

God's Sovereignty in Creation - a reply to Howard Van Till

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Howard Van Till has considered my proposal "Creative Providence in Biology" ¹ carefully. I thank him for his response "Does God Choose Among Hidden Options?" ² as well as for initiating the vigorous discussion of my paper in ASA's online Discussion Group. ³

While there is full agreement among theists that our world began with a marvellous divine creation, opinions diverge with regard to the modes of God's continued activity in providence. Of course, a full understanding of God's relation to his creation is beyond our ken. Yet we have some indications in both of his "books of revelation", nature and the Bible, as to how he may be working. It is clear that the Creator is involved in all so-called "natural" processes, and Christ, through whom he created the universe, continually upholds it by his word of power (Hebrews 1:2-3).

Van Till and I agree on this general picture, but disagree on *how* the Creator may have implemented his providential activity in creation. Whereas Van Till opts for a concentration of the provision of all that is necessary for the entire historical development of the creation at its very beginning, I prefer to view it as distributed over time. While it may be difficult to distinguish these two options on the basis of *biblical* evidence, I believe the weight of *scientific* evidence is on the side of a distributed gifting. In particular, the information required to specify functional biological structures and organisms appears to be neither storable in a prebiotic universe nor capable of spontaneously emerging.

Van Till does not deny the possibility of further divine miracles (like Christ's resurrection) after an initial creative act, but emphasizes the "functional integrity" of creation from the outset. He believes that this would eliminate any need for later "interventions". He also underlines God's continued blessing, which acts like "persuasion" - a concept Van Till borrows from process theology -, being "effective in stimulating the desired outcome without forcibly violating the object of his influence". It is a "*giving of being* - equally essential at every moment of time", an "enabling", a "constructive presence". But what does this *mean*? What is a blessing, persuasion, stimulation, or giving of being, devoid of any supernatural intervention in an already fully equipped, gapless economy not lacking anything? *How* does it work, in a scientific, as opposed to theological-philosophical, language? What distinguishes this "naturalistic theism" from a deism just plainly calling (created) matter autonomous? I believe Van Till's protestation that he has no intention of becoming a deist, but I don't understand what distinguishes his view of providence from a deistic one, although he tries to explain it with the terms mentioned.

The physical universe and its history reveal an impressive amount of fine-tuning which allows for the formation of a home for humans. It is easy to perceive God's blessing in this. Also, it is quite easily conceivable that this outcome is a consequence of the set of initial laws and conditions provided at the outset, 15 billion years ago. None of the events conceived or shown to have been building blocks in the entire cosmological process looks extremely improbable. It is the combination of many parameter restrictions that evokes wonder. In combining all known restrictions, the estimated improbability of a habitable Earth just about reaches transastronomical numbers. ⁴

With life, however, the orders of magnitude change radically. Different physical laws, parameters and entities need not even be combined to reach inconceivably small probabilities. The Earth is a simple self-organizing system, but the rotor of a bacterial flagellum is not. Virtually every one of even the smallest known functional biopolymers represents a parameter space of transastronomical magnitude, unlike anything found in non-living things. Here, the parameter space is not the global environment, but the configurational space of a single molecular entity. Since these are coding or coded polymers, their potential information content can, in principle, be calculated. There are multiple ways of satisfying a biochemical requirement. Therefore, the informative part of this structural information, what I have called the semantic information content, is much smaller than the parameter space as a whole. It is claimed that, during the evolution of such molecules, natural selection provides the guiding principle during the otherwise random mutational walks through parameter space.

The usually silent assumptions are:

- (1) all intermediate stages of all required evolutionary paths are viable, and
- (2) a sufficient number of all combinatorially possible sequences are functionally equivalent.

