Questioning the Techno-Savior: Interpreting the Effects of Techno-Scientific Expansionism on Twentieth-Century Poland Through the Fiction of Stanislaw Lem

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This project examines the fiction of Poland's most renowned science fiction author, Stanislaw Lem, in order to gain a broader understanding of his interpretations of scientific modernity and technology. It argues that Lem focuses on the ideological properties of modernity in the twentieth century. Lastly, it further relates Poland's exposure to the techno-scientific regimes of Nazi Germany and Soviet Russia to the genealogy of science fiction in order to gain a better understanding of Lem's fiction.

An inherent assumption of scientific modernity is that technology functions in the best and planned interests of humanity. However, breakthroughs in the field also tellingly lead to dominion over natural and social orders. This can be seen in the use of military technology during the twentieth century that has complicated both the assumption that scientific mastery always benefits humanity, and the conviction that an invention's design equals its practical implementation. How, then, do cultures forcefully introduced to scientific modernity through military aggression interpret its instruments? Further, what insights do the literary artifacts that discuss and/or document scientific modernity authored by these cultures offer us concerning the nature of the technologically advanced, expansionist nations often embroiled in violent revolution? By studying the literary genealogy and fiction of Poland's most renowned science fiction author, Stanislaw Lem, in relation to his exposure to Nazi and Soviet technological regimes, a broader understanding of the effects of techno-scientific modernity can be reached in which its ideological functions and its interpretations by subjugated societies are embraced in an otherwise edited conversation governing the future of techno-scientific modernity.

To understand more fully his own war trauma and fascination with technology in the shadow of the scientific/rational age, Lem explores the nature of our relationship with technology. Specifically, the purpose of this essay is to show that Lem's fiction positions technologically driven regimes, such as Nazi Germany and the Soviet Union, as the symptoms of a broader ideological movement that I have termed techno-scientific modernity—an appellation that suggests that technologically advanced cultures in Lem's fictional societies use scientific modernity as a doctrine with which to explain ontological questions. This term, techno-scientific modernity, places emphasis on the role of technology as a fundamentally transformative element of human society and culture. Lem's critiques of technology as its own ideology are chiefly predicated on its vulnerability to imperialistic fervor and its universalizing approach to human experience.

Lem's admitted attempts to "reconcile the contradictory elements of realism and fantasy" suggest that a historical-cultural analysis of his work is appropriate ("Reflections" 1). We can think of Lem's fiction as symbolizing historical events just as trauma memories (following Freud's interpretations) fictionalize events in the traumatized psyche. Furthermore, Lem's intellectual fascination with the hard sciences (both biological and physical) drives him to analyze the nature of technologically driven regimes and human nature empirically. His choice to write science fiction is a conscious decision to study "human beings as a species . . . the whole species and not just … specific individuals," ("Reflections" 12).

Reading fiction in this manner for its political-cultural expressions is a conscious acknowledgement of the novel's significance outside of its own aesthetic and fictional programming. As Istvan Csicsery-Ronay Jr. explains, the novel (up until the digital age) has functioned as a popular and widely recognized inscription of national consciousness ("Science Fiction" 23). Though national identity and culture afford certain variations regarding the functions of the novel, it has consistently served as one of the key mediators between a nation's past and its late modern "future present" ("Lem and Empire" 134). The sf novel, he argues, helps to allay a society's transition from premodern to modern in industrial cultures.

In contrast, the Polish literary tradition has been historically concerned with romanticism, historicism, and satirical absurdism ("Lem and Empire" 134). Lem's sf remains an anomaly within this tradition. But Lem is also an outsider within the sf tradition due to Poland's unique history as an annexed nation and a non-aggressor during the twentieth century. To date, the most prodigious stock of sf is found in expansionist nations such as Britain, Soviet Russia, Japan, and the U.S. ("Lem and Empire" 130). Csicsery-Ronay first observes this when analyzing the role of imperialism in the three factors that account for the development of sf. The first factor, the emergence of

technological innovation, is described as a driving force of imperialism as it facilitates the domination of nature and society through its apparatuses. As a result of this imperialistic ascendancy, a second factor, or the necessity of literary-cultural mediation between national audiences and their state, arises. Historically, science fiction has acted as the cultural mediator in these instances. The third factor, the construction of a concept of "techno-scientific empire" by the newly expansionist state, becomes a prominent theme in sf ("Lem and Empire" 130, 236). Csicsery-Ronay highlights that it is proper that science fiction should promote the ideal of a "single global technological regime," because it is very much an "ideological fiction" as well as a "way of life" (131).

