

From Science as Solution to Science as Suspect: Science Fiction and the Canonical Decline of *Technoidealism*

Nathan Fuhrer

With all their nuclear shields, large enough to protect a ship, a city, an entire world; they could never build one to protect a single man. To supply light and heat to a city, they have motors six stories high . . . The whole war is a battle between those two systems; between the Empire and the Foundation; between the big and the little . . . [we] bribe with little things, useless in war, but vital to prosperity and profits.

—Isaac Asimov, *Foundation*, 1951.

1. An Introduction to *Technoidealism*

Delivered as a trailing remark by the infamous merchant Hober Mallow to secretary Jorane Sutt, this epigraph exemplifies a dichotomy central to the canon of Isaac Asimov's fiction. Ascribed by Mallow to an ability to create prosperity and profits through miniaturization, and thereby trade, these remarks broadly encompass the central conflict at the core of Asimov's canon; conflict is not won by troops, fleets, or even economic dominance, it is decided instead by the invariable march of technology and progress—those with the greater science, prevail. Rather than holding this 'basic truth' of Asimov's work in isolation, it is better understood in the broader context of a human-science relationship: how does science serve the goals of humanity, how does the accretion of technology relate to individuals, and how might science be a resolution to the affairs of human problems? The implications of this relationship are not only a feature of Asimov's texts but have been central to the science-fiction canon. Born in the marvel of technological progress in the post-war 50's, this notion has by and large fixated on the potential of scientific progress and technology to positively affect or direct change in human conditions. However, it has since drifted from this nascent *technoidealism*—as captured in Asimov—to a far more dour outlook. Though rooted in the scientific rationalism and *technoidealism* of Asimov's 1950's outlook, this element—once held as fundament—has evolved over the course of literary history to favour dystopia; gone are the gleaming citadels and the promise that science, and science alone, will "shorten the interregnum" of human suffering (*Foundation* 37).

In light of this, a selection of texts spanning from Asimov's work in the 1950's to the twenty-first century help establish this philosophy of *technoidealism* and, in turn, demonstrates the shift from the origins of this ideal to the genre's present dystopian culmination. The central texts in this argument are the original *Foundations* trilogy by Isaac Asimov: *Foundation* (1951), *Foundation and Empire* (1952), and *The Second Foundation* (1953). These novels not only contain a coherent expounding of the science as solution mantra but are also seminal works in the early science fiction canon. As this analysis is concerned with developments over time, it is also necessary to reference texts which demonstrate the deterioration of this ideal. In this vein, Philip K. Dick's *Do Androids Dream of Electric Sheep?* (1968) and Frank Herbert's *Dune* (1965)

are identified with a canonized shift from Asimov's *technoidealist* roots toward a more problematized view of the relationship between humans and science. These works not only demonstrate a more nuanced approach to the relationship between humankind and technology, with the introduction of the replicant or the endorsement of *fremenic* living respectively but are participants in a process of muddling, with the transition from science as solution to science as suspect hinging on these seminal works. This muddling is what allows the inevitable turn from science-fiction's roots, this transitory period later being cemented into scientific dystopia with the proliferation and rising popularity of cyberpunk, tech-noir, and related sub-genres. In this instance, Jeff Somers' *The Final Evolution* (2011) and Iain Reid's *Foe* (2018) have been selected as contemporary exemplars of the new and popularized discourse on the human-science relationship: both texts fixate on the capacity for technology to displace the human condition.

This abandonment signals a shift in the human-science relationship. No longer is the genre tied up with conceptions of *technoidealism*—the idea that technology creates equity, foments social progress, and resolves discord—it instead courts dystopia: that technology is a driver for class divides, ethical issues, and social discord. This overturning not only finds a catalyst in Dick's *Do Androids Dream of Electric Sheep* vis-a-vis the interactions between organic and synthetic life, but also in Herbert's *Dune* through the dichotomy of "high technology" and the spiritually militant nomadism embodied by the Fremen. Somer's *The Final Evolution* and Reid's *Foe* edifies this shift through revisiting the replicant—an entity with transplanted intelligence and memory—and the devaluation of sapient life which follows in its wake. With this in mind, technological discourse in science fiction has eschewed the high-minded *technoidealism*. Rather than being embodied by this Asimovian precept, this new discourse is one which adopts and interrogates the moral quandaries created by rapid scientific progress; where science was once held as a solution, it is now little more than suspect.

