On Divine Ascent

Eric Steinhart <www.ericsteinhart.com>

Professor, Dept. of Philosophy, William Paterson University
<steinharte@wpunj.edu>, <erix@dartmouth.edu>

ABSTRACT: Ascentism is a type of *religious naturalism*. As such, ascentism says that all religious truths are derived from nature. But what is nature? Ascentism recognizes four religiously significant levels of nature: the biological, the endocosmic, the exocosmic, and the pantological. Each level involves ascending curves of complexity and value. Each level is associated with its own ontology, cognitive outlook, morality, eschatology, soteriology, and religiousity. Since the biological level is most familiar, it seems best to introduce ascentism by moving from the biological to the pantological.

1. The Biological Level

The biological level of nature is just our earthly ecosystem – the totality of all life on earth. Biological nature includes the total spatial and temporal expanse of earthly life. It includes all life from the very first self-replicators billions of years ago to the very last earthly living thing. At the biological level, nature is materialistic. Biological evolution is evolution by natural selection. This evolution is algorithmic. Considerable evidence suggests that biological evolution supports an *ascending curve of complexity*.[1] If organisms are sorted into ranks based on their complexities, the ladder of ranks tends to grow higher over time. Biological evolution *accumulates* complexity.[2]

At the biological level, nature *strives* for higher levels of complexity. Yet this striving is entirely mechanical. An algorithm that takes a number and repeatedly divides it in half strives for zero in the sense that zero is its attractor. Thus biological evolution is an optimization algorithm whose blind iterations drive life ever higher in the abstract landscape of biological complexity.[3] As it climbs higher, life actualizes ever greater computational potentialities: organisms emerge which can perform universal computation – rational organisms emerge. As rational organisms, human animals are aware of the biological process. Your own biological cognition is your awareness of your body, your humanity, your participation in the present earthly ecosystem. But this biological cognition is highly constrained: it focuses on the immediate demands of life, and does not see the big picture. It does not look into the depths on which biology is founded.

At the biological level, morality is the law that might makes right. It is the law that the strong do what they will and the weak suffer what they must.[4] Biological morality includes only the perspectives of self, family, tribe, nation, species. And yet this war of all against all supports *ascending curves of value*. The basic imperative to survival supports emergent moral imperatives associated with cooperation and altruism.[5] Human animals are not merely rational, they are also sensitive to moral demands. Soteriology is the study of salvation – it is the study of preservation in the face of destruction.

Biological soteriology is the study of the patterns that are conserved or enhanced by biological evolution. These are patterns of genetic information: genes which replicate for billions of years, genotypes of species which replicate for millions of years. But biology rarely saves individual genotypes and does not save neurally encoded information: our biographies perish.[6]

Biological religion involves a variety of rituals that celebrate the sacred or divine aspects of biological nature.[7] These rituals celebrate the sacredness of individual bodies, of sexual reproduction, of the cycles of the animal and vegetable life. They involve disciplined cultivation of the cycles of breath or sexuality. They celebrate the flows of physical energy through natural cycles and the ultimate sources of those energies. For instance, the wheel of the year contains the solar holidays: the solstices, the equinoxes, and the four cross-quarter days between them.[8] Celebration of the solar holidays on the wheel of the year is one way to express religious gratitude towards life and its supports in the cycles of the earth, the moon, and the sun. Many aspects of the biological level of nature are divine or sacred; however, there are neither any gods nor goddesses at this level of nature. At this level, nature is atheistic. But the biological level of nature it is neither metaphysically nor ethically ultimate. Nature is bigger and deeper than earthly life. It is a terrible metaphysical and ethical mistake for religious naturalists to focus exclusively on our bioprocess.[9] For ascentists, biological religion is the first stage of religious participation in nature.

2. The Endocosmic Level

The endocosmic level of nature is the next biggest level of nature. It includes our earthly bioprocess. And it includes any bioprocesses running on any other planets in any observable galaxies. The definition of the endocosmic level is based on current cosmology. Many current cosmologies say that what we think of as our universe is really just a tiny bubble in some gigantic cosmic foam.[10] So the *endocosmic level* of nature is just our little local bubble. Endocosmic ontology is physical yet more abstract than the merely material. Current physics recognizes things like space-time points, scalar and vector fields, quantum entanglements, and all sorts of exotic objects.[11] Many physical things are neither material particles nor wholes composed thereof.