Lem's Poland lies on the periphery of this imperialist fiction and the three main factors of sf's development given its fragmented polity in the early twentieth century, the Nazi occupation, and the subsequent Soviet-backed communist dictatorship (Gross 9; "Lem and Empire" 144–146). Because of this, Lem's sf is told through a distinctly anti-hegemonic, Polish perspective which has been forcefully exposed to technoempire ("Lem and Empire" 145–147). The fictionalization and speculative examination of techno-scientific empire in Lem's sf thus often critically positions techno-scientific modernity as a flawed movement.

Csicsery-Ronay focuses on Lem's fiction through the lens of the Soviet control over Poland. Its communist dominion, which lasted until the late 1980s, severely restricted scientific research in Poland ("Lem and Empire" 144). However, the Soviet Union modified their ideology to include the idea of scientific-technological revolution (STR) in the 1950s, which allowed them to compete with the US, (most notably through the space program). Lem started writing prolifically at this time, in which "technology gained parity with ideology" ("Lem and Empire" 145). This parity leads Lem to believe that the societal uses of technology are always ideological. While Csicsery-Ronay argues that Lem believed the "technological logic of the arms race usurped . . . all ideological justifications," he may be underestimating the ideological components of the arms race ("Lem and Empire" 145). Moreover, his attention to the historical relevance of Lem's fiction may be too concentrated on the idea of the Soviet and Nazi techno-revolutions as separate movements in Lem's (and perhaps Poland's national) consciousness. Instead, I argue that Lem classifies the Nazi and Soviet movements as the symptoms of a larger ideology founded upon the ideals of techno-scientific expansionism. Lem's allusions to these movements hold uncanny conceptual similarities to one another. He almost never refers to them by name, but rather hints at them by embedding the issues associated with each movement into fiction. For instance, Lem mentions mass genocide in *Eden* (1959), but never discusses Nazi Germany explicitly.

Csicsery-Ronay hints at an ideological interpretation of techno-science in his brilliant article when he discusses imperialist ideology as the stepping ladder to techno-empire. He describes techno-empire as the realization of an interconnected and diverse network of governing systems made possible by the invention of military, communication, and other technologies ("Science Fiction" 236-239). But ideology is more than a system of governance: it is a way of apprehending the world. Lem explores this theme in his piece "Die Kultur als Fehler" in *A Perfect Vacuum* (1979). The form of the book, which is written as a series of reviews of non-existent books, allows him to speak to the reader directly and critique certain ingrained beliefs surrounding technological innovation. In order to prevent misreadings, Lem prefaces *A Perfect Vacuum* with a self-written introduction/assessment of the collection. Essentially, he classifies the book reviews into three categories: (1) postmodern parodies, pastiches and gibes; (2) potential drafts and outlines of unwritten novels; and (3) more serious works which seek to fulfill an unsatisfiable "longing" on the part of the author. Lem admits that these last reviews contain truths which a person "shout[s] out … with laughter, what [he or she] would dare not whisper in earnest," ("Die Kultur" 7). In other words, the reviews of the last category are fundamentally concerned with issues of politics, science, and culture—beyond the aims of pure aesthetics and philosophical speculation—which reveal Lem's attempts to reconcile the traumatic events of the twentieth century through the speculative properties of fiction. Lem's admission of a "secret hungering for the nourishment of real" in the introduction is further reinforced by his realist use of journalistic and critical writing ("Die Kultur" 7).