2. Foundations in Science Fiction and *Technoidealism*

All was arranged in such a way that the future as foreseen by the unalterable mathematics of psychohistory would involve their early isolation from the main body of Imperial civilization and their gradual growth into the germs of the Second Galactic Empire—cutting an inevitable barbarian interregnum from thirty thousand years to scarcely a single thousand.

—Isaac Asimov, *Foundation and Empire*, 1952.

In this vein, Lars Schmeink's *Biopunk Dystopias: Genetic Engineering, Society and Science Fiction* will be used to analyze this temporal pivot in the aforementioned texts, whereas Krishan Kumar's "The Ends of Utopia," Alex Hall's "A Way of Revealing': Technology and Utopianism in Contemporary Culture," and Jay Clayton's "The Ridicule of Time: Science Fiction, Bioethics, and the Posthuman" will supplement this analysis. While Schmeink's work offers insight and analysis into the core facets of the genre in its present state, Kumar's work will centre on the "death" of literary utopia and provide valuable insight into the initial shift toward a non-*technoidealist* canon. Further to this, the works of Hall and Clayton will better elucidate the

moral and ethical quandaries produced by scientific progress, particularly through a predisposition for genetics and how the unravelling of these concerns necessarily reflect a shift in the literature. In effect, the underlying human-science relationship and the perception of technology in canonical science-fiction literature has undergone a dramatic shift since the 1950's. Drifting from its canonical origins with Asimov, the natal and *technoidealistic* conceptions of science as panacea have been abandoned.

Though I have framed *technoidealism* as being a central element of the science-fiction genre, it is necessary to substantiate this and marry the concept to the existing and overarching scholarly framework. In the estimation of Schmeink, science fiction "is a direct interaction with contemporary culture that lies at the nexus of technological, scientific, critical and social thought in that it determines what we conceive of as possible in and for our future" (Schmeink 19-20). In light of this, the epigraph chosen strikes an important balance between these two notions. Firstly, not only has Asimov framed technology as a constituent part of this future, it also plays a critical role in shortening an undesired historical period. Secondly, the Asimovian canon, as captured in the *Foundations* trilogy, is not merely participant to the process outlined by Schmeink; it endorses a particularly positivist view of the technological and scientific aspects: if 'we' are going to conceive of a possible future landscape, science is a guiding and necessarily utopian element that channels this possibility into a wholly positive outcome. This is what is meant when referring to *technoidealism*. Rather than positive change being enacted or derived through social and cultural interactions with technology or science, technology or science in and of themselves are guiding principles which foment social order and progress.

Technoidealism then is merely one of many mechanisms through which standard utopian science fiction discourse is presented. In Schmeink's words, "utopian [science-fiction] has the ability 'to reflect or express our hopes and fears about the future, and more specifically to link those hopes and fears to science and technology' (6). The interplay between hope and fear then is unsurprisingly omnipresent within the *Foundations* trilogy. This precept, embodied by psychohistory, is called into question by various actors who doubt the authority or the capacity for this science—an advanced sociological mathematics developed by Hari Seldon and used to chart potential futures—to adequately predict the future or serve as a means to usher in a purported Second Empire: "we are not here to listen to speeches, Dr. Seldon . . . Let me suggest to you that your predictions of disaster might be intended to destroy public confidence in the Imperial Government for purposes of your own!" (*Foundation* 32-33). Despite this interrogation or doubt, however, the guiding force of psychohistory remains dominant: an inexorable cascade of foreseen events.

Nowhere is this more clear than in the first novel of the trilogy which, aside from this introductory moment of doubt, wholeheartedly endorses the future schema laid out by Hari Seldon. In establishing a basis for the trilogy, *Foundation* outlines the basic structure of its psychohistorically derived future: "the future isn't nebulous. It's been calculated out by Seldon and charted. Each successive crisis in our history is mapped and each depends in a measure on the successful conclusion of the ones previous" (119). These calculations aren't merely suggestions but are a prescribed series of events demarcated by several important points of juncture (or crises). This sort of historical mechanism, wherein the course of humankind is directed, is not only part and parcel of *technoidealism* but bears a marked resemblance to a government or state authority with Seldon's psychohistory serving as a paternalistic and guiding

hand. It is, in effect, an engineering of the sociological outcomes of humankind. However, it is eminently important to divorce the *technoidealism* embodied by psychohistory from its realized non-fictional 20th century analogues.

