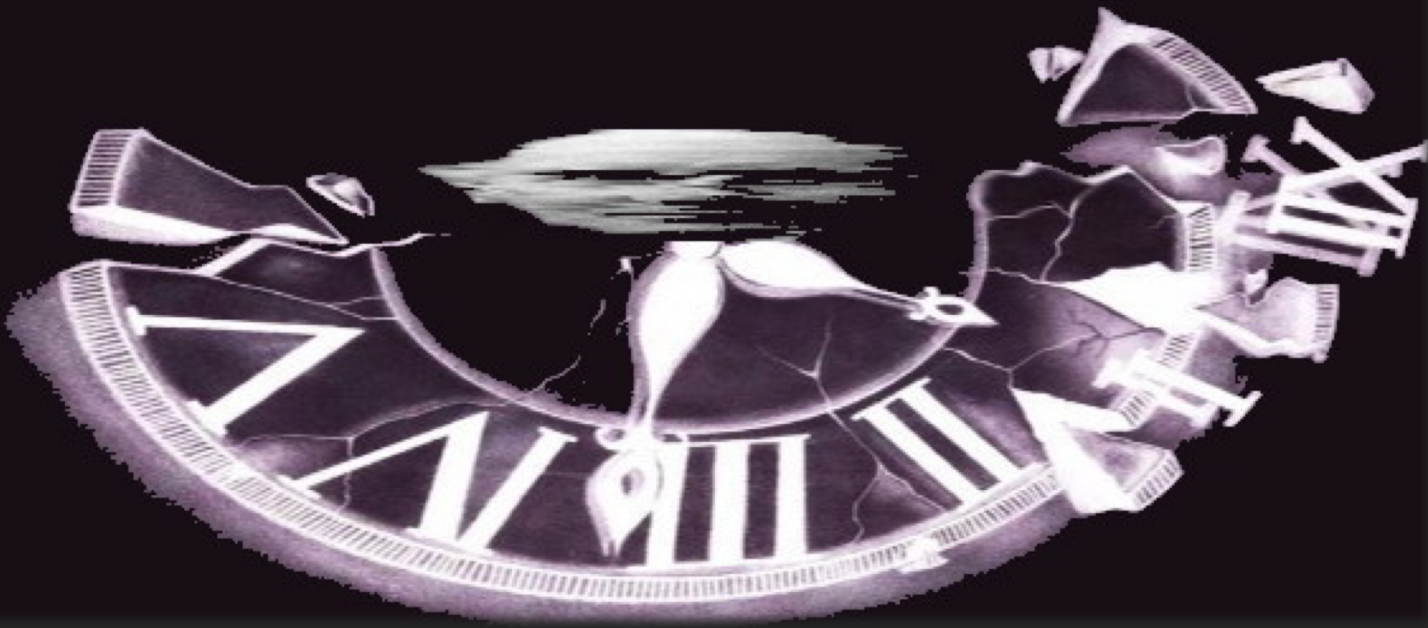


ALIENOCENE – THEORY/FICTION

**DEFINING SPECULATION:
SPECULATIVE FICTION,
SPECULATIVE PHILOSOPHY,
AND SPECULATIVE FINANCE**



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The phrase *speculative fiction* is sometimes

used as a synonym for *science fiction*; at other times, it designates a superset that also includes non-futuristic alternative-world genres like fantasy and horror. But in either case, it is difficult to disentangle fictional speculation from its two near-doubles: philosophical speculation on the one hand, and financial speculation on the other. In what follows, I discuss how these usages are related.

I-

Most generally, speculation implies a “flight in the thin air of imaginative generalization” (Whitehead 1978), a concerted activity of proposing and testing “daring hypotheses” (Stengers 2018a), and an openness to risk and uncertainty (Landon 2014). All these features may be used in order to contrast speculation with extrapolation – another term that is used in relation both to science fiction and to business forecasts. As I see it here, speculation picks up just at the point where extrapolation falters and fails. If extrapolation follows a social or technological trend “to the limits of its potential,” then speculation seeks to imagine what happens when a trend *exceeds* its potential, and pushes against or beyond its own limits. Where extrapolation is grounded in probabilistic reasoning, speculation is rather concerned with *possibilities*, no matter how extreme and improbable they may be. As Rod Serling once said, in his introduction to an episode of *The Twilight Zone*, “science fiction [is] the improbable made possible” (Serling 1962).