The review I am focusing on critiques a manifesto called "Die Kultur als Fehler" (roughly translated as "Culture as a Mistake") by the fictional author Wilhelm Klopper. This review is a warning against interpreting techno-scientific modernity as a salvational ideology. Lem portrays this manifesto as a terrifying development by hinting at its similarity to Nazism. For instance, he insists that only a German could have written such a methodical and callous work. Secondly, the theory calls for the complete eradication of culture in favor of techno-scientific empire. Culture, Klopper argues, is only the residual mistake of evolutionary programs which survives by adhering to the psyches of nostalgic generations. These generations (in Klopper's opinion) are backwards because they are incapable of accepting the "technological savior," (Die Kultur als Fehler 136). Lem's characterization of Klopper as a techno-religious fanatic here suggests that society's use of technology is more than operational: it is ontologically transformative. As Althusser reminds us, religion is one of the most potent ideological state apparatuses. It aids in the "reproduction of the relations of production" that are necessary to sustaining the state's legitimacy (Althusser 183). Klopper believes that techno-

salvation is the only true ideology. While religion only promises immortality in the afterlife, Klopper's techno-salvation delivers it through advancements in eugenics. Following this logic, Klopper calls for the end of humanity in favor of inorganic "autoevolution." As his theory of techno-salvation unfolds, the excerpts of his narrative fall into a nihilistic hysteria; Klopper cries for the destruction of numerous concepts and ideals—spirituality, art, and love are all offered as sacrifice to the proliferation of the new era. With the passion of an eccentric he cries: "Down with Evolution, Vivat Autocreation!" (140).

Lem's allusion to nationalist discourse here is, in part, an allusion to the Nazi Occupation. Readers should take his introductory flattery of the German stereotypes of discipline, determination, rigidity, and method with a grain of salt. These compliments culminate in the idea that the world might be better organized if God have been German, but it would not be much better off existentially ("Die Kultur" 127). Secondly, the similarity between Klopper's auto-evolving beings and the Nietzschean Übermensch is striking. While Nietzsche's work was appropriated by the Third Reich to legitimize Aryanism without his consent, the ease by which the Reich enveloped this myth of the perfect being speaks to the concept's vulnerability to fascist misreadings. Though the desire for techno-empire may or may not be criticized in sf, the genre has often been used to persuade audiences that expansionism is not only possible, but also justified by the "objective measurement[s]" of the techno-scientific state. These measurements are, of course, notorious for creating "myths of racial and national supremacy" most notably in the Second World War (Adas 145).

However, Lem refuses to participate in the creation of evolutionary myths. Though he is a technological savant and a lover of cybernetics, he is critical of scientific modernity. The reviewer's voice, which remains passive and expository until the review's summation, reveals the brunt of its critique in the final paragraph:

It is interactive, this voluminous discourse… because it shows there is simply no thing appearing to some as evil incarnate and misfortune itself that others will not at the very same time consider a positive godsend and raise to the pinnacle of perfection … [T]echnoevolution cannot be declared the existential panacea for humanity, if only because the criteria of optimization are too intricately relativistic for them to be regarded as a universal pattern ("Die Kultur" 140).

Lem's emphasis on the need for cultural relativism in the face of a fascist manifesto is a clear nod towards the ethnocentricity of Nazism. Lem is alluding that the Reich (like any techno-scientific regime) encourages its national audiences to accept specious race myths by masking them under a fundamental ideal of modernity: the objectivity of the scientific method. Lem then defends diversity because he is aware of this fascist tendency, as affirmed by his rejection of a utopian universality. It is interesting to note that Csicsery-Ronay highlights the origins of techno-empire in utopia. It would seem that Lem already understands that a utopian cure to the world's ills has equally devastating side effects.

I would like to further this discussion by elaborating on the influence of the Nazi General Government Occupation on Poland. I will treat this occupation as Lem's first introduction to a techno-expansionist revolution. My argument rests on the idea that Nazi Germany (like all expansionist regimes) is sustained by military technology, which leads to the subjugation of foreign others. Furthermore, the Occupation's indifferent termination of Polish lives (and its design for the total depletion of Poland's modern and natural resources) calls attention to its theoretical method.

Lem's sf is notable for denouncing this type of technologically-charged expansionism ("Lem and Empire" 146, 147). This denunciation is manifest in his novel *Fiasco*, which follows the voyage of a space crew in the distant future as they attempt to make contact with an alien civilization on the planet Quinta. Upon landing, the crew realizes Quinta is engaged in a global Cold War, which renders them completely indifferent to Earth's advances. In order to force contact, the crew begins an irrational campaign of military aggression, which leads to the annihilation of the Quintains's moon as well as their planet.