Speaking to the origins of engineering human or social outcome in the science fiction genre, Schmeink points out that “most human engineering . . . had to content itself with experiments on the social scale, attempting to engineer better social bodies by ‘cultivation’ of specific traits and the ‘elimination’ of other, less desirable aspects” (119). While the authoritarian fixation on shaping or developing the human element may appear analogous to *technoidealism*, it is important to note that unlike government this idealistic quality is an unbounded one: state authority is subject to the tenets of *technoidealism* rather than *technoidealism* being subject to it. In other terms, the psychohistory of Asimov’s *Foundations* trilogy is not a tool employed by various religious or mercantile groups but exists instead as a category above them. These groups are not employing the disembodied statistical truths of psychohistory; they are being employed by them.

Further to this, it is important to establish the micro-level interactions of the *technoidealistic* mantra. Rather than simply existing as a guiding force or overarching principle, I contend that *technoidealism* also captures an outlook on interpersonal or micro-scale interactions. Specifically, a key component is the idea of science as a solution not only to societal level problems but also to base human-level interactions. For instance, the macro-level idealization of science and technology also extends to those engaged in its production: “in a Galaxy where the predominance—and even survival—of the Foundation still rested upon the superiority of its technology . . . a certain immunity adhered to The Scientist. He was needed, and he knew it” (*Foundation and Empire* 151). In effect, this idealization of technology extends not only to those responsible for the production of it, and thereby the advancement of psychohistory, but is also captured in fine-toothed interactions. Lathan Devers, a trader of the foundation and one of the protagonists, wins out at a critical juncture not because of guile, luck, or cunning, but because of the technology at his disposal. In a dramatic blunder wherein he attempts and fails to gain passage by bribing an Imperial Police Lieutenant disguised as a trade bureaucrat, Devers’ survival hinges entirely upon superior technology: “the lieutenant of police smiled more broadly and squeezed the contacts [of his blast-gun]. The blasting line of force struck Devers’ chest in an accurate blaze of destruction—that bounced harmlessly off his personal shield in sparkling spicules of light” (92). Rather than winning out because of any human element, the human element actually being what lands him in this situation, Devers survives due to a technological edge. *Technoidealism*, in effect, innately privileges social good by propping up scientific and technological prowess as the mechanism to rectify human shortcomings: it promulgates science as *panacea*.

Though *technoidealism*, as established in Asimov’s works, posits science as the sole solution, there are several recalcitrant elements that need to be addressed. In particular, the second novel, *Foundation and Empire*, hinges on a critical missing of the mark involving an emotion-manipulating empath called ‘the Mule.’ While members of the Foundation are assembled in the Time Vault to hear the next psychohistorical proclamation of Hari Seldon, his projection only feeds them false information: “Seldon is off his rocker. He’s got the wrong crisis . . . the Mule is an added feature, unprepared for in Seldon’s psychohistory” (189). This event not only leads to chaos but also to the dissolution of the Foundation purported to be a key factor in

bringing about galactic stability. However, rather than wallow in this shortcoming, the attention of Ebling Mis, a prominent psychologist, is swiftly directed toward an effort of rediscovery: “what was once the Empire is bare bones today, but something must still be at the center . . . And, Ebling, there’s another, greater purpose. Hari Seldon founded *two* Foundations . . . *You must find that Second Foundation*” (203). It is this key intervention, the existence of a second Foundation, which signals that this recalcitrant data point is not a refutation of *technoidealism* but, rather, an exemplification of it. It is the existence of this second Foundation in the tail end of the trilogy which ensures the primacy of science as solution. This Foundation, in accordance with this precept, signals the end of the Mule’s reign and the restoration of *technoidealism* through manipulating his emotions in turn: “when you return, you will find a revolting Empire, a disintegrated realm, and only the men with you in your Fleet here will be loyal to you . . . Your Empire is done, Mutant” (*Second Foundation* 137). In regards to this manipulation, this second Foundation has used science to expand upon the base capability of human intuition through a mastery of psychology—the accretion of science becoming so grand as to grant high-telepathic power: “the same basic developments of mental science that had brought about the Seldon Plan thus made it [unnecessary] . . . to use words . . . every reaction to a stimulus, however slight, was completely indicative of all the trifling changes, of all the flickering currents that went on in another’s mind” (111-112). It is important to note that rather than an aberrant gift, as was the case with the Mule, this empathic power is derived from “intensive training” and is still derived from scientific prowess rather than innate power (112). It is notable, however, that this innate power still shares the tendency of the science-fiction telepath, a figure who, as observed by Clayton, “[merges] individuals into a larger collective mind:” the mind being, in this instance, an unquestioning communion on the import of scientific achievement (325 Clayton). *Technoidealism*, then, is not only a key component of the Asimovian canon but is also the guiding principal force which is necessarily corrupted and eschewed in the drift toward dystopia.

