Beyond Apocalyptic Shorthand and Motivational Tools: A Transdisciplinary Encounter with Science Fiction Studies

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Abstract

Science fiction is currently a buzzword to describe a rapidly unfolding and shockingly unfolding future. This use is not simply in mainstream media's comparison of current events to sci-fi, but also in I.R./political science where it describes shocking, destabilizing new technologies that seemingly appear out of nowhere. While not always persistent, this use can be traced as far back as the early Cold War. Science fiction also is used as a classroom motivational tool and thus as a pedagogical enhancement for complex theories, rather than an important source of insights. What might be possible if science fiction were taken seriously on its own in the study of politics? How might political studies be strengthened through both science fiction stories and scholarship? To answer this, this discursively maps the term and assesses how well it is used and explores how I.R./political science definitions could be strengthened through transdisciplinary scholarship that bring in more accurate definitions from science fiction scholars and authors. This paper argues that I.R./political science recognizes science fiction not as genre or politics but instead as a signal of three dangers: 1) illogic; 2) undergraduate lack of interest in conceptual reading, and 3) apocalyptic calamities: too rapid technological change, World War III, global warming, and hopeless identity oppression).

1. Introduction

Genovese (1985) provided an early explanation of the potential of science fiction films to help us understand political theories and the possible implication of ideological dystopias imposed upon society. A popular response to calamities perceives science fiction as merging with reality

in the face of global climate change, the resurgence of nuclear sable-rattling, algorithms that know us better than our loved ones, and the potential of generative A.I.to replace human thought to name a few unsettling trends. Alongside these unsettling trends, with the increase in international relations studies of popular culture (see Payne 2017; Barak and Inbar 2020), there have been a number of serious studies of science fiction as a useful field for I.R./political science (Genovese 1985; Kuzma and Haney 2001; Leib 2004; Webber 2005), a site of imperialism (Crilley 2021), or only influencing science fiction fans in political choices (Young and Carpenter 2018) and not as pedagogically expedient as thought (Irish et al 2023). individual science fiction texts (novels (Bell 2018; Kirkpatrick 2021), television shows (Dixit 2012) and movies (Webber 2005), or those of related speculative fiction genres (Webber 2005; Ruanne and James 2008; Davies 2010) as well as pedagogical studies (Marks 2008; Gokceck and Howard 2013; Jun Ayhan 2020). Nonetheless, I.R./political science have not ignored the field of science fiction in the past. As this paper shows there are a variety of texts that do not study text, but rather use science fiction to critique poor thought and policy (Roche 1958; Morgenthau 1964; Herzog 2005; Ripley 2007; Barma, Durbin, Lorber, and Whitlark 2016, 122; Stimmer 2017). This paper focuses on the least in-depth use of science fiction which expediently communicates an apocalypse, or serious intellectual loss in a panicked way.

While I.R./political science scholars have focused on the limits of science fiction's explanatory power (Irish et al 2023), impact on politics (Young and Carpenter 2018), or ethical usefulness (Crilley 2021; Isaac 2016), less attention has focused on its limits as a phrase that sets norms for studying science fiction. Indeed, a broader theoretical study might expect the mention of science fiction to only be impactful to fans. As George Lakoff (2009) explains,

political communication works through "cognitive frames" which prepare us to understand and accept certain things immediately, and others not. The upshot being one group of people are ready to understand particular things, ideas, and events while others are not. This understanding is less about intelligence level than it is prior experience, or even personal tastes and judgments. Extraordinarily little is universally understandable. That said, since not all scholars of I.R./political science are science fiction fans, what exactly are they thinking when they encounter the term science fiction in scholarly texts? It is unlikely the details of an Isaac Asimov story or an obscure science fiction movie. Nonetheless, the use of science fiction to set boundaries here occurred alongside a non- I.R./political science of the political nature of science fiction (Bailey 1947; Berger 1976; Suvin 1979). Even the most dismissive mentions of science fiction in I.R./Political science and politically motivated science fiction studies share the premise that science fiction (and the arts) have value exceeding entertainment. But these approaches diverge in how seriously scholars should engage with science fiction.

This paper will qualitatively explore this divergence first by way of a genealogy of science fiction in political science and IR. journal articles (excluding book reviews). This paper does not analyze books because they usually cannot be searched by computer for the fragmentary use of science fiction that shows its indexical use of apocalyptic shorthand. The search method sought to elicit the fragmentary and non-serious, rather than long, well thought-out commentary. After this, this paper provides potential solutions enabled by a transdisciplinary engagement with politically motivated science fiction studies.