Endocosmic evolution is the evolution of physical complexity. Considerable evidence suggests that endocosmic evolution supports an *ascending curve of complexity*.[12] If things are sorted into ranks based on their physical complexities, the ladder of ranks tends to grow higher over time. Endocosmic evolution *accumulates* complexity. The trace of the endocosmic complexity curve is familiar: radiation evolves into particles; particles evolve into atoms; atoms into molecules; molecules into organisms. Once again this striving is purely mechanical. This striving transcends the biological war of all against all. As human science has evolved, we have become aware of endocosmic evolution – we have become aware of big history. Endocosmic cognition is your awareness of your own participation in the entire evolutionary history of our bubble. It is your awareness that your own existence is deeper than merely biological. Your own body is built of

atoms fused in the stars and of particles born in the Big Bang itself. And thus your own materiality depends on deep immaterial patterns: on the values of scalar fields, on the strengths of the gravitational, electromagnetic, and nuclear forces, on the intrinsic curvature of space-time.

At the endocosmic level, morality is based on endocosmic cognition. It emerges from envisioning the earth from a natural point beyond the earth. Physically, this can be thought of as the high point reached by certain astronauts. Circling our planet, they often report an experience of euphoria, the *overview effect*.[13] More conceptually, this high point is the Archimedean Point – a place at which the mind is able to grasp its moral obligations to the entire ecosystem. Humans reach this Archimedean Point, and thus the endocosmic moral perspective, through rational thought. Endocosmic morality encompasses and transcends biological morality. Beyond mere care for the survival of the self, tribe, or human species, endocosmic morality demands care for entire earthly ecosystem.

At the endocosmic level, eschatological considerations first emerge. Pessimists focus on the ultimate thermodynamic disintegration of structure into chaos. But optimists argue that the extropic powers of endocosmic evolution are sufficient unto our salvation. They argue that technology will lead to the preservation and enhancement of all that humanity holds dear and meaningful. The natural powers at work in our bubble drive the progressive evolution of technology to divine heights. After all, technology is entirely natural.[14]

These optimistic eschatologies support endocosmic soteriologies. Endocosmic soteriology says that endocosmic evolution has the capacity to preserve and reproduce any pattern of information in our bubble. The fact that every human animal is an entirely material thing does not imply that we lack *souls*.[15] The soul is the form of the body and the form of the body is an entirely natural pattern of information.[16] It can be defined with scientific precision as the information naturally encoded in your genome and your nervous system. Technological optimists argue that the forms of our bodies may be abstracted from their original carbon realizations to run on more enduring computational substrates. Perhaps we will be resurrected in the computers of the far future or progress towards perpetual life in incorruptible digital realities.[17] As skeptical optimists, ascentists affirm that the laws of nature support these glorious technological *potentials*. But ascentists need not affirm anything beyond mere potentiality: the dynamics of our local cosmic bubble may be too externally constrained to fully actualize their potentialities.

Endocosmic religion involves a variety of rituals that celebrate the sacred or divine aspects of our bubble. These rituals may express reverence for the cycles of the solar system or gratitude towards the Big Bang. For example, the Cosmic Walk celebrates the whole history of our local bubble.[18] And rituals like those performed at Vinotok, Zozobra, and Burning Man express gratitude towards the entire endoprocess.[19] Although many aspects of the endocosmic level of nature are divine, there are neither gods nor goddesses at this level of nature. At this level, nature is atheistic. But the endocosmic level of nature is neither metaphysically nor ethically ultimate. Nature is bigger and

deeper than our bubble. The springs of endocosmic religious significance lie in some deeper level of nature.

3. The Exocosmic Level

The definition of the exocosmic level of nature is based, like the definition of the endocosmic level, on current cosmologies. Those cosmologies say that our universe is a gigantic foam composed of many bubbles. The exocosmic level is the entire foam. As far as ascentism is concerned, there is no need to dogmatically insist that our universe contains a plurality of bubbles. Since the very possibility of these bubbles is one of the possibilities of nature, ascentists are committed to the study of nature at the exocosmic level. And the exocosmic level contains explanations for many features of our local cosmic bubble that cannot be explained from inside that bubble.

