divine wilderness

by Nathan Schneider

From Thomas Aquinas and John the Baptist to cellular automata and intelligent design; How God taught us planning, and where we went wrong.
PLANNING IS SOMETHING that people learned from God. The lesson might be said to have begun with the prescriptions God laid out for His earthly habitation among the Israelites: the Tabernacle that housed Him in the desert, and then the Temple that was His residence in Jerusalem. The dimensions of these structures were dictated by a divine blueprint. The Temple gave birth to a city, and from it emerged a civilization. We are descendants of this tradition, irrespective of such trivials as whether one identifies as a “believer.”

Its most obvious inheritors are those who shout of “God’s plan for you” from street corners and write “purpose-driven” books, people for whom the blueprint—and our basic need to follow it—is a raft in the ocean of time. But this tradition also finds resonance in something as ordinary as the practical virtue of prudence: the present’s responsible response to the uncertainties of the future, which Thomas Aquinas considered the highest of the cardinal virtues.

The philosopher Jacques Maritain spent his life bringing Aquinas’s philosophy to bear on the modern world. In a 1988 interview, the priest-turned-radical Ivan Illich recalls a 1957 encounter with Maritain. Illich wondered why there was no reference “to the concept of planning” in his work.

[Maritain] asked me if this was an English word for “accounting,” and I told him no... if it was for “engineering,” and I said no... and then at a certain moment he said to me, “Ah! Je comprends, mon cher ami, maintenant je comprends. Now I finally understand. C’est une nouvelle espèce du péché de présomption. Planning is a new variety of the sin of pride.”

For Aquinas, pride was the worst of sins, the root from which all others spring, the most basic rebellion against God. Maritain suggests that we have exaggerated prudence to the point of its inversion. Planning, despite its origins, has come to lie at the center of the predicaments that face our world at present.

PEOPLE LEARNED TO PLAN FROM GOD, but this is not all that God does, nor is it the only discipline that He taught our forebears. The Tabernacle’s design emerged during the Israelites’ sojourn in the wilderness after their escape from Egypt. The subsequent prophets returned to the wilderness again and again to discover God’s plan for them. “The voice of him that crieth in the wilderness,” it was said of John the Baptist, “Prepare ye the way of the Lord, make straight in the desert a highway for our God.” The Lord that John beckoned—Jesus, the embodiment of God Himself—also set off for the wild, where he fasted and was tempted by the devil before beginning to preach.
The God who provides only order and plans is not only a fallacy but a heresy, one that has passed into secular assumptions uncorrected.

HUMAN BEINGS ARE MADE IN GOD’S IMAGE, and God’s creative powers, including the capacity to plan, all find expression in us. These powers are gifts; on their own, they cannot be considered rebellion. All of civilization is their yield. But civilization yields its own horrific rebellions, abominations of acedia, greed, and wrath inflicted against people and the planet. Our own success—spreading across vast territories and propagating our species at a feverish pace—has ushered in an age of mass extinction. By planning ourselves out of creation’s wilderness, we have consigned it to destruction.

For most of human history, settlements centered on a site of worship and ritual and expanded organically, haphazardly, until they were abandoned or destroyed. The first city plans, proposed for the Greek towns of Peiraeus and Miletus, were drafted by Hippodamus in the fifth century BC. These uncompromising grids made allowances for temples and forums; they oriented life around the sites where people met the gods as well as those where citizens determined their own future. Now, only two hundred years after the juggernaut of mechanized industry was put at our disposal, we are forced to question the utopian idea that arose in ancient Greece: that there can never be too much order. The supply of wilderness once seemed inexhaustible, but now, as it disappears, we are beginning to recognize that order has depended on the wild all along.

All the trust that the Greeks placed in their planners would later become the dominion of Christianity’s God. The Puritan ethic at the heart of the American psyche taught that, as long as people’s sexual and social behavior follows a regimented moral order, an unseen force will take care of the affairs of society as a whole, according to benevolent, inscrutable plans. We need only worry about our personal habits. We could make it just fine “by obeying His voice and cleaving to Him,” John Winthrop declared in 1630 during his journey across the Atlantic. “He is our life and our prosperity.” This mind-set facilitated our laissez-faire economy, which entrusted the distribution of resources to a market so far beyond human control as to resemble the theological concept of grace. Yet with the rise of modern industry, the unseen forces governing our affairs became plainly visible. We no longer entrusted ourselves to God, but to the plans of “corporate citizens.”