The thing that unifies the use of the term "science fiction" in post-World War II I.R./political science is a persistent tendency to use it not as a diverse genre requiring accurate

explanation, but instead as an indexical sign. An index (Pierce 1955, 107) is a sign that does not exist to explain itself but rather to signal the existence of something, often a physical danger: and is related "dynamically" or through "memory" instead of "similarity" or "analogy." An example is smoke, as an indexical symbol of fire. We recognize smoke not for its own chemical properties—it has many significant ones with far-reaching effects—but rather for the seemingly more dangerous presence of fire. Likewise, this paper argues that I.R./political science recognizes science fiction not as genre or politics but instead as a signal of three dangers: 1) illogic; 2) undergraduate lack of interest in conceptual reading, and 3) apocalyptic calamities: too rapid technological change, World War III, global warming, and hopeless identity oppression. These three dangers relate to each-other and science fiction thus becomes fraught with emotional overtones about a potential loss of control, or a magic bullet solution. This paper then explains improvements to I.R./Political science uses of science fiction from transdisciplinary studies of politically motivated science fiction studies including: 1) clear goals when using apocalyptic short hand, 2) using science fiction for concepts, 3) using cognitive dissonance for classroom discussion, 4) considering science fiction's political goals, and 5) not using science fiction as a strawman.

In contrast to a literature review, this paper uses small portions of text about science fiction. I chose this strategy because I am not trying to map out the differing logics used, that is methodological or theoretical gaps in the literature or learn which texts could best inform future research. Instead, I am looking for the rhetorical uses of science fiction that provide boundaries for the field (Walliman 2018 162), but simultaneously may not always be so logical. This rhetoric is illuminated using Foucault's (1989) concept genealogy and thus does not attempt to

provide causal explanations for change. This approach is about what opportunities are created, and what denied, by statements, which are different in style or intent but repetitive in less obvious ways (Foucault 1989). The repetitive part of these statements initially seemed to be the term "science fiction." However, the more repetitive part is the indexical part, drained of the variety and nuance of the extensive science fiction genre and fanbase. Initially apparent differences appeared to be whether or not scholars found science fiction to be helpful, or determinantal to academic writing and pedagogy, but for most of the texts here were less about science fiction and more about I.R./political science. These statements deal with different crises that scholars face, either in their studies or the world. Causal explanations would be found in citations to similar already published texts. Nonetheless, there are similarities in texts that do not cite each other, and the rhetorical use of science fiction seems less individual idea and more a consequence of influence (Foucault 1989).

2. A Genealogy of Science Fiction in I.R./political Science

2a. Rhetorical Uses of Science Fiction

I.R./political science has consistently used science fiction as a rhetoric to define the field. This rhetoric places social scientific and theoretical studies in a favorable light by criticizing science fiction, even when authors see good qualities in the genre. This process is necessary for understanding science fiction as apocalyptic shorthand for two reasons. First it shows science

fiction as a threat. Secondly, it smashes science fiction into its usual sign-quality. Science fiction is a much bigger and more complex genre than assumed in rhetorical uses.

Rhetorical uses of science fiction are not simply to defend methodological approaches, but more about status-quo maintenance. In an early example, Roche (1958, 1026) critiques (then) new quantitative methods: “But before going into the science-fiction quality of much current work in political behavior….” Indeed, Roche was criticizing a turn away from qualitative research which is significant given the frequent use of qualitative methods in recent I.R./Political science research about science fiction. Roche continues:

> Method is indeed important to the political scientist, but we must beware of the mad dream-worthy of H. G. Wells-of the autonomous "Methodology" which will clank along forever in a value-free vacuum and eliminate once and for all the knotty problems of belief and subjective insight. Our major concern, I submit, is with premises, and particularly with the premises about human nature on which systems are constructed.
>
> (Roche 1958, 1028).

In this sense, science fiction is both rhetorical and apocalyptic shorthand that claims scholars of doing poor, shoddy I.R./political science and illogical because of supposed similarities to science fiction novels and films. However, the rhetorical side remains in both as Rosche (1958) seems to be taking Well’s earlier books and overgeneralizing them to all his scientific romances of socialist utopias. Such arguments are not anachronisms. Herzog (2005) defines borders of I.R./political science as such:

Talk of causal generalizations and Hempel's covering laws strikes me as science fiction and fantasy in drag; talk of the unfolding of the immanent logic of modernity makes me dyspeptic. I usually think that structural considerations are context, not cause, and that weird combinations of stray contingencies explain what happens. Worse, now I'm called on to predict how political theorists will be discussing democracy ten years hence. Images of herding cats and Brownian motion come to mind…

Thus, portraying published scholarship as science fiction insulate I.R./political science from new theoretical trends.