3. The Erosion of Technoidealism

Black is a blind remembering, she thought. You listen for pack sounds, for the cries of those who hunted your ancestors in a past so ancient only your most primitive cells remember. The ears see. The nostrils see.

—Frank Herbert, *Dune*, 1965.

With the foundations of *technoidealism* established vis-a-vis Asimov’s *Foundations* trilogy, it is now prudent to look at the key texts I have identified as catalyzing works in this inter-textual discourse. Of particular interest is Herbert’s *Dune* (1965) and the manner in which it openly eschews elements of ‘high technology’ in favour of a lived spiritual or nomadic experience. Rather famously, Asimov himself has proclaimed that *Dune* is participatory in “a growing tendency to delete the science from science fiction” (qtd. Grigsby 150). However, this is not necessarily the case with *Dune* which, in fact, is much more closely aligned with Asimov’s work than might be expected. Much as Seldon and psychohistory are religiously revered in the *Foundations* trilogy, so too is a sort of spiritual reverence afforded to the technological products in *Dune*—Paul Atréides being one such product. While the chosen epigraph in this section may

harken to an abandonment of technology in favour of baser knowledge, the religious and ceremonial reverence afforded to water complicates such a simple understanding: “your water is ours, Duncan Idaho . . . The body of our friend remains with your Duke. His water is Atreides water. It is a bond between us” (Herbert 151). Though this passage directly refers to the actual water contained within a human body, this preternatural apprehension of water as a metaphysical bond affords a special role for Fremenic technology. It may be easy to overlook elements such as the stillsuit or stilltent as being little more than the markers of a nomadic society, but these are highly engineered devices required for survival in the harsh desert climes the Fremeni occupy; these objects are the primary sources of water which, as established, holds a spiritual significance. Though they fade into the background due to their omnipresence, the stillsuit and like technologies are nonetheless the products of science: “it’s basically a micro-sandwich--a high-efficiency filter and heat exchange system . . . the skin-contact layer’s porous . . . the next two layers . . . include heat-exchange filaments and salt precipitators. Salt’s reclaimed” (177). Rather than rejecting *technoidealism*, the presence of stillsuit technologies points toward a synthesis between human-oriented nomadism and science.

There is then the matter of Paul himself who seems to abrogate this deletion of science wholesale. It is important to recognize that, though prophesied, Paul is the result of a carefully constructed hereditary plan—one which revolves around genetic selection: “you well know the pattern of our affairs, Jessica. The race knows its own mortality and fears stagnation of its heredity. It’s in the bloodstream—the urge to mingle genetic strains without plan” (Herbert 36). This ‘plan’ may be but a carefully guided selection of desired traits and interactions by a set of gatekeepers, the Reverend Mothers, to promulgate desired bloodlines, but it nonetheless produces gifted individuals such as the Bene Gesserit. In effect, this genetic gatekeeping and program of selective breeding creates the Kwisatz Haderach, a figure which is more akin to Schmeink’s conceptions of a biologically-derived superhero than an out-and-out spiritual leader: “one could consequently argue that [contemporary] changes . . . such as the dissolution of stabilizing institutions, the continuous fluidity of identities and alliances, and the centering of global risks as problems to be faced by individual humans (not necessarily superpowered), find a correlation in the depiction of superheroes” (Schmeink 180). Though Schmeink focuses his argument toward a twenty-first century conception of the superhero, it is none-the-less prudent to note how neatly *Dune’s* Paul Atreides maps onto this definition. Like postmodernist biopunk, *Dune’s* Kwisatz Haderach is all about “[portraying an] ‘unlocked hidden potential within us’ as resultant from or contiguous with [a form of] genetic engineering” (180).