Modern times, for better or worse, have put people in the position previously occupied by God; the governance of the world has become a human concern. The plans that once issued from heaven now come from high up in office buildings. Yet we remain in the thrall of ancient habits.

On the next page, clockwise from top left: Hippodamus’s urban plan for Peiraeus, 5th century BC; Brasilia, Brazil; nuclear reactor, Hanford, Washington; projects in the South Bronx, New York.
THE GREAT MEDIUM OF MODERN PLANNING, embryonic at the time of Illich’s conversation with Maritain, is the electronic computer. Computers organize, calculate, and simulate. They extend the reach of planning far beyond any earlier tool; they not only draft blueprints and run financial markets but also manage personal relationships and usher in new forms of intelligence. Computers themselves are vast, meticulous plans, inscribed in circuit boards, microprocessors, and programming code. The companies that produce them ensure they operate as planned: predictably, orderly, and hypnotically.

Receiving our plans from computers has become routine; computers have colonized and secularized the theological story of the divine planner. Theology was once a sufficient language for orchestrating human affairs, but now only the language of the machine—of predictive models, of vast data sets, of algorithms—will do. Both theology and computing have been mistaken for sources of order alone, antidotes to wilderness.

First we invented computers. Then we realized that, all along, we have been—as cognitive science all but assumes—computers ourselves, carrying hardware and software, responding to inputs with outputs. All that we encounter can be transcribed into quantifiable information; we’ve been living inside a universe-computer. God is no longer a king, a father, or a mother, but a master programmer. “So might a carpenter, looking at the moon, suppose that it is made of wood,” the physicist Steven Weinberg has written. But here we stand. We can do no other.

IN TIMES LIKE THESE, the easiest way to understand where theology went wrong is to look at a computer program.

What follows is a very simple simulation, a cellular automaton, consisting of a one-dimensional line of binary cells that are either on or off—1 or 0, black or white. With each iteration, the simulation applies a rule to the present line of cells, and from that rule the next line blossoms. The rules are sets of procedures that determine what a particular cell in the new line will be, given the conditions of its predecessor and its two neighbors on the last line.

As an example, we’ll take one especially famous rule, Stephen Wolfram’s Rule 110, and the simplest starting condition: a single cell turned on.

According to the rule, whichever of the eight possible patterns precedes the new cell determines its state. Here is our Rule 110:

When the simulation applies this rule to our simple starting condition, the output looks like this:

And, two later:

Though every part of the simulation is planned, the results defy prediction. By the forty-first iteration of the rule, an intriguing pattern emerges, one that is neither random nor repetitive. A very simple plan has produced an enormously complex structure:

The output of rules like this can be remarkable, resembling complex arrangements in nature such as snowflakes and the human nervous system. Theorists call them universal computers because they produce an infinite number of localized patterns that interact with each other as the iterations unfold.

Not all one-dimensional rules are as interesting as Rule 110, and many result in empty or repetitive patterns. But this is not an isolated incident, and it suggests a general principle: Patterned complexity—wildlife, that is—can come about in the dance of utter simplicity.
Rule 110:

To the right, Python source code for "MiniMarch," by the author. On the next two pages, see how the progressive iterations of Rule 110 and Rule 150 appear when realized by this program.

Rule 150:
IT HAS BECOME COMMON to speak of divine planning in terms of “intelligent design,” which some religious apologists take to represent a corrective to Darwinian evolution. The Seattle-based Discovery Institute, whose objective is to find evidence of divine intervention in nature, is the most prominent proponent of this concept. The Institute’s website explains:

primer on the philosophy of Judaism, Guide for the Perplexed, Moses Maimonides sets out to clear up confusion about how God acts in the world. The Bible’s description of the deity commanding clouds to rain and directing armies to march, Maimonides writes, is shorthand for a richer reality. God provides the conditions of possibility for these events, but He doesn’t fiddle with the universe. Through human will, natural forces, and
the interactions between the two, God’s sustaining presence and existential gift makes His plans unfold in the wildness of the world.

Following Aristotle, Maimonides sees every event as having a hierarchy of causes; God works in and through material things, not against or around them, as intelligent-design theorists suppose.

Later, Maimonides adds that God “fully knows His unchangeable essence, and thus a knowledge of all that results from any of his acts.” But when it is said that God is omnipotent, better to think of a simulation than a blueprint: God constitutes the life-giving rules, iterations, and imagination of our universe simulator.