Exocosmic ontology is physical yet far more abstract than endocosmic ontology. Other bubbles in our universe may have very strange physical laws, and involve very strange physical objects. These physical objects need not be material in any sense. Perhaps the immaterial geometries of the space-times of other bubbles realize intelligent living computations. Exocosmic ontology includes all the things in all these bubbles, no matter how bizarre. At the exocosmic level, nature is described by mathematical physics.

Exocosmic evolution covers the growth of the system of bubbles. At this level, nature strives to more and more finely tune these bubbles for internal endocosmic and biological evolution.[20] Within any lineage of bubbles, there are *ascending curves of complexity and value*.[21] As our science has evolved, we have only very recently become aware of exocosmic evolution. Exocosmic cognition is your awareness of your participation in an evolutionary process that is much deeper and older than any process in our universe. This awareness involves deeply rational appreciation of the aesthetic value of mathematical physics. Your very physicality participates in lawful patterns, in the laws of nature that govern our universe. But those laws did not spring fully formed from the ground of nature. On the contrary, they emerged during exocosmic evolution.

At the exocosmic level, morality takes a highly abstract yet natural perspective on our local bubble. By ascending to a conceptual point that is not in our bubble at all, your mind can adopt a moral perspective towards our entire bubble. This exocosmic perspective is an intensely rational perspective. From this perspective, exocosmic morality demands care for all forms of life in our entire bubble. Although no human can exercise exocosmic care, every human can be aware of and responsive to exocosmic moral demands. Those demands reinforce the endocosmic and biological demands for the care of *earthly* life. Exocosmic soteriology says that exocosmic evolution has the capacity to preserve and reproduce any pattern of information in our bubble. However, it does not imply that our bubble fully actualizes this capacity. Our bubble is constrained. Exocosmic religion involves a variety of rituals that celebrate the sacred or divine aspects of our universe. These rituals may express reverence for the cycles of exocosmic evolution. Yet even at this great depth, nature does not contain any gods or goddesses.

At this level, nature remains atheistic. But the exocosmic level of nature is neither metaphysically nor ethically ultimate. Nature is bigger and deeper than our universe. Those deeper levels provide our universe with its religious significance. The ultimate sources of divinity lie beneath the exocosmic level.

4. The Pantological Level

Just as there are reasons to think that our little local bubble is a part of some immense foamy universe, there are also reasons to think that our universe is a part of some infinitely larger plurality of universes. There are reasons to think that nature infinitely surpasses any single universe.[22] The mere fact that other universes are possible is an entirely natural fact and demands naturalistic attention. The *pantological level* of nature is the entire system of possible universes. The pantological level is all-inclusive (it takes its name from the Greek *ta panta*, which means *the whole*).

Since the pantological level includes all possible universes, pantological ontology is far more abstract than any exocosmic ontology. At this high level of abstraction, ontology is informational.[23] Pantological objects are concrete natural things that are very close to the abstract objects of pure mathematics. One way to think about these pantological objects is to think of them as computers.[24] Of course, these are not material machines at all; they are the purely informational machines defined by theoretical computer science. They include both finitely and infinitely complex machines – and contemporary computer scientists have defined a vast hierarchy of infinite computers. They have defined computers whose powers rise through all the ordinal numbers in the constructible hierarchy of pure sets. They have defined machines whose powers exceed those of any classical deity. Yet if they exist, these computers are entirely natural. As the grounds of physicalities, they are hardware substrates on which universes run as software processes. And the natural laws at particular universes are merely the programmatic forms of those software processes.

Pantological evolution covers the growth of the entire system of possible universes. Since pantological evolution is the deepest depth of nature, it must be logically ultimate. Nature has no deeper ground. And since any logically ultimate system must be as rational as possible, pantological evolution is governed by principles of pure reason, such as the *principle of sufficient reason* and the *principle of plenitude*.[25] These principles of reason express themselves in the ultimate depths of all natural activity. They are the powers of natural action as such, of *natura naturans*. Thus pantological evolution is *evolution by rational selection*. But evolution by rational selection selects all and only the positive potentials of all actual things for further actualization.[26] Here evolution by rational selection is interpreted as an algorithmic process that generates an infinitely ramified tree of ever more complex universes. Since pantological evolution is ultimately purely rational, it is also ultimately *axiarchic:* for any proposition, if that proposition ought to be true, then it will be true.[27] Obviously this does not imply that you should never get a toothache. There is plenty of room for valuable suffering in pantological evolution. And since pantological evolution is purely rational, your rationality is able to understand it.