Rhetorical uses of science fiction as stupidity continue from the 1960s onward. Hans Morgenthau (1964, 25) uses science fiction to characterize a dangerously wrong description of new types of nuclear weapons. Watts (1975, 237) describes ideas as science fiction to index implausibility. Similar criticisms are defended by saying that science fiction provides an adequate idea but is not as accurate as empirical data (Skinner 1975). The upshot is that science fiction here might have a good premise, but not an adequate argument. Germino (1978, 116) discusses science fiction as a fun, albeit incorrect, alternative to reality: "(There can no more be two realities than there can be two universes, save in science fiction)." Political theory is divided from entertainment through the rhetoric of science fiction. In sum, Inclusion in social science is based on something other than science fiction. Another rhetorical use of science fiction references it as low culture:

"….big popcorn flicks" that draw large audiences on opening weekends and fall into the science-fiction, action-adventure, and superhero genres (Star Wars, Star Trek, Marvel Comics, DC Comics, Mission Impossible, James Bond, and Fast and Furious). I do not use the movies to teach per se.

(Frueh, *et al* 2021)

This last example lets two commercial examples stand for the entire science-fiction genre.

I.R./Political science sometimes portrays science fiction as beyond the boundaries of alternative worlds in scholarly analysis of scenarios. For example:

This timeframe offers a period distant enough from the present as to avoid falling into current events analysis, but not so far into the future as to seem like science fiction. In imagining the worlds in which these scenarios might come to pass, participants learn strategies for avoiding failures of creativity and for overturning the assumptions that prevent scholars and analysts from anticipating and understanding the pivotal junctures that arise in international affairs.

(Barma, Durbin, Lorber, and Whitlark 2016, 122)

For whatever reasons, the worlds of science fiction are too unrealistic, even though not all science fiction worlds are in outer space. A highly simplified, rhetorical use of the term science fiction enables this. Similarly, the credibility of Strategic Defense Initiative rested on preventing "science-fictionalization in expert settings" (Stimmer 2017). If reality were becoming science fiction, it would be unprofessional to discuss it as such. Likewise, "When entering the realm of ''what might have been?" historical argumentation, it is important to

maintain some basic parameters. To do otherwise can result in a move from reasonable causal manipulation into wild speculations better suited to science fiction" (Ripley 2007, 312-313). Similarly, "it is fairly common in science fiction to encounter and explore parallel worlds. In IR, we tend to shy away from the possible existence of parallel worlds" (Hellmann and Valbjørn 2017). Science fiction as out of bounds does not depend here on a dislike of science fiction, but rather a boundary.

Another rhetorical use of science fiction is to claim it is dangerous to other fields of study.

> The fall of cybernetics as an intellectual paradigm is as complex as its origins. ….. Pickering (2010) and Kline (2015) mention other factors, from the loose disciplinary and departmental identity of cyberneticians, to new complexity paradigms, changes in academic and military funding, anti-Soviet posturing in US academia, and bastardization by appropriation by science fiction and countercultural circles.
>
> (Peña 2019, 257 fn. 5)

Thus, to succumb to inclusion in science fiction is viewed as more decent into chaos than a useful popularization. This plays out into critiques of science fiction as a politicized popular culture.

Science fiction enables a loosening of boundaries between practices and fields of studies. Science fiction mentioned as inseparable from "empire" (Saunders 2019, in 2021). Isaac (2016, 2) argues that "…under some circumstances, science fiction, far from 'enabling' policy as much

literature assumes, can instead exert a 'disabling' effect on global norm development."). Similarly, science fiction in climate change enables a slippage between science and popular culture, legitimatizing fear (64). This loosening of boundaries may encourage dangerous, thoughtless practices. So much for a more radical thought community promoted by science fiction (for example see Suvin 1979). While Isaac (2016) and Enroth (2017) may not be overgeneralizing science fiction, they depart from more optimistic assessments by science fiction scholars and practitioners, but like other rhetorical uses of science fiction the genre and its myriad of political groups are collapsed into one term: science fiction.