Csicsery-Ronay reads *Fiasco* as a commentary on the effects of the Cold War told through the eyes of a (Polish) subject caught between two competing techno-empires (Soviet Russia and the US). He argues that this event changes Lem's world into a game of self-reinforcing competition determined by the "irrational" power of technological rationalization ("Lem and Empire" 144, 145). *Fiasco* is thus a novel about the noxious expansion of aggressive technology in which even the "best-intentioned civilizations" cannot help but participate ("Lem and Empire" 147–148). But I believe that Lem's critique is founded by an underlying conception of techno-scientific ideology which masks itself as a stable, malleable system for apprehending human existence. This "stable" system is always governed by chance.

We first find the origins of Lem's obsession with the dialectic of chance and order in his biographical essay in *Microworlds* entitled "Reflections On My Life" (1–2). The obsession is first documented as a dialectic by N. Katherine Hayles, who agrees with Lem in stating that these principles arise from the disparity between Lem's orderly and secure childhood experience and the chaotic years of the Nazi occupation (118). She refers here to Lem's belief that survival during the Occupation depended on "minuscule, seemingly, unimportant … decisions," or, in plainer language, upon chance ("Reflections" 9). Interestingly, as historian Jan Gross argues, a historical study of the structure of the Nazi occupation would seem to suggest it was governed by "institutionalized chaos," or that chaos and competition were structurally

predetermined. The practical implementation of the orderly ideals of Nazism was anything but orderly. This structure has been documented by Gross in his work *Polish Society Under German Occupation*. In the work, Gross explains that the Occupation lost its methodical exactness because the general governor, Hans Frank, had no control over his army. As a result, the Occupation became an uncontrollable terror governed by caprice rather than rational law (238–240). The Polish people begin interpreting the Occupation as an indifferent, natural force of terror. Technology, in this scenario, functions as prosthesis by which the chance-order dialectic makes itself known.

It is not surprising that Lem's conceptualization of technology as an apparatus of a chaotic principle with an orderly matrix is constantly related to expansionism in his fiction. We can see this in *Fiasco* when Lem attacks his characters' sense of mastery over the known world by emphasizing the role of chance in their use of powerful technologies. The crew, while it acts strategically by threatening the Quintans with the destruction of their moon, operates based on a principle of order. A military plan is drawn up, discussed in counsel, and tested through a sophisticated system of computer and communication technologies. However, the elaborate plan leads to the mass extermination (a phenomenon most often associated in twentieth-century consciousness with the Holocaust) of the Quintans in a moment of pure chance. The protagonist, Mark Tempe, runs out of time before calling off his crew's attacks on the planet. Believing him to be a war victim of the Quintans, the crew annihilates the planet. It is not that the crew in *Fiasco* lacks the proper technology to communicate with the Quintans—Lem describes the crew as so technologically advanced as to possess "sidereal engineering," a technology which allows humanity to wield gravitation at will—instead, Lem's characters are undermined by their false sense of mastery over technology, and their belief that scientific modernity can explain any potential ontological enigmas—those concerning the existence of foreign others which then often call into question or contradict the ontological certainties created through scientific methods—encountered outside of Earth. Tempe admits that the problem with sidereal engineering is that "no one knew what gravitation 'really' was," (*Fiasco* 268). The inability to understand gravity is disregarded, which leads to failure.

In Lem's fiction, the enigmas of the universe are always irreducible. Lem comments on this in *Fiasco* by allowing Mark Tempe to recount the paradox of matter in the 21st century. Matter, he argues, turns out to be "two-faced," as it changes from a particle to a wave depending on the observer. The point of this passage is to explain that scientific rationalism cannot faithfully explain the world around us. Instead, "the world, when questioned as to its 'ultimate nature' declines to give 'final' answers" (*Fiasco* 268).

Lem's characters realize the failure of techno-scientific modernity to explain ontological mysteries when faced with radical alterity. This alterity, in part, represents the problems that arise when we universalize foreign cultures. Nakimura, a member of the crew who frequently advises Mark Tempe in *Fiasco*, warns against being confident in our ability to explain others around us using our "objective measurements." He recommends "humility [in the face of others]" and the readiness to "admit that everything . . . you will see may be completely other than it seems" (308).

