-to-4 billion years intelligent life requires to emerge, that it is unlikely for intelligence to form, thrive and survive easily. To recognize this conclusion is to have a renewed appreciation for our good fortune, and to acknowledge that life on Earth is precious and deserves supreme respect.⁹

While the “good fortune”—I would say blessedness—of intelligent life existing in the universe clearly is the case synchronically, its preciousness is even more pronounced when we consider the matter diachronically.

According to current cosmological theory, we are living at a very early stage of our universe, only 13.8 billion years after the Big Bang.¹⁰ About three billion years from now, our galaxy could be swallowed up violently by the Andromeda galaxy,¹¹ and if life should survive this event, it likely won’t survive the death of the stars themselves by the end of the Stellar Era one hundred trillion (1×10^{14}) years from T_0 .

After the Stellar Era follows the Degenerate Era extending to ten trillion trillion trillion (10×10^{36}) years after the Big Bang. By then the stuff of stars will be collapsing back into black holes. The Black Hole Era will then extend ten thousand trillion trillion trillion trillion trillion trillion trillion trillion trillion trillion (10×10^{99}) years after the Big Bang, a time where only black holes of widely varying masses will exist. Finally, the Dark Era shall dawn in which the denizens of the universe will be only the byproducts of black holes and protons. This will take us to well beyond 10×10^{101} years from the origin. If life should somehow exist until the end of the stars 10^{14}

years from now—this is highly unlikely, in my opinion—this means that the time of life in the universe compared to the total life of the universe will be 1/10.⁸⁷ Simply put, were the universe to exist only for a day, life would be inexorably extinguished in the first nanoseconds of that day.¹²

The seeming abundance of life on the earth tends to occlude the cosmic fact of its overwhelming scarcity. If there were intelligent life on the exoplanets, its existence would still be inconceivably rare, for it would last for only a fleeting instant in the life of the universe. Since we routinely assume the material equivalence of scarcity and preciousness from a cosmological point of view, we are forced to conclude that life is unimaginably *precious*.

It is fitting, I think, to highlight the cosmic preciousness of life in this first issue of *Verba Vitae*, an academic journal dedicated to exploring deeply the issues of life. We must understand the cosmic scarcity of that upon which we shall be reflecting, even while recognizing the seeming surfeit of intelligent life teaming around us.

This journal's articles will mainly deal with issues of life in the immediate context of human *life* on earth. There is a great deal here to discuss, particularly as we engage the fundamental issue of the *ontology* of life itself. What are the basic properties by virtue of which life is life and human life is human life? Does human life admit of degrees and, if so, is there an upper bound to life's total flourishing or abundance? How do and ought we *value* human life, particularly when the instantiation of human life conflicts with maximizing other supposed goods?

Articles in the journal, however, will stretch us to think clearly about other types of life as well, e.g., animal and machine life. As we reflect upon these matters, we will be seeking clarity on the nature and existence of intelligence-making properties, e.g., agency, action, intentionality and freedom.

It is important, I think, to state the presuppositions of this journal up front. "*Verba Vitae*" means "words of life," a phrase used by Peter in response to Jesus' question in John 6:69-70: "*Respondit ergo ei Simon Petrus Domine ad quem ibimus verba vitae aeternae habes et nos credimus et cognovimus qui tu es Christus Filius Dei*"¹³ ("Simon Peter answered Him: Lord, to whom shall we go? You have the words of eternal life and we have believed and known that you are the Christ, the Son of God.")

Many writing in our journal will share the general presupposition that Christian Scriptures and tradition have much to teach us about the nature of life and living it abundantly. Accordingly, we shall regularly in our reflections avert to Genesis 1:27: "*et creavit Deus hominem ad imaginem suam ad imaginem Dei creavit illum masculum et feminam creavit eos*" ("and God created human beings to his own image and created them to the image of God male and female").

This Genesis text proclaims that human beings are made in the image of God. We at *Verba Vitae* take this claim very seriously because it suggests a deep *discontinuity* between the intelligent life of human beings and other kinds of life. It suggests that human beings have life to such a greater degree, *or in so much more abundance*, than do other life forms, that human life is *sui generis*; it is, in fact, ontically *unique*.