If they are seen at all, these assumptions are usually justified by the "fact that we are here" - which obviously explains nothing. Although atheists don't have this choice, believers in divine creation are free to

seriously consider these questions. Because of the transastronomical sizes of the relevant configurational spaces, they cannot be answered explicitly. It will always be impossible to satisfy Van Till's demand to know "all possible formational pathways". Nevertheless, both of the silent assumptions can be approached by experiments to arrive at partial answers. My calculation of the probability of random emergence of a minimal novel enzymatic functionality⁵ suggests feasible experiments to get at an answer for assumption (1). And experiments may find tractable ratios of possible to functional sequences, thus helping to answer the question of sufficiency in assumption (2). So far, to my knowledge, very few such experiments have been published - all of them tending rather to call into question the silent assumptions. Unfortunately, it seems to be much more profitable to develop new proteins of commercial promise by *systematic artificial* selection experiments, which hardly give any information regarding the questions considered here, which must be based on *random natural* selection only.

Van Till is convinced that God put all information required for the "natural" production of the biosphere into the creation from the outset. It seems that, on the basis of this theological presupposition, he sees no reason to question the silent assumptions at all. Twice in his response, he explicitly concedes that he cannot "prove" his view of an initial functional integrity of the created universe. He suggests, however, some arguments to support it, even in the realm of biology. One is the detection of organic molecules such as glycolaldehyde in space. Apparently, this was not anticipated by astronomers, although they knew of the existence of the conditions required for their formation. In retrospect, no chemist is surprised that on catalytic dust grains such compounds can form from the simple basic small molecules, radicals, or ions available. It eludes me, however, what connection Van Till sees between the formational probabilities of glycolaldehyde or glycine and, say, a replicating, code-bearing biopolymer. These are worlds apart! The difficulties mainly start with code-bearing and coded polymers having huge configurational spaces of 4^{3^N} for DNA, or 20^N for proteins, where N begins to become biologically relevant at a few dozen.

In such a situation, selection is needed, but natural selection may be insufficient in many cases, due to assumptions (1) and / or (2) being violated. Now, divine selection can be applied in the invisible realm of quantum uncertainties to effect positive mutations, enabling evolution to proceed because guided. There is no "forc[ing] creatures to act in ways contrary to or beyond what they could otherwise have done". All elementary particles, atoms, and molecules act exactly "naturally". They just have multiple choices which they cannot sort out intelligently by themselves - which certainly is not an "insufficiency of creation" as Van Till claims! America's network of roads isn't defective because a robot car cannot go from Miami to Seattle without any informational (map and traffic) input. And when I buy a computer, I would prefer to always be free to install, at any given time, those programs I need.

Van Till's other approach is theological. He suggests that I would have to believe that God must have deliberately designed transastronomical improbabilities into his creation, so that he would have to introduce the required information later. But Van Till's parody "withhold now, compensate later" begs the question. I emphasized that the hidden choices are among events of "natural", relatively high probabilities inherent in the physical laws and parameters of the universe given in the beginning - and which are required for the universe to work properly. The low probabilities are logically inherent, not designed. So there is no unreasonable deviousness implied. The high improbabilities arise from combinations of several or many such selections with a particular required outcome, which would have to be satisfied at once. Try to design an enzyme, even if it be one of just only minimal, barely detectable functionality, but *not* derived from a known enzyme, and you know what I am talking about. It would be an easy task if silent assumption (2) were true.

In a second step, Van Till compares the model of God's "hidden options" with occasionalism that "denies true cause-effect relationships in the creaturely world." He justifies this opinion with the claim that, in the hidden-options model, "particular outcomes are entirely determined by divine choice", thereby replacing authentic creaturely action by a mere appearance of it, and "God becomes a divine puppeteer". As I never specified the percentage of choices specifically affected by God, but rather considered them to be rare events at particular important bifurcations, my model has nothing to do with such determinism or divine make-believe. As a rule, random events will be truly random. But in very many cases, this just will not do in a huge parameter space - unless the silent assumptions were true.

Furthermore, Van Till tries to draw the hidden-options model into the god-of-the-gaps trap. He claims to be unable to see a fundamental difference between my model and views which invoke "supernatural", "coercive" or "form-conferring intervention" because God's creation contained "gaps", was not "sufficient", or "lacked" something which God "withheld". None of this was claimed or is implied in my model - apart from the fact that God's introducing information, by effecting a selection of available outcomes, is super-

natural by definition. But so is divine blessing, providence, "persuasion", etc., although, with this fully general, non-descriptive, metaphysical terminology, no operational mechanisms are suggested which could be discussed, criticized, or possibly even tested. Making use of the hidden options envisaged definitely does *not* constitute "particular acts in which the continuity of the creaturely cause / effect system was interrupted and superseded by coercive divine action" - or else the options would not be *hidden*. But this constitutes a proposal as to *how* God's blessing and providence might work - which Van Till's model lacks.