In the late eighteenth century, Kant’s critical philosophy sought to put an end to metaphysical speculation. We fall into delusion and dogmatism, Kant says, when we try to go beyond the limits within which our formulations alone have meaning and relevance. For instance, even a statement that is true for every particular entity in the universe is not true for the universe itself — since the universe as a whole is precisely *not* a particular entity. In the first half of the *Critique of Pure Reason*, Kant demonstrates that our knowledge pertains only to appearances, not to things in themselves. And in the second half, he tracks down, catalogs, and refutes the various forms of speculative delusion that threaten to lead us astray. Kant tells us

that we cannot ever truly know things as they actually are in themselves, apart from our impositions upon them. And he further emphasizes that we cannot ever hope to grasp the unity, the totality, or the comprehensive grounding of all existence. All of these lie beyond the boundaries of any possible understanding.

Even as Kant warns us against these errors, however, he also acknowledges that the drive to speculation can never be eliminated. For speculation is “a natural and unavoidable illusion,” intrinsic to reason itself; it is therefore an eternal, irresistible temptation (Kant 1998). And indeed, ever since Kant, philosophers — from the German Idealists of the early 19th century to the speculative realists of today — have again and again searched for loopholes that would allow them to overcome Kant’s positing of limits, and his restriction of knowledge to the empirical realm. But it is not easy to restore the rights of speculation. Just as any successful abstraction must pay the price of leaving certain details unaccounted for, so any speculative attempt to move beyond mere phenomena will find itself inevitably haunted by some sort of exception or remainder. As Whitehead puts it, every “speculative scheme” (including his own) necessarily falls short of its ambitions:

If we consider any scheme of philosophic categories as one complex assertion, and apply to it the logician’s alternative, true or false, the answer must be that the scheme is false. (Whitehead 1978)

But for Whitehead, unlike Kant, this falsity is not the end of the matter. After all, Whitehead also notoriously proclaims that “it is more important that a proposition be interesting than that it be true” (Whitehead 1978). A proposition is false when it fails (whether by error or omission) to describe the world as it actually is. But if the false proposition be interesting enough, it may stimulate thought: either by making us aware of its own gaps and omissions, or else by suggesting potentials for difference, alternatives to what is actually the case. A good speculative proposition draws us down an unexpected path; it provides what Whitehead calls “a lure for feeling” (Whitehead 1978). Without the speculative lure of false propositions, we might never be moved to change anything. Speculation attracts us and unsettles us, encouraging us to think and act in ways that we might not have done otherwise. In sum, even though speculation does not lead us to

higher truths, it works in a positive manner by taking the form of *fiction*. Its import is aesthetic, rather than epistemological.

Speculative fiction quickens our imaginations; it envisions future ways of being that are different from that of the present, and discontinuous with it. Pushing beyond mere extrapolation, speculation allows us, in the words of the object-oriented speculative realist philosopher Graham Harman, to “reach conclusions that seem counterintuitive or even downright strange.” This is crucial, precisely because we can never know reality as a whole, or real things as they actually are; there is always a “gap between reality and its explicit manifestations” (Harman 2018). The aesthetic appeal of speculation, which Harman calls *allure*, “invites us into a world that seemed inaccessible, a world in which the object must be even deeper than what we had regarded as its most intimate properties” (Harman 2005).

Harman is thinking primarily of *weird fiction*, in the manner of H. P. Lovecraft, whose writing, he says, “has an oblique or allusive relation” with a reality that it can never access or describe directly (Harman 2012a). But science fiction operates according to a similar dynamic. Brian Willems extends Harman’s methodology in order to consider science fictional “objects which resist incorporation into any past, present or future scientific understanding”; he explicitly contrasts this object-oriented approach to the more common one in which science fiction is taken to be “about future events” (Willems 2017). But to my mind, such an opposition is unnecessary. For “future events,” no less than the withdrawn entities posited by Harman’s object-oriented ontology, cannot ever be grasped directly. As Whitehead puts it, futurity is a “mere potentiality”; it is only when an event actually happens in the present, and then recedes into the past, that it becomes a “fully determinate actuality” (Whitehead 1978). Futurity *per se* is not yet fully determined; this is why it can only be grasped speculatively — which is to say fictionally, allusively, and obliquely.