Further to this parallel, it is important to note that the former leader of the Fremeni, Liet Kynes, is a man of science. This reverence for scientific discipline is so great that in his dying moments he recalls his father’s ecological teachings and devises a scientific truth of his own: “then, as his planet killed him, it occurred to Kynes that his father and all the other scientists were wrong, that the most persistent principles of the universe were accident and error. Even the hawks could appreciate these facts” (Herbert 447). The Fremeni then, though at a surface level appearing to be a nomadic and low-technologies people, are intimately involved in scientific processes and the fruits of scientific intervention. They are beholden to science irrespective of how they choose to culturally consume it: the choice of leader and the intercession of the stillsuit demanding as much. As a result, the death of Kynes and his final epiphany further marries nature and science as coexisting principles rather than a guiding

technoidealist force. Science is no longer a solution in and of itself, rather it is something that must be culturally coded or mediated (as through a figure such as Kynes). This is significant not only for reframing the standard *technoidealist* discourse established with Asimov, but for pushing against the interpretation of science alone as a guiding principle. Hari Seldon in *Foundations* may seem to occupy a mediating role, but he is merely the functionary through which the raw truth of psychohistory was initially delivered. Liet Kynes and Paul Atreides, by contrast, are fully realized and guiding human authorities.

To complicate this further, whereas earlier technological prowess was viewed as a means to an end, *Dune* inverts this narrative by placing scientific superiority squarely in the hands of the novel's antagonists; in the seminal battle of the novel, it is not technological prowess that decides the outcome but the intercession of the natural world via a storm: "a dust cloud hung low over the outside world blowing from pastel distances. Static lightning crackled from the cloud and the spark flashes of shields being shorted out by the storm's charge could be seen through the haze" (754). In denying scientific superiority as a guiding and positive force whilst still paying homage to an interplay between the scientific and human elements, *Dune*, in accordance with Hall's observations on utopia, pronounces that "technology cannot be the locus for utopian change by itself" (Hall 58). Rather, the shifting dynamic in *Dune*, with the reestablishment of House Atreides, eschews a technologically oriented solution and instead places authority back in human hands; for all the power and prowess of the Emperor and CHOAM, for all the opportunity afforded them to outmanoeuvre Paul, both are cowed in a decisive moment of human connection between Paul and the Emperor's subject, Fenring: "*kill this upstart for me*, the Emperor was saying . . . 'Do it!' the Emperor hissed . . . [yet] Fenring, reading Paul's emotion, said, 'Majesty, I must refuse'" (Herbert 791).

In light of the synthesis and rejection of superior technology in *Dune*, Dick's *Do Androids Dream of Electric Sheep* (1968) is far more overt in how it undermines *technoidealism* in favour of dystopia. Though *Foundations* and *Dune* alike are set against the backdrop of a decaying empire and the steady march toward a new established order, Rick Deckard's harrowing encounters with synthetic life depart from this schema to whole-heartedly embrace a dystopian undercurrent not seen in these other texts. Though it may be tempting to initially assign this dystopian element entirely to the proliferation of science, it is important to complicate such an understanding. It is the actions of humans choice and certain developments, not science in and of itself, which provides the overarching background for the novel; Earth may be cloaked in "radioactive fallout," but the opportunity to emigrate to a new and better world remains an option that those steadfastly remaining deny: "the U.N. had made it easy to emigrate, difficult if not impossible to stay . . . And yet persons here and there declined to migrate; that, even to those involved, constituted a perplexing irrationality" (Dick 16). This is an irrationality driven not just by personal choice but one fomented by the background conditions of a radioactive planet.

In the case of John Isidore, for instance, his genetic purity is a question which precludes any meaningful desire to emigrate. Bitterly watching a broadcast from the new-fangled colony on Mars, the recognition that he is a "special" not only due to his "distorted genes" but due to his "[failure] to pass the minimum faculties test" puts him in the exceptional position of social ostracization: "upon him the contempt of three planets descended" (18). With this in mind, it is important to view the text as fundamentally focused on a certain segment of society, a sub-social category expressed through remainers and specials, rather than society as a holistic

element. The importance of this observation bears two important distinctions: one, that there is a stratification of society and thereby technology; and two, the *technoidealistic* concept is degraded through this portrayal of selective, not holistic, uplift. This degradation is established primarily through a divide between the scientific and social realms. By establishing two variant groups, *Do Androids Dream of Electric Sheep* endorses a view that technology is not in and of itself a utopian marker, as is the case with *technoidealism*, but instead endorses Hall's view that "technology facilitates the production of [a] culture" which may or may not be utopian: "utopian potential can always be found in culture" yet is not necessarily found in technology or science itself (Hall 63). Herein Kumar is in dialectical agreement, noting that this shift is further mirrored in the appetites of the post-war period up to the late 70's, with much of the "large-scale social speculation being in a decidedly antiutopian phase" (Kumar 561). In light of this anti-utopianism, it may be tempting to claim that the *technoidealism*, as espoused in *Foundations*, sees its total breakdown in *Do Androids Dream of Electric Sheep*. The text, however, presents a far more complicated and nuanced view of the sciences.