Lem explores this theme of techno-scientific modernity's failure as an all-encompassing ontological tool in the face of a radical Other in depth in his most widely circulated and well-known work, *Solaris*. Here, the psychological experience of meeting a foreign Other unravels the human psyche as well as calcified techno-scientific paradigms. *Solaris* follows Kris Kelvin, a psychologist who arrives on the planet Solaris to study its only life form, a gelatinous, organic ocean which covers the surface of the globe. The following morning Kris is visited by a replica of his dead wife Hari. Kris learns that she is one of "the visitors," i.e., a replica of each crewmember's repressed thoughts and memories sent by the ocean as a result of the crew beaming lethal X-rays at the ocean. This is done despite the U.N. restriction on this harmful process. Each member of the crew then struggles to understand the visitors' horrifying and alluring natures.

Solaris's alien form throws Earth's most established techno-scientific paradigms into question. According to the "Gamov-Shapley" hypothesis in the novel, its orbit around two suns should render life impossible given extreme fluctuations in its temperature. Among other paradoxes of the ocean, the overturning of this hypothesis results in the inutility of the technological instruments and discredits/disgraces many of the scientists who studied Solaris. Just as in *Fiasco*, the precision of the technology used in these experiments is irrelevant; the ocean never responds to the same stimulus in the same way. Given the fallibility of objective measurement, the novel's tone quickly turns speculative and philosophical. The ocean's movements are interpreted as eternal truths, artistic expressions, and even idiotic gestures by the scientists. Unable to understand whether the ocean possesses consciousness (and therefore can be contacted), the scientists' debate becomes philosophical.

Kris's interaction with Hari follows a similar pattern, in which his study of her reveals only a neutrino structure (made of nothing). Instead, he realizes that he must examine her from a psychological perspective to understand Solaris. His series of nightmares, in which he dreams that he is the ocean itself undergoing metamorphosis, push the potential of communication with Solaris into the unconscious realm of wish fulfillment. While his crew hopes only to escape from Solaris, Kris desperately desires contact—or the ability to move past his

own anthropomorphism/ethnocentricity—at the novel's close.

But let us pause for a moment and contemplate how myths of contact are debunked or rejected in *Solaris*. Most obviously, Lem argues that contact is an excuse by expansionist regimes to exploit and control foreign Others. Kris's fellow crewmate, Snaut, illustrates this concept as he theorizes that contact is a myth that men fabricate when they wish to appear as humble explorers of the unknown and that allows them the moral justification necessary when subjugating others. In a sarcastic outburst, Snaut compares the crew of Solaris to Knights of the Holy Contact who had no desire to "subjugate other races … only to impart [their] values, and in turn, appropriate their heritage" (*Solaris* "The Minor Apocrypha"). Even when explorers seem to have the best intentions (such as in *Fiasco*), their reliance on a techno-scientific ideology leads to oppression and misunderstanding. Indeed, Lem refuses any affirmation that communication can be furthered by technology, as demonstrated by the ways in which the ocean responds to machines dropped into it. Though it is fully capable of replicating the machines, the ocean soon grows indifferent to them and resumes its regular process of "ontological autometamorphosis," (*Solaris* "The Solarists"). The name of this process suggests that the ocean is fascinated with the nature of existence and creation itself. Lem leaves Kris in a sort of purgatory at the novel's end. Kris is unable to abandon hope for contact with the Other, but is eternally barred from this contact by his own anthropomorphism. Lem ends the novel with an earlier theme: the crew is more likely to learn about their own unconscious desires and their actions towards Others than about the Others themselves. Solaris ultimately acts as a mirror that reflects the crew's relationship with alterity and cultural difference.

This project has attempted to unravel Lem's complex fiction in relation to technologically driven expansionism by furthering Csicsery-Ronay's study of Lem's sf. Rather than treating techno-science as a heuristic in different ideologies, I have treated it as an ideology in its own right. I have emphasized the problems inherent within ethnocentricity, which are heavily critiqued in Lem's fiction. Though Lem is not writing as a modernist, he is commenting on the possibility of an alternative techno-scientific modernity that is neither wholly dismissive of techno-scientific modernity nor blindly assertive of its potential as a utopian ideology. To imply a purely negative perception of techno-scientific ideology is to ignore the mystery and allure of Lem's fiction. On the other hand, to imply a purely salvational perception to the movement (as seen in *A Perfect Vacuum*) is to fall prey to the trap of naïve ideological propaganda which may lead to authoritarian tendencies and—at worst—cataclysm.

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