For an example of this process of fictional speculation, consider Cixin Liu’s *Remembrance of Earth’s Past* trilogy, consisting of *The Three Body Problem* (Liu 2014), *The Dark Forest* (Liu 2015), and *Death’s End* (Liu 2016). The series can be described as a “first contact” narrative; it tells the story of our encounter with an alien intelligent species from a planet in the Alpha Centauri triple-star system, the nearest stars to the Sun. The aliens threaten to invade and conquer the Earth; but

this action unfolds in slow motion, because — even though the aliens travel through space at 1% of the speed of light, far faster than any actually-existing human technology is capable of — it takes them 400 years to arrive. The trilogy starts from a local, immediate, and historically-grounded context: China during the Cultural Revolution of the 1960s. But from there it spirals relentlessly onwards and outwards: by the end of the last volume we are projected millions of light years away from Earth, and billions of years into the future, until we approach the near-extinction of the universe. It is from this almost-final point of view that we are offered the “remembrance” of a past that, for us, is still futurity. We look back, retrospectively, on the history of planet Earth (which, despite the best efforts of collective humanity, is extinguished in the course of the narrative).

The novels’ expansion in time and space also gives rise to a progressive widening of their speculative scope. Liu moves from local political considerations to questions of galactic sociology, from actually-existing technologies to presumptively far more powerful ones, and from debates over military tactics and strategy to disquieting suggestions about the deep structure of the cosmos. The novels are grounded in physics as we currently understand it (with particular reference to relativistic time dilation and to quantum entanglement), but they move beyond their scientific premises to construct a vast speculative vision. There is no precise point at which we cross over from simply empirical considerations to the universal metaphysical questions that Kant declared unanswerable; but the narrative as a whole carries us, by degrees, all the way from the anger and resentment of one particular human scientist to a situation in which the fate of the Earth, and beyond that of the universe as a whole, hangs in the balance. Liu’s fictional speculations slide past the limits decreed by Kant without ever explicitly transgressing them.

In this way, *Remembrance of Earth’s Past* allows us at least a glimpse of what the speculative realist philosopher Quentin Meillassoux calls the *great outdoors*:

the *absolute* outside... existing in itself regardless of whether we are thinking of it or not; that outside which thought could explore with the legitimate feeling of being on foreign territory — of being entirely elsewhere. (Meillassoux 2008)

But where Meillassoux claims to find the great outdoors by means of absolute reason, and through the *ancestrality* of an immemorial past, Liu finds it rather by means of speculative fiction, and through a futurity that remains irreducibly potential rather than actual, and in relation to which our own present moment can only be viewed retrospectively.

II-

The question of futurity brings us back to *speculative finance*, that other near-double of speculative fiction. Economic activity always has a temporal dimension; it takes time to produce goods, to distribute them, and to consume them. Debts and obligations persist over long stretches of time, as well; any demand for an immediate accounting would paralyze nearly all human activity. Societies were organized around extended durations, with long-term exchanges and never-completed reckonings, long before the invention of money — let alone the practice of calculating indebtedness exclusively in quantitative, monetary terms (Graeber 2014). But practices of specifically financial modes of speculation have steadily expanded over the course of the history of capitalism. Today, all economic activity, no matter how physically real or productive, is refracted through, and largely governed by, the abstract calculative mechanisms of financial speculation. The object of such speculation is always the future, with its chances and its differences from the present. Indeed, financial speculation used to be known as *futures trading*. Today such speculation takes a wide variety of forms, ranging from straightforward loans and insurance contracts all the way to derivatives, credit default swaps, collateralized debt obligations, and other arcane financial instruments. The monetary value of trade in these financial devices exceeds, by many orders of magnitude, the monetary value of the economic assets that ostensibly underlie them.

Speculative financial instruments are themselves fictions of a sort, as they are *contingent claims* referring to future events that may or may not ever come to pass (Babbs and Selby 1993). Marx called such devices *fictitious capital* (Marx 1993); the term is arguably still relevant today, when finance has taken far more baroque and extravagant forms than was the case in Marx's own time (Durand 2017). The monetary value of arcane financial instruments is most often based upon entirely

arbitrary (or delusional) presuppositions, and has almost nothing to do with the value of the physical assets, or property claims, that ostensibly underlie them. Nonetheless, the fictionality of financial instruments does not mean that they are unreal or ineffective. Indeed, these instruments have powerful pragmatic effects; they can topple whole economies, as happened around the world in 2008. Financial fiction is performative rather than constative: “an engine, not a camera” (MacKenzie 2008).