Where this nuance is found is with the introduction of the replicant: a figure central to the narrative of the story and also to the human-science relationship. It is tempting to situate the replicant as an entity which calls into question the fundamentals of what it means to be human or to misconstrue the mechanical as being human. However, this fundamentally ignores the mechanical nature of the replicant in the novel; the introductory truth offered by Rick Deckard in an exchange with Rachael Rosen, troubling though it may be, is not far from the reality of the matter: "a humanoid robot is like any other machine; it can fluctuate between being a benefit and a hazard very rapidly" (Dick 38). As already established, the cultural and social interactions of a given technology, rather than the technology itself, is responsible for the creation of utopic or dystopic outcomes. This principle is also neatly packaged into Deckard's statement: the machine itself is not what is at issue, the issue is its capacity to oscillate in its production of social value. Like in *Dune*, there is a synthesis between the human and scientific element going on here. However, whereas in *Dune* a measure of equilibrium had been achieved, the joinder between science and the human—as purportedly contained by the replicant—is of a different kind.

Rather than a symbiotic relationship, the *technoidealist* mantra is corrupted into something that oscillates between mutualism and parasitism. The replicant is demonstrated to be a machine animated by an "artificial life force" and a set of inhibitions—inhibitions which, as is the case with Luba Luft, can be shed "with appalling abruptness" (123). This particular product of science is not an inherently negative entity so much as it is an inherently *dangerous* one. The replicant—being an entity with machine thoughts and machine values—is a realized manifestation of a disjuncture in the *technoidealist* human-science accord. Rather than humanity and science being contained within a principle entity, such as the guiding hand of psychohistory or the figure of Paul Atreides, the replicant exists as an irreconcilable displacement of science in this standard paradigm: science is manifested as a distinct entity that is separate from, rather than synthesized with, the human. This is best captured in the 'murder' of Rick Deckard's electric nubian goat. While it is tempting to read Rachael Rosen's murder of the nubian goat as vindictive or wholly human, there is a far more mechanical calculation being made. Turning to an earlier remark, Rachael delineates Deckard's various loves on a numerical scale: "'that goat,' Rachael said. 'You love the goat more than me. More than you love your wife,

probably. First the goat, then your wife, then last of all—” (185). By destroying the goat then, Rachael effectively moves up this order. Utilizing a non-empathic and base level assessment, bumping off the goat moves her from second to last to second to first. In this view, science has not only become increasingly disjointed from its *technoidealistic* origin but is actively participant in fomenting an upset of human social orders through unempathetic interventions.

4. Science as Suspect

These are the new dark ages, yes? Civil war, the erosion of authority, the breakup of the System, Marin's destruction--you have seen the state of the world. Chaos. Fragmented culture. The complete collapse of the manufacturing base . . . All it took was destabilization of one aspect of the chain and everything comes down, yes?

—Jeff Somers, *The Final Evolution*, 2011.

Whereas the former texts called the tenets of *technoidealism* into question, preferring instead synthesis with or interrogation of the human-science relationship, Jeff Somers' *The Final Evolution*—a culmination of his Avery Cates series—directly supplants *technoidealism* by portraying science as a weapon of mass repression. Society has deteriorated to a set of inter-factional conflicts between militant groups and police states, cannibals proliferate, and the destructive scanning and translation of people into avatars—digital constructs manifested as synthetic replicants—abound: gone is the utopian impulse presented by *technoidealism*. What remains, as Kumar posits, is a predilection for the “imagination of disaster,” a preference which “fares infinitely better . . . [and enables] dystopia [to] [continue] to flourish” at the expense of utopic imaginings (555). The epigraphical remark best captures this, pointing to the fragility of the human system under the unrelenting march of technological progress. Though this is a society in which humans can become augmented or theoretically immortal, these advancements only make humans increasingly vulnerable to the predatory interests of other groups—such as through the advent of biohacking: “I had a sudden memory flash . . . to a girl with glowing blue eyes apologizing because she'd been *hacked* . . . hacked by Techies the same way circuits had been hacked for decades” (Somers 162). Even considerable achievements, such as the ability to implant psionics and expand the potential of the human mind, merely open up new doorways to manipulation: “the God Augment . . . Have a technical surgeon implant that into your brain and supposedly it gave you all the Psionic powers that people were sometimes born with--telekinesis, **compulsion**—and some that no one had documented in the wild” (72; emphasis added). Rather than science existing as a mechanism to benefit humanity, it is a tool utilized to foment and amplify the worst elements of humanity: avarice, greed, and control.