Van Till's "robust formational economy principle" requires that from the beginning the creation was "fully equipped ... to actualize ... every form of living organism that has appeared". This forces him, like the atheists and deists, to believe the two silent assumptions - without any evidence. The only possible alternative would be for God to have stored, somewhere in an abiotic cosmos, the information required for the biosphere, which remained unused for 10 billion years between the big bang and the origin of life. This looks rather contrived, at best, and physically impossible, at worst.

The basic question is whether God is free to act in his creation in whatever manner he chooses, at any time he chooses. Van Till criticizes the traditional view of God as "an all-powerful, transcendent, person-like being" involving a "radical distinction between the Creator and the creation". I hold this view to be essentially biblical and true. But Van Till links it with the derogatory term "coercive intervention", calling such pictures "museum pieces ... of centuries past" that can no longer be treated as adequate. He opts rather for process theology's "intimate relationship of Creator and the creation that is envisioned by panentheism - the world is *in* God, but God is *more than* the world". Admittedly, he limits divine action only by what follows "from the character of God and of the God / world relationship", perhaps thinking of logically inherent restrictions like "God, being good, cannot do evil". But the limits he does impose on the Creator in his "functional-integrity-of-creation" model are not necessarily inherent in what the Bible reveals of God. Why then this degradation of a fully sovereign God to a God inextricably bound to his creation and limited by the results of his own doing? Is it because of a perceived logical impossibility of combining divine sovereignty with creaturely freedom? - of predestination with free will? Is it an attempt at solving the problem of theodicy by whittling down God's possibilities? Is it a question of either completely overpowering the creature or no intervention at all?

A fully sovereign God can certainly have as intimate a relationship with his creation as he sees fit, but without binding himself to arbitrary principles like "never act intrusively". I agree with Van Till that God's *usual* way of acting in the creation is through "natural" processes, and I have come to believe this because of the human freedom which must necessarily be linked with the possibility of genuine faith and love. But it certainly does not follow that God *inherently cannot* introduce new information into his creation whenever he wants to do so. As I argued before, there is no reason to believe a "functional-integrity" mode of creation to be more suitable or worthy for God than one using a continuous intimate but sovereign relationship using insertions of information during an evolving creation which didn't start out "all set" at the big bang. Why should anything be "lacking" in a creation God decided to perform not all at once? The "perfect-all-at-once" misconception is one of the basic errors of young-earth creationism.

No theist doubts that, according to the Bible, God sometimes does intervene in human affairs in response to prayer, good or evil acts and other decisions of his creatures endowed with free will. But none of this needs to be described by Van Till's negative characterization of "interventions". Often, there may not even be any *discernable* "supernatural" aspect. God's action is perceived by faith, not science.

My proposal of God's "hidden options" is subject to further discussion and possible modification.

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¹ P.Rüst, "Creative Providence in Biology", *PSCF* 53, no 3 (September 2001), 179-183.

² H.Van Till, "Does God Choose Among Hidden Options?", *PSCF* 54, no 1 (March 2002), 67-70.

³ asa@calvin.edu; with archive at <http://www.calvin.edu/cgi-bin/archive>

⁴ H.Ross, *Big Bang Refined by Fire* (Pasadena, CA: Reasons to Believe, 1998), 13.

⁵ P.Rüst, "Spezielle und allgemeine Evolutionstheorie: Fakten und Spekulation", in: *Zur Diskussion um Schöpfung und Evolution*, eds. E.Gutsche, P.C.Hägele & H.Hafner (Marburg, Germany: Symon & Wagner, 1984), 59-115; P.Rüst, "The unbelievable belief that almost any DNA sequence will specify life", Conference "Sources of Information Content in DNA", Tacoma, WA (1988); P.Rüst, "How has life and its diversity been produced?" *PSCF* 44, no 2 (June 1992), 80-94.