Speculative finance produces its fictions by *pricing* potential future events. Even if these prices are entirely arbitrary, their very existence works to bind the future to the present. As Aimee Bahng puts it, although in principle “the future exists as absolute uncertainty,” nevertheless in practice “financial instruments work precisely toward actualizing the future in order to monetize and profit from it” (Bahng 2018). Or, as a financial journalist puts it, “investors *like* risk, as long as they can price it. What they hate is uncertainty — not knowing how big the risk is” (Salmon 2009).

Economists have long insisted on the radical difference between *risk* and *uncertainty* (Knight 1921; Keynes 1937). Risk involves probabilities among a closed set of outcomes; it therefore can be calculated rigorously. But uncertainty is fundamentally unpredictable, since we do not even know what the alternatives are (there is no set of denumerable outcomes). In spite of this, financial markets repeatedly claim to transform the latter into the former. Nearly any price will do; a fictional financial determination is better than no determination at all. When probabilities cannot be calculated in the traditional manner, by extrapolation, financial instruments turn to a more speculative approach. They explicitly envision, and thereby seek to premeditate (Grusin 2010), or to preempt (Massumi 2015), even the most extreme and unexpected possibilities. In the new “possibilistic logic” of both international finance and national security regimes, as Louise Amoore puts it, “decisions are taken on the basis of future possibilities, however improbable or unlikely”; this “allows for action on the basis of the improbable, the merely possible” (Amoore 2013). This is disturbingly close to Rod Serling’s description of science fiction, which I quoted above.

Speculative finance and speculative fiction thus remain intimately intertwined. They both deal with improbable possibilities. I would like to say that, where science

fiction seeks to multiply these possibilities, and open up alternative futures, finance rather works to shut down all of these futures, by accounting for them in advance, and making them commensurate with — and (as Amoore 2013 puts it) *actionable* within — the present. Science fiction at its best works to transform actuality into potentiality — or better, into multiple potentialities. In contrast, “post-probabilist neoliberalisms” (James 2019) are grounded in the injunction that “all potential must be actualized and fulfilled” (Amoore 2013). But the antinomy here is an unstable one. Science fiction on the one hand, and the regimes of financialization and securitization on the other, both take futurity as their object of speculation; and they both devise strategies to represent its inherent indeterminacy. They both, in the words of Aimee Bahng, “generate cultural fictions that then produce material effects” (Bahng 2018).

Consider, in this regard, Mark Stasenko’s recent science fiction short story “Overvalued” (Stasenko 2018). This is a text that speculates upon, precisely, the social and financial process of speculation. “Overvalued” imagines a near-future world in which human beings are themselves the object of futures contracts. If you don’t have a degree from an elite college, then you have “no way of avoiding ending up on the low-wage, unskilled Wall-Head side of the modern American workforce divide.” (Wall-Head seems to be the story’s near-future conflation of Walmart, Amazon, and other ubiquitous low-wage employers). But elite colleges are expensive, with prices for degrees at least in the high six figures, and considerably more for the thirteen most prestigious “Seven-Figure universities.” Most families cannot afford this for their children. If your family is not already rich, and you want to go to a good school, your only choice is to float yourself with an IPO (Initial Prodigy Offering — playing on the common financial abbreviation for Initial Public Offering) in the “newly minted Prodigy Market.” If you can convince investors that you are indeed a “prodigy,” they will finance your education in the present, in return for receiving a guaranteed percentage of your future lifetime earnings. The less of a “prodigy” you are — that is to say, the lower they judge your future income potential to be — the higher the percentage of future earnings you need to promise them in order to offset the risk.