Accordingly, we must ask what the *imago Dei* means for us today. What does Genesis 1:27 have to say to us in these days when we measure the time of creation in billions of years and the probable existence of the universe at over 10^{100} years? Finally, we might ask: If the *abundance* of human life is constituted in it being *in imago Dei*, then why is such abundance so overwhelmingly scarce in the universe in which we reside? *Why* should the pinnacle of creation be sidelined in our modest Milky Way galaxy, causally disconnected from most of what we assume there is?

While questions like these are the background for our investigations in *Verba Vitae*, they are meant merely to situate the journal's discussions within a larger context. The articles of *Verba Vitae*, we promise, will be both graspable and relevant to our lives today, dealing with issues about which we denizens of the early 21st century are likely concerned and about which we are seeking clarity.

II

EVERYWHERE WE LOOK TODAY, we see conversations politicized. Reasoned argument is skipped in the effort to discern what an author's political opinions *really* are, and whether they accord with what they *should* be. The Left and Right collide, hurling slogans at each other, often baiting and belittling the other to advance their own agendas. Throughout vast regions of academia, power has seemingly replaced reason, with all thinking now being understood ideologically.

But as people on opposite ends of the political spectrum organize to persuade, they regularly eschew the less glamorous task of *analysis*. However, for conversation to proceed rationally, presuppositions from each side must be examined calmly, and words must be understood properly. Analysis can allow disputants to become conversation partners, for common ground can often be found where none seemed possible before.

Verba Vitae is committed to bringing the classical Christian tradition into conversation with life issues now confronting us. Modeling the reasoned *logos* of the theological tradition, it explores the truth-claims made by thinkers and examines the grounds upon which these claims are made. It is interested in what is being referred to when thinkers employ the language of rights and goods or when they speak of God. It is accordingly interested in fostering and modeling *informed* conversation that is based upon common presuppositions.

In modeling informed discussion, however, it does not shy away from dealing with the deepest and most controversial questions of our time. While acknowledging differing systems of *value*, it is most interested in *truth*, in what can be rationally claimed based on what seems most innately *reasonable*. It follows with deep interest questions of entailment and commitment: Given that x believes Y, what other beliefs must x properly have? Furthermore, how ought x live believing Y and all Y entails?

Issues of life are basic to human experience, and have often been discussed by the Christian thinkers, even if that discussion has often been unsystematic and incomplete. Given expanding discussions within the philosophy of mind, philosophy of biology, cosmology, theology, and artificial intelligence generally, life issues today might include the following:

- What is it to be living, and is being alive somehow different *ontologically* from not being alive?
- What is it to die? What is the ontology of life and death generally?
- Does the proper ontology of life preclude the ascription of life to computational (syntactic) machines?
- What would it mean for a machine to have life, and is the Turing Test properly also a test for life?
- Given the properties of human intelligent life and its valuation, what are the properties of non-human intelligent life, and how ought they be valued?
- How are issues of life and death related to the following deep societal questions? 1) Under what conditions, if any, is it morally permissible to abort pregnancies? 2) Under what conditions, if any, is it morally permissible to voluntarily end one's own life? 3) Under what conditions, if any, is it permissible to end the life of another? 4) Under what conditions, if any, is it morally permissible to go to war, knowing that such war will likely eventuate in deep suffering among the combatants?
- Is limiting the expansion of life an elimination of life?
- Are issues of life primarily issues confronting the individual in his or her individual moral experience, or are such issues primarily related to the proper functioning of the community as such?
- What is the proper relationship between considerations of the quality of existence with respect to considerations of the fact of existence itself? How do these considerations differ with respect to issues of abortion, euthanasia, or just war theory?
- What difference does it make to the rectitude of act should it be considered by different individuals?
- What is the relationship between consciousness and life, at least in the sense of the German *Leben*?