As a rational animal, you can do metaphysics and ethics. But pantological cognition is extremely abstract. It is a wide-open awareness of your participation in the rational depths of existence. Your awareness becomes pantological when you realize that you live, move, and have your being within an infinite *mathesis*, a *mathesis* organized by purely rational laws.

At the pantological level, morality is purely rational. It is the morality derived by looking at the totality of nature from the perspective of its ultimate ground. Since every human person is rational, every human person can adopt this pantological perspective. It is the view from nowhere. As such, it is disinterested. Only by adopting the view from nowhere can human will to power ethically strive for rational ideals. Any will that acts from and only from the pantological perspective is a purely holy will. Pantological eschatology affirms that nature necessarily and thus perpetually transcends itself in every possible way: for every natural thing, for every positive potential of that thing, there will be some greater natural thing that realizes that potentiality. This is the naturing of nature; this is *natura naturans:* all positive potentials of all possible things are actualized in the tree of universes. Pantological evolution is natural salvation. For every way your life can be improved, you have some future counterpart in some future universe whose life is improved in that way.[28] The form of your body is the root of an endlessly ramified tree of ever more valuable forms. All those forms will be actualized. And that actualization is a purely algorithmic process.

Pantological religion involves a variety of rituals that celebrate the sacred or divine aspects of nature. These rituals are intended to arouse your gratitude for your pantological past and your hope for your pantological future. All other rituals in ascentism point, by means of their cyclical patternings, towards reverence for the cycles of pantological evolution. They express gratitude towards the ultimate source of all natural existence, the root of pantological evolution. This root is the *urgrund*, the ground of nature, the source of *natura naturans*. Of course, the urgrund is not any theistic deity. Thus even here, at the deepest depth of nature, there are neither any gods nor any goddesses. Ascentism is thoroughly atheistic.[29] The urgrund is just another natural object, just another thing among things. At the pantological level, nature is rational, necessary, eternal, and infinite. The pantological level is the deepest level of nature. At this level, nature is religiously ultimate.

Notes

[1]Bower says that the complexity of an organism is proportional to its number of distinct cell types (1988). Or the complexity of any organism is the ratio of its non-protein-coding-DNA to its total amount of DNA (Taft, Pheasant, and Mattick, 2007). The *arrow of complexity hypothesis* "asserts that the complex functional organization of the most complex products of open-ended evolutionary systems has a general tendency to increase with time" (Bedau, 1998: 145). Bower as well as Taft et al. provide much evidence for the arrow of complexity hypothesis. For a popular overview of further evidence supporting the arrow of complexity hypothesis, see Chorost (2012).

[2]Dennett's Principle of Accumulation of Design says "since each new designed thing that appears must have a large design investment in its etiology somewhere, the cheapest hypothesis will always be that the design is largely copied from earlier designs, which are copied from earlier designs, and so forth" (1995: 72).

[3]For evolution as an algorithm, see Dennett (1995). For biological evolution as an algorithm that climbs hills in abstract genotype space, see Dawkins (1996).

[4]See Thucydides, The Melian Dialog, in *The Peloponesian Wars*.

[5]For the evolution of cooperation, see Axelrod (1984). For evolutionary explanations of the objectivity of morality, see Collier & Stingl (1993), Campbell (1996), and Harms (2000).

[6]On the basis of this fact, many religious naturalists infer that nature offers no hope for any positive soteriology. Against that inference, it is necessary to point out that our bioprocess is merely a small part of nature. Stone writes that "since patterns of information can outlast their original physical substratum, just as music can outlive its composer, immortality is not definitively foreclosed in a naturalistic framework" (2008: 228).

[7]Stone (2008: ch. 5) asks whether religious naturalists should regard all of nature as sacred or merely some aspects of nature as sacred. Ascentists regard the *creative* aspects of nature as sacred (see Peters, 2002 and many of the writers in Stone, 2008: ch. 2).