Not all rhetorical uses of science fiction are disparaging. Contrary to the abovementioned rhetorical boundaries of science fiction as something outside of I.R./political science it perhaps was part and parcel of the field all along:

> If Lasswell's speech struck some who absorbed it as more science fiction than social science, then they got Lasswell's message: technological innovation and the Cold War meant the nation's future was up for grabs. The only sure thing was that democratic leaders would face profound challenges. With so much at stake, political science could no longer sit on the sidelines. It needed to project a comprehensive image of the future, clarify fundamental goals, provide "theoretical models of the political process," and develop policy alternatives to maximize democratic values, particularly dignity.
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> (Farr, Hacker and Kazee 2006, 580).

At the onset of the 21st century, science fiction could momentarily be a rhetoric of the modern political science establishment. Thus, the negative rhetoric also has a line of flight, a potentially more radical possibility (Deleuze and Guattari 1983), albeit one not realizable in the nation-state premises of Farr *et al*'s statement. But the discursive setting provides a context for more radical studies of science fiction and a slightly more productive, anti-system use of science fiction in apocalyptic shorthand that is at least alarmist of U.S. state power. Apocalyptic shorthand begins almost four decades before Farr *et al*'s analysis of Laswell and runs parallel to the rhetorical boundary setting mentioned here.

2b. Science Fiction as Pedagogy

Science fiction seems less controversial in I.R./Political science pedagogy, though this does not signal as significant a break with the negative rhetorical uses as it seems. Rather than becoming additional conceptual building materials (Deleuze and Guattari 1994) for I.R./political science, science fiction seems here limited to less developed I.R./Political science thought, which is undergraduate students who are still learning. This section undercounts articles because of a lack of access to articles in *Journal of Political Science Education*. Nonetheless, even the more serious articles here still treat science fiction as indexical of students' lack of capability to comprehend I.R./political science texts through traditional means.

There is controversy over whether science fiction films, and other similar examples of commercial films have a place in the classroom. Horn, Rubin, Schouenborg (2016) portray science fiction adjacent zombie films and books as having pedagogical value, opening their

article with reference to these films' relevance to the dysfunctional contemporary world. These debates also sometimes invoke reference to dated ideas of high and low culture. Frueh *et al* (2020) take a more critical approach to commercial science fiction films which they view as useless for teaching. Both articles, though coming to inverse opinions, see a need to deal with rhetorical boundaries of I.R./political science.

In discussions of I.R./political science, there is debate over how science fiction's unfamiliar worlds impact student learning. Jun Ayhan (2020, 262) explores how science fiction helps students learn better by providing opportunities to not only remember, but "apply" classroom lessons to new settings. Gokceck and Howard (2013) have proposed using films, including science fiction, to help with inattentive students, including *Star Trek* to illuminate unfamiliar Cold War history. Thus, there are real-world scenarios that feel like they are from other worlds, thus the potential damage of science fiction's unfamiliarity may be relative to the impossibility of experiential knowledge of recent history. Nonetheless, Irish *et al* (2023), differ from Ayhan (2020) and Gokceck and Howard's (2013) positive appraisals by asserting that students need to know comprehensive facts and details about science fiction worlds before they are useful for understanding I.R./Political science. There are differences about what students want and need to know both about post-World War II history and contemporary science fiction before the genre becomes useful to I.R./Political science pedagogy.

Readers may object to the abovementioned examples finding them inconsistent with the examples of science fiction as rhetoric and apocalyptic shorthand because some of these statements take science fiction seriously, that is they define specific texts or at least use it to teach I.R./political science. Yet, despite a detour from collecting statements, this paper uses

science fiction consistently with other examples in this paper. Science fiction is apocalyptic shorthand in teaching pedagogy because of the motivations, or justifications for its appearance (even if the professor is a fan or expert). These include fears of societal entropy, e.g., students' stupidity and laziness, revealed when professors must resort to easier, low concept texts (like science fiction) as a gateway, or aid, to I.R./Science Fiction. Science fiction is thus low-brow culture that might aid high-brow culture. This designation is not considering science fiction seriously, but rather as a pedagogical silver bullet. The term science fiction is indexical of student motivation and potential to understand conceptual work. Science fiction, in pedagogical writing on science fiction thus signals the existence of something which is not science fiction.

2c. Science Fiction as Apocalyptic Shorthand

The late 1950s is the first time that I have found science fiction as apocalyptic shorthand, to explain the real-world possibility of World War III.