- If consciousness is essential to intelligent life, can it be accounted for on the basis of some other metaphysical primitive, e.g., matter?
- What is the relationship between meaning and life, between semantics and or intentionality and life (*Leben*)?
- Is it in principle possible for an AI machine to *live*?
- Under what conditions can considerations of the *what* of life issue in true normative judgments about the *that* of life? In other words, under what conditions can quiddity qua quiddity entail haecicity?
- What relevance does the possibility of a future like ours have for the question of fetal rights?
- What connection, if any, does the German notion of *Dasein ohne Leben* have for the current practice of aborting fetuses that will otherwise be born with physical or mental issues?
- How do issues identified in German *Lebensphilosophie* connect to the issues of life we face today?
- What ought be the proper relationship between legal and natural rights pertaining to issues of life we encounter today?
- What is God's relationship to life? How is life properly understood within the order of creation?
- What does it mean to *be* and *live* in the image of God? How does the *imago Dei* connect to issues of consciousness, intelligence, syntax, and semantics?
- What are the effects of the Fall on life within the order of creation?
- What difference does the question of God make to the question of under what conditions it is morally justified to end a pregnancy, engage in fetal tissue research, take one's own life, take the life of another, or enter into war?
- What theological relevance do the intended (or unintended) consequences of doing act A have for evaluating the rectitude of act A?
- How does talk of God's creation properly relate to the emergence of novelty in the universe, e.g., with respect to the fertilized egg or the developing cancer cell?
- What relevance *ought* the Christian tradition have for evaluating issues of life in the post-Christian, post-industrialized, and post-secular culture in which we now find ourselves?
- What types of Christian ethical argument deliver different evaluations of the propriety of an act? In other words, how do we deal with issues of Y, when arguing from the First Article seemingly delivers a different answer than arguing from the Second Article or the Third Article?

- How does the notion of the sacred, and considerations of sacramentality, impact issues of abortion, euthanasia, and just war?
- What relevance do the moral strictures of Scripture have for justifying positions on issues of abortion, capital punishment, euthanasia, and just war theory?
- What is the significance of the theology of the cross for the abortion, just war, and euthanasia questions?
- How ought a *theologian of the cross* approach issues of abortion, fetal tissue research, euthanasia, capital punishment, etc.?

This list is not exhaustive but does take us into some very deep issues. We hope in *Verba Vitae* to model reasoned discussion from all quarters on these and related questions. As a journal of the Institute of Lutheran Theology, and supported by Lutherans for Life, we invite thought-provoking articles from those both within and outside the Christian tradition.

III

IN HIS MAGISTERIAL TEXT, *A Secular Age*, Charles Taylor famously asks how we could “move from a society where belief in God is unchallenged and indeed unproblematic to one in which it is understood to be one option among others, and frequently not the easiest to embrace?”¹⁴ More to the point, how could we go “from a society in which it was virtually impossible not to believe in God, to one in which faith, even for the staunchest believer, is one human possibility among others?”¹⁵

Taylor speaks of the “cross-pressuring” of our age between social perspectives haunted by echoes of transcendence and those driving towards *immanentization*, towards a view of things whereby meaning and “fullness” are sought wholly within the self-sufficient, naturalistic universe that excludes transcendence and any ends and purposes beyond this life. Many live within this *immanent frame*, within this “natural order” that exists over and against any supernatural or transcendent one. When the immanent frame becomes completely “closed,” it becomes seemingly absurd for insiders to think another way possible. Taylor believes that this “closed spin” is hegemonic in the Academy.¹⁶

While one can be either *open* to transcendence or *closed* to its possibility, the *ways* in which one might be open or closed differ profoundly. There is, after all, a fundamental difference between a spin and a take. A closed take is one in which a person sees the universe immanently but can nonetheless entertain the possibility that other rational people might interpret things differently. In a closed spin, however, the spinner assumes that it is not possible for a properly motivated rational person to view things differently. From the perspective of the closed spin, one who is open

to transcendence is either irrational or mendacious. Thus, while either closed or open takes are supported rationally, spins are a different matter entirely. They are commitments precluding the possibility of rational disagreement.

Taylor finds superficial the closed spinning of his peers. He argues, in fact, that “those who think the closed reading of immanence is natural and obvious are suffering from ... [a] disability ... [where] thinking is clouded or cramped by a powerful picture which prevents one seeing important aspects of reality.”¹⁷ Simply put, “closed world spins” (CWS) are unsupported by reasons, even though it may be the case that there is no transcendence beyond the immanent. Taylor writes, “the sense of the world as God-forsaken (or meaning-forsaken) doesn’t necessarily transmute either logically or psychologically into the closed take on immanence, the belief that there is nothing beyond the natural order.”¹⁸ Just because the skies may be dark does not entail that they are obviously so. Accordingly, Taylor believes that by highlighting certain facets of our human experience, certain people might be persuaded to move from a closed spin to a closed take, and thus might be made open to experiences and positions of transcendence that they might otherwise immediately reject. Moving from a spin to a take makes possible again rational dispute and discussion.