[8]The holidays on the wheel of the year are celebrated by neo-pagans. See Sabin (2011) and Silver Elder (2011). Of course, as religious naturalists, ascentists do not accept any of the super-natural or unscientific aspects of neo-paganism.

[9]Ascentists agree that our highest and most obligatory moral laws do not come from biology (Crosby, 2008: 85-86). They come from reason.

[10]For cosmologies that divide our universe into many bubbles, see Linde (1986, 1994); Smolin (1992, 2004); Crosby (2002: 39-44; 2003: 252-253, 2007: 491).

[11]The cosmologist Max Tegmark (2003: 41) reminds us: "The frontiers of physics have gradually expanded to incorporate ever more abstract (and once metaphysical) concepts such as a round Earth, invisible electromagnetic fields, time slowdown at high speeds, quantum superpositions, curved space, and black holes. Over the past several years the concept of a multiverse has joined this list."

[12]For the rise of cosmic complexity, see Chaisson (2001, 2006), Modis (2002), and Kurzweil (2005). More classically but less scientifically, see Teilhard (1955).

[13]For the overview effect, see White (1998).

[14]Ascentists do not oppose nature to culture and do not oppose the natural to the artificial (Crosby, 2007: 494). All technology is entirely natural.

[15]Ascentists oppose any mind-body dualisms (Crosby, 2003: 246).
[16]Aristotle said the soul is to the body as form is to matter (*De Anima*, 412a5-414a33). This idea has been taken up by many modern writers (e.g. Reichenbach, 1978; Hick, 1976; Barrow & Tipler, 1986: 659). Tipler writes that "the human 'soul' is nothing but a specific program being run on a computing machine called the brain"(1995: 1-2).
[17]For digital soteriologies, see Steinhart (2012).
[18]For the Cosmic Walk see Taylor (2007: 249-252). The Cosmic Walk is similar to the Advent Spiral ritual performed at Steiner Schools.
[19]For fire rituals at Burning Man and Zozobra, see Gilmore (2010). Similar fire rituals are performed by Wiccans and by the Green Sisters.
[20]It is widely argued that our bubble is finely tuned for intelligent life, life, or at least the endocosmic evolution of complexity (see Leslie, 1989). Ascentists argue that exocosmic evolution is the best explanation for any fine tuning of our bubble.
[21]Dawkins (2008: 184-189) offers an argument for ascending curves of complexity and value in exocosmic evolution: (1) Our bubble is complex. (2) All complex things arise along "graded ramps of slowly increasing complexity" (2008: 139). (3) Thus our bubble "must be the end product of some kind of cumulative escalator" (2008: 186).
[22]For classical discussions of other possible universes, see Leibniz's *Theodicy* and *Monadology*. More recently, see Lewis (1986) and Tegmark (1998).
[23]Peters writes that "Naturalism means that everything is energy-matter and the information according to which energy-matter is organized" (2002: 2). Although this is deeper than mere materialism, it still looks inconsistent with much of our best physics. Some physicists argue that the ultimate stuff out of which our universe is neither matter nor energy but self-interpreting *information* (Siegfried, 2000).
[24]The physicist Seth Lloyd argues that our universe is a software process running on an underlying quantum computer (Lloyd, 2007).
[25]For these principles of reason, see Kane (1976, 1986).
[26]Evolution by rational selection is a naturalistic version of the Leibnizian theory of the striving possibles (1697). It says that every thing strives to actualize its positive potentials. The principle of plenitude entails that this striving is ultimately successful.
[27]Axiarchism is the doctrine that reality is ultimately ruled by value. See Leslie (1970, 1979) and Rescher (1984, 2000). Axiarchism does not assume that value is pleasure and it does not imply that reality is hedonically saturated.
[28]This is a naturalized version of John Hick's resurrection theory (Hick, 1976, chs. 15 & 20). For more details, see Steinhart (2008). For an intriguing argument from the rationality of nature to a positive soteriology, see Godel (1961).
[29]Nature contains neither gods nor goddesses. Ascentists do not use theological names either literally or metaphorically (Crosby, 2002: *xi*, 12, 17; 2008: 2-5).

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