The Prodigy Market turns out to be “so profitable” that it spins off a secondary market in prodigy futures, with investors speculating on the prices of the contracts

themselves. “It was a highly liquid market at the top end, which allowed for an entirely new class of equities and derivatives,” as well as for dividing the futures into tranches, as has actually been done with other financial instruments. Sophia, the protagonist of “Overvalued,” specializes in short selling prodigy futures; that is to say, she sells shares of contracts she doesn’t own, in the hope of buying them later at a lower price. Often she helps the process along by releasing deleterious information about people whose share price she hopes to depress. When Sophia reveals that a promising teenage scientist has a history of depression, the girl kills herself, sending the value of her shares to zero. Sophia and her company make an enormous profit.

But even this isn’t enough to satisfy the big investors’ quest for financial accumulation. If somebody’s shares aren’t “profitable enough,” there is always the option of “liquidating an over-resourced target.” That is to say, the investor hires a contract killer to get rid of the underperforming human capital. The story tells us that “this increasingly common, if unacknowledged, practice was known as ‘self-regulation’”; the job of killing is listed on tax forms as “supply-chain consulting.” In the near-future of the story, and indeed already in the present, the financial industry is awash with “all the Orwellian indirections and rationalizations we bake into our use of language.”

“Overvalued” is a fictional speculation upon the practices of financial speculation. It does not predict the future of finance, so much as it asks: given what we do already, why wouldn’t this happen? In our current social and economic system, we place our faith in the idea that “the market” is the optimal mechanism for solving any and every problem. People are defined as *human capital*, in the same way that other entities, living or not, are regarded as forms of capital. Given all this, why not have a speculative market in people as well as goods? Zachary Karabell, in an online essay responding to Stasenکو’s story, goes so far as to say that

the conceit behind “Overvalued” is hardly science fiction. If anything, we are closer than we think to a world where human capital becomes a security to sell, package, and even short. (Karabell 2018)

The phrase “hardly science fiction” is itself worthy of comment; it seems to mean that Stasenکو’s vision is not particularly extravagant, but already almost actual. Indeed, “Overvalued” reads as if it had been written in response to a news story that only appeared six months later. *The New York Times* reports that Income Share Agreements (ISAs), in which student borrowers “pledge a percentage of future income against debt,” have started to replace student loans as ways of funding a college education (Harris 2019). ISA programs “are premised on the idea of discriminating among individuals”; they

assess different rates and repayment durations depending on the borrower’s major. If you’re a chemical engineering major at Purdue, you enjoy better terms than if you study English: Under its ISA schedule, chemical engineers are expected to repay \$33,000 at the rate of about 8.5 percent of their income for seven years and four months, while for English majors it’s almost 15 percent for nine years and eight months. (Harris 2019)

As the algorithms grow more sophisticated, funding arrangements are sure to grow more finely differentiated as well. Eventually, ISAs

will begin to reshape childhood. Instead of just trying to build a résumé that appeals to admissions committees, students would spend their adolescence trying to build profiles that scan as successful to investors. Every child becomes his or her own start-up... This is the path we’re on, and it ends with teenagers being careful to always smile in front of their laptop cameras lest the ISA algorithm find them uninvestably dour. (Harris 2019)

There is no better example of science fiction’s speculative grasp upon futurity than the way that it can thus function as anterior parody. It is almost as if lending institutions have read “Overvalued” and taken it as a model, instead of a warning. In Zachary Karabell’s response to Stasenکو’s story, he readily concedes that social reality is so powerfully governed by the logic of speculation that it is almost science fictional already. But at the end of the essay, he pulls back from this recognition, and instead tries to reassure us

that social norms are not there yet. We might be willing to slice and dice all sorts of financial instruments and drive businesses to failure in order to make a buck by betting against them. But we are not there yet with human

lives, at least not explicitly... there are apparently some lines that most humans will not cross even if they can. (Karabell 2018)

Yet Stasenکو's story itself already takes account of this hope, and warns us not to put too much stock in it. Sophia feels guilty, and wracked with doubt, about having provoked the death of an innocent teenager; her work performance suffers as a result: "Sophia wasn't the best at what she did anymore. She was a part of the conventional herd." This leads her boss to regard Sophia's Prodigy fund as "overvalued," to take "a massive short position on her," and to have her killed if her job performance doesn't recover. The boss' public mantra is "humans before profits," but his actual attitude is the reverse. Financial speculation never shuts down, if there is any prospect of further increasing profits; human concerns are irrelevant to it, one way or the other. "Overvalued" simply pushes its own fictional speculations along a path that financial speculation has already marked out.

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