While this is something that was witnessed in *Dune* via CHOAM or *Do Androids Dream of Electric Sheep* with the Rosin Corporation, *The Final Evolution* uniquely situates itself by cementing its protagonist, Avery Cates, as an unabashed antihero. Cates exists as little more than a self-concerned mercenary who, when dealt a bad hand, wants nothing more than revenge. Whereas Paul Atreides embodies a human-science synthesis and Rick Deckard corrects for what he views as mechanical deviance that endangers humanity, Cates plies

destructive technology with few considerations: “my HUD spiked sharp and clear in my vision, all the bars flashing red as I twisted myself aside. I snapped the Roon up and had it on him for a second, but hesitated. Salgado’s voice pinching me . . . ‘Sweet hell, Avery, . . . You’re afraid of killing innocents *now*? . . . You kill *everybody*, boyo. It’s your damn *calling card*.” (198). With this element in focus, Schmeink’s assertion that within “posthumanism lies not just the utopian dream of a new evolutionary step but also the potential for a dystopian nightmare” not only sees its realization but a direct manifestation of this terror (35).

Such is this manifestation that human selfishness is expounded upon to the extent that Cates, in a decisive moment where the fate of the world hangs in the balance, rejects a humanity controlled and driven by science. Faced with a decision wherein he can relinquish his quest for vengeance to allow the man—now a god-like entity thanks to Avatar technology—to potentially restore the world to a cohesive state, Cates opts to reject this outcome in favour of a ‘human’ solution: “the cold, numb feeling from my arm seemed to spread rapidly . . . settling in and removing all the fire, the pain, and leaving behind just an empty certainty. I thought, *Avery Cates, Destroyer of Worlds* and pulled the trigger” (Somers 355). In a rather grim twist, a technology-driven solution is rejected to such an extent that the human element would sooner see its final and total erasure rather than embrace a science-oriented solution; science no longer resolves problems but foments them: it is a virulent creation that demands destruction even at the cost of destroying its creators wholesale.

Though not as dramatic as the resolution of Somers’ series, Reid’s *Foe* nonetheless participates in the contemporary swerve away from *technoidealism* vis-a-vis its exploration of the synthetic human: a ‘replacement’ entity created to temporarily socially replace someone while they work in outer space. Regardless of what term is used, replacement, replicant, synthetic, etcetera, what is clear is that *Foe* is focused on a sinister undercurrent. Whereas Dick’s replicants are flawed or still clearly mechanical entities in some capacity and Somers’ avatars are digitized human psyches, Reid’s replacement is a biologically derived entity with a capacity to develop genuine human experiences. Though it may at first be tempting to see the replacement as a sort of analogue to the synthesis in *Dune* or a separation of the scientific body as in *Do Android’s Dream of Electric Sheep*, *Foe* is unique in its experiential exploration of the replacement. Rather than establish the replacement as an outsider imposition, the replacement himself is the central character. Furthermore, this replacement is conned into believing he is the true human entity in question. His assistance in a series of exercises to purportedly produce a replacement of his own is, in truth, merely monitoring for feedback as one would with an experiment: “what’s it like? This thing that will be here that’s supposed to take my place? That’s going to live with Hen . . . ‘It’s not going to take your place, exactly, just hold it, like a substitute teacher’ [replied Terrance]” (Reid 151). This trickery is not just played at the level of dialogue but is also an integral part of the plot’s primary twist—the readership is led on to believe that the replacement is the real Junior for much of the novel. Functionally, this serves to achieve two things; not only does it situate the replacement in a uniquely human context, but it creates a serious ethical and moral quandary on the status of scientifically derived entities in relation to natural ones.

Whereas earlier incarnations captured in *technoidealism*—especially in the case of *Foundations* and *Dune*—followed Clayton’s standard science-fiction convention of “[aspiring] to be prophetic . . . [in] prosaic form,” the replacement in *Foe* eschews this schema by presenting

the science in directly human form (Clayton 338). This is not an issue of a prophesied outcome, but a philosophical quandary about the ethics of a created human. This quandary, in turn, is one born from the implications that a true human-level intelligence has been created and transplanted with a false set of memories and identity: if the experiential, empathic, and affective qualities don't differ, are both Juniors not uniquely human entities? The replacement himself unwittingly remarks on the deferential treatment afforded to him, viewing his current position as an inhumane imposition: "this feeling has been growing since Terrance entered our lives . . . Why am I allowing him to control me? I'm still in my house. I haven't gone anywhere yet. I should have seen this before. Now it's all I can see" (203). He has been reduced to little more than the subject of prodding interrogations and data collections by the company who, unbeknownst to him, created him. Junior, though he is but a prototype for future replacements, is in many ways more remarkably human than those surrounding him.