Intelligent-design theory is simply an effort to empirically detect whether the “apparent design” in nature acknowledged by virtually all biologists is genuine design (the product of an intelligent cause) or is simply the product of an undirected process such as natural selection acting on random variations.

This formulation is particular to a culture paranoid about its own atheism. It assumes that God has no relationship whatsoever to the “undirected” and “random” processes of nature, that God is responsible only for order, and that order can only come about through God.

The lesson of the cellular automata, however, shows that order doesn’t have to depend on obsessive intervention; it can emerge through burgeoning iteration. Planning can give rise to a semblance of order without minutely prescribing it, without intelligent-design theory’s autocratic tinkerer. In earlier times, when the existence of a cosmic principle named God was generally accepted and theologians could focus their energies on His essence and meaning, the Discovery Institute’s assumptions would have seemed awfully impoverished.

**TWO-THIRDS OF THE WAY** through his definitive medieval
Thomas Aquinas was Maimonides’s closest counterpart in the Christian world. He, too, thought of God in Aristotelian terms, as a generative power. He stood by the “simplicity” of God, despite the rich complexity of creation. Complexity, somehow knew, could and would emerge from the most orderly of sources.

William Blake, Illustrations of the Book of Job, 1825.

“WHERE WERE YOU when I laid the earth’s foundation?” God asks in the Book of Job. “Tell me, if you understand. Who marked off its dimensions? Surely you know! Who stretched a measuring line across it? On what were its footings set, or who laid its cornerstone while the morning stars sang together and all the angels shouted for joy?” God appears to Job in the form of a whirlwind, as if the natural embodiment of His perfect simplicity is fearsome chaos.

Job had been upstanding, law-abiding, prosperous, and pious. Yet he lost all his possessions, witnessed the death of all his children, and saw his body deformed. Refusing to accept that there could be justice in his punishment, he complains to God that he has been wronged: “Does He not see my ways and count my every step?”

God doesn’t reply directly. Instead, the whirlwind holds forth on a subject familiar to those who work with cellular automata: initial conditions. From simple plans in the cosmic simulation, endless permutations play out in the divine iterations of time. Job’s complaint is beside the point. Just as we trust our computers, he trusted that God would enforce a comfortable order for him, forgetting God’s penchant for wildlife.

Intelligent design, a theory to which more than half of Americans subscribe, represents an all too prevalent heresy of contemporary theology—in both its secular and religious varieties. In misunderstanding the kind of planning that brought about the richness of creation, it also wrongly implies the kind of planning that people, made in the divine image, should undertake. (This mistake did not originate with the Discovery Institute and its allies but has found its most telling expression among them.) By taking it to heart, we have learned to hatch our plans as interventions on nature and history and to think of ourselves as purveyors of order in a world of chaos.

We have long trusted the plans of economists, diplomats, doctors, accountants, engineers, demographers, generals, and experts of all kinds. Shouldn’t we? I would be terrified to say we shouldn’t. But they are all treacherously wrong. Though we may no longer express confidence in the bureaucratic order, we still entrust our lives to its plans and models and procedures. We turn the plans that come from above into idols.

Life in the divine image does not merely follow plans. It erupts from them, wildly and creatively, then goes on to make plans of its own.

AT A DECISIVE MOMENT in the film The Dark Knight, when Harvey Dent transforms into chance-obsessed Two-Face, the Joker, clad in a nurse’s uniform, looms above the maimed politician’s hospital bed. “Do I really look like a guy with a plan, Harvey?” he asks. “I don’t have a plan. The Mob has plans, the cops have plans.” He continues, reflecting on the plans at work all around them:

You know what I am, Harvey? I’m a dog chasing cars. I wouldn’t know what to do with one if I caught it. I just do things. I’m just the wrench in the gears. I hate plans. Yours, theirs, everyone’s. Maroni has plans. Gordon has plans: schemers trying to control their worlds. I’m not a schemer; I show the schemers how pathetic their attempts to control things really are.

Just as Martain, the existential medievalist, and Illich, the defrocked anarchist, spoke of heretical planning as the crux of modernity’s rebellion against God, the Joker recognizes the obsession with order as the petty, futile origin of every lie. We cling to our images of immutable plans, mistaking them for reality. But they are the ultimate joke.

Thus Woody Allen’s remark, a Yiddish proverb now lost to pious cliché: If you want to make God laugh, tell him about your plans.