It is our hope at *Verba Vitae* that readers come to us with either closed or open takes on the universe, for when such openness is present, there is the immediate possibility of fruitful dialogue. For readers who may have closed spins rather than closed takes, however, we value and understand you, though we do hope to disquiet and maybe open you to the possibility that things may not be as simple as they might appear.

Undoubtedly, there is something paradoxical about emergent intelligent life passionately denying and routinely regarding as unreasonable the claim that the universe at its most fundamental state is intelligent. Perhaps the sense of abundance suggested by intelligent life does not fit well within an immanent universe just beginning to comprehend the inexplicability of life’s scarcity.

Dennis Bielfeldt, General Editor

Notes

1. See NASA Exoplanet Exploration: Planets Beyond our Solar System, last modified November 16, 2023. <https://exoplanets.nasa.gov/>. Accessed November 18, 2023.
2. Tony Saunter, “How Many Galaxies Are in the Universe? A Lot More Than You Think,” *PBC Science Focus*, July 25, 2023 at 2:35 am. <https://www.sciencefocus.com/blog/space/how-many-galaxies-are-in-the-universe>. Accessed October 14, 2023.
3. “How Many Stars Are In The Universe?” *Little Passports*. <https://www.littlepassports.com/blog/space/how-many-stars-are-in-the-universe/#:~:text=If%20you%20were%20>

- to%20look,stars%20in%20our%20observable%20universe. Accessed October 14, 2023. The number may be much higher: perhaps 10^{22} and 10^{24} . See Alisa Harvey and Elizabeth Howell, “How Many Stars are in the Universe? See Website: Space.com, Alisa Harvey and Elizabeth Howell, “How Many Stars are in the Universe?” February 11, 2022. <https://www.space.com/26078-how-many-stars-are-there.html>. Accessed October 22, 2023.
4. Wikipedia, “Life,” last modified November 6, 2023, 8:53 am. <https://en.wikipedia.org/wiki/Life>. Accessed November 8, 2023.
 5. In 1961, Frank Drake offered us a mathematical equation to predict the number of intelligent alien civilizations in our galaxy. Multiply R^* (stars made in the galaxy in one year) by F_p (the fraction of stars with planets) by N_e (the fraction of planets where life might exist) by F_L (the fraction of those planets having life) by F_I (the fraction of those planets having intelligent life) by F_C (the fraction of intelligent aliens developing technology able to communicate outside their planet) by L (the numbers of years a communicating civilization lasts) and one easily calculates to over 1,000 alien civilizations. So began the search for extraterrestrial intelligence (SETI) by monitoring signals from space. See Elizabeth Howell, “Drake Equation: Estimating the Odds of Finding ET,” Space.com, last updated October 27, 2020. <https://www.space.com/25219-drake-equation.html>. Accessed November 4, 2023.
 6. For more information, see SETI Institute, “The Fermi Paradox” at <https://www.seti.org/fermi-paradox-0>. Accessed November 3, 2023.
 7. I am assuming, of course, that the “world” that could go a particular way would be a world in principle causally accessible to us. If we allowed causally inaccessible possible worlds to be referred to by “world,” we would be back to doing old-style metaphysics under a scientific naturalist guise. What precisely is the salient difference between speculating about the structure of non-natural reality and about putative features of natural reality whose existence is causally unconnectable to us? Why exactly do we ascribe “metaphysical position” to the first and not to the second?
 8. Howard A. Smith, “Alone in the Universe,” *American Scientist*, <https://www.americanscientist.org/article/alone-in-the-universe>. Accessed November 10, 2023.
 9. Ibid.
 10. I am simply using current cosmological theory to illustrate a point. In employing it, I am not committing myself to the ultimate truth of that theory.
 11. “Runaway Universe,” *Universe Timeline*, last modified November 2000. <https://www.pbs.org/wgbh/nova/universe/historysans.html>. Accessed November 3, 2023.
 12. If the entire life of the universe were one day, life will be gone by the first ten thousandth, billionth, billionth, billionth of a second.
 13. The *Vulgate* is the normative Latin text of the Bible in the West that St. Jerome translated from 383-405. Realize that ancient texts do not utilize the punctuation marks we are accustomed to.
 14. Charles Taylor, *A Secular Age* (Cambridge, MA: Harvard University Press, 2007), 3.
 15. Ibid.
 16. Ibid., 549.
 17. Ibid., 551.
 18. Ibid., 553.