The question of liberty is particularly pointed as the reveal of Junior's scientifically derived nature has not yet been uncovered. For all intents and purposes, the intercessions of OuterMore at this stage appear to constitute a breach of Junior's fundamental right to privacy. In relation to *technoidealism*, however, this also presents a fundamental breakdown in the notion that science can serve as a guiding and positivist principle: there is no longer any trace of the original *technoidealist* mantra. Rather than being a tool to reduce human suffering or "remedy the situation . . . [and] restore peace and civilization," science is uniquely situated in *Foe* as the very source which promulgates human suffering vis-a-vis unethical conduct (*Second Foundation* 3). Not only is this basic truth captured with the existence of the replacement Junior, but it's also tightly bound up in the fact that the replacement Junior is in some ways more distinctly human than the real one. This is expressed clearly through his interactions with Hen which, upon the replacement's destruction and the reinstatement of the 'real' Junior, are immediately countermanded by her reduction to the object of wife: "I won't leave you again. Imagine if you'd heard about this as a little girl--that one day you would have a part in helping your man do something incredible, be part of something historic" (Reid 240). In a peculiar parallelism, the replacement Junior is treated as an object yet expresses empathy, whereas the real Junior is a realized human who does not: he ascribes his wife's value as the sum of his own achievements. Effectively, the inhuman becomes human and the human becomes inhuman. Science, rather than offering a solution, has curiously delegitimized humanity instead.

5. Conclusion

*It can't be real. It's impossible. This can't be happening. But it is.
There's no mistaking it. It's here. It looks so real. Not artificial, not
manufactured. Lifelike in every way. Standing in my house. It's
me, standing at my door, looking at me. The replacement. My
replacement.*

—Iain Reid, *Foe*, 2018

What remains in the wake of this shift? Like the epigraph which captures and embodies the anxieties of Junior in manifest form, so too has the concept of *technoidealism* been replaced in favour of a new dystopian discourse. This maps on not only to the delegitimization of the

perceived original, through its purported want of realism, but it also highlights an interesting parallel between these two approaches. In abandoning the high-idealism of the science fiction genre, what has been necessarily left behind? In mapping this genre-oriented conception onto this epigraph, *technoidealism* is consigned as a prototype for something as of yet unrealized. From the view of Kumar, what is lost in the exchange of utopia for dystopia is the primary vehicle for the “hopes, aspirations, and schemes for humanity . . . [and] the principal way of attempting to tame the future” (564). The turn away from *technoidealism* in essence not only reflects a growing concern that science plays in the role of mediating human experience but also a loss of appetite for the former primacy of utopian narrative and positivist idealism. It is clear that science and the prospects of technology are to remain an integral component of the literary experience of science-fiction, but that the notion of scientifically driven uplift has become dated.

This inference is perhaps what is embodied in Asimov’s earlier complaints regarding the deletion of science from the genre. Rather than understanding this statement as a literal remark about the ‘low-science’ predilections of authors such as Herbert, what is encapsulated in Asimov’s concern is a drift away from the *technoidealist* corpus he painstakingly established: it is not the lack of science which is of concern, but the divorce of idealism from it. In this vein, these earlier polemics are mildly prophetic in their own right. *Technoidealism*, the conception of science and technology as a guiding hand for humanity’s future, has experienced a gradual downturn spanning from the early 60’s to the cementing of its absence in contemporary works. Where in *Dune* and *Do Androids Dream of Electric Sheep* it found its core tenets being interrogated, modified, or interpolated in a more human-oriented capacity, in *The Final Evolution* and *Foe* it is remarkably absent: the idea of science as a positive force is entirely removed. Gone are the “staggering complexities of man-made structures,” the faith in technological progress as a principled enterprise, and the promise of science as a panacea to the ills fomented by society (*Foundation 13*). What remains in the wake of these shifts is not the future-hopeful conceptions of *technoidealism*. Instead, what survives is a discourse grounded in the hard realities, where science and technology are all too often not a means to foment social equity but as something incorrigible with or external to the human condition.

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