Now that the Russians have launched an earth satellite and America will soon so do, the problems of control of outer space (as distinct from near-earth air space used by manned aircraft) have ceased to be science fiction and become need for policy.

(Yeagar & Stark 1957; Hogan 1962 in Background on World Politics 1957)

Evans (1960, 40) uses science fiction similarly to describe potential conflict in outer space:

As orbiting satellites become commonplace and interplanetary exploration is no longer confined to science fiction, publicists agree on the necessity for planning now to avoid future conflicts of power over the utilization of space. They do not agree on the nature of the rules to be adopted, however, nor on methods of enforcement.

(Evans 1960, 40)

Thus, Evans (1960) uses science fiction to communicate the dizzying speed of military technology, albeit an overgeneralization from space opera or military science fiction to the whole genre. This example differs from rhetorical uses because writing the term science fiction is a rapid way to communicate, but like rhetorical uses it is expedient rather than accurate.

More recently, science fiction is expedient in relation to new types of nuclear weapons: "The challenge posed by non-nation states is not new. Unorthodox use of nuclear materials against civilian populations was a common theme in the science fiction literature..." (Kugler 2006). The mention of science fiction is indexical to a world now unfamiliar and scary. The world is irrational as a scenario from a science-fiction novel, which is different from saying science fiction is irrational. Rational thought can explain and portray things lacking in typical human rationality: e.g., insanity, earthquakes, cancer, viruses. Holland's (2009) statement about September 11th, explains science fiction as indexical to a breakdown of logic in the face of calamity: "I felt nothing because I couldn't understand. (Sato 2001) Where partial understandings were achieved, rather than from foreign policy discourse, they were generally taken from popular cultural sources. Science fiction, horror shows and movies, as well as songs, poems and religious faith..." (Holland 2009). Thus, science fiction here both signals that

which we cannot describe, and more like Campbell's (1969) ideas partially prepares us for what we cannot understand.

Similar expedient uses of science fiction to describe technology moving in ways unimaginable have occurred more recently. I.R./Political science scholars have described strange, emerging technologies by their affinity with science fiction:

- "However, while the notion of cyberwarfare—in which geographical distance may be truly irrelevant—has inspired science fiction for decades…" (Tollefsen, Buhaug, and Buhaug. 2015)
- "Cyberspace represents a special category of risk.1 A term once found only in science fiction novels, cyberspace describes the human-made domain for action that exists as a consequence of an interconnected and interdependent global communications and computing infrastructure….Predictably, in the post-9/11 era, cyberspace is the focus of security concerns as states weigh the risks and benefits of omnipresent global connectivity" (Deibert and Rohozinski 2010, 15-16).
- "The use of science fiction within cyber security literature is thus not as far-fetched as it may sound: the popular coinage of Reagan's SDI program as Star Wars exemplified that in the face of unknown coordinates, the imaginary would have to do" (Edwards 1996, 288 in Hansen and Nissenbaum 2009, 1164 fn. 7).
- "In recent years, our capacity to collect information on social behavior and our ability to process large data have increased to degrees only foreseen in science fiction" (Ward *et al*, 2013)

A similar unbelievability was mentioned as German students tried to comprehend World War II history through film, which they found less useful. One student answer in a research paper said: ““More connection to contemporary events. The pictures from back then [damals] seem like science fiction” (Bode and Heo 2017, 148). Whether this last example is a thoughtful critique of the effectiveness of film, or fear of the past is a little bit unclear. But science fiction is here a stand-in for more clearly expressed unbelievability and difficulty in understanding trauma. The use of the word science fiction in reaction to genocide and atrocities suggests is indexicality and expediency in discussing the undiscussable.

Similarly, science fiction is the horizon of the unbelievable for more positive futures. Thus, science fiction acts as a hyperbolic inverse of what is unacceptable in our world, and thus even though not so dystopian is apocalyptic shorthand. Though the quotations here do not say it, what the authors think the world needs, gender equality, socialism, are present only in an artificially constructed unrealistic world. For example, it is only possible to see a military integrating women correctly in science fiction films (Tasker 2017 in Stern and Strand 2022, 10). While science fiction signifies a benefit here, its possibility existing only in film signifies the shortcomings of the present world. Similarly, Davies (2010) science-fiction-adjacent analysis of *Buffy the Vampire Slayer* shows the possibility of understanding Marxist ideas of labor, so far only in film.

3. An Encounter with Politically Motivated Science Fiction Studies

Transdisciplinary scholarship using politically motivated science fiction studies could help I.R./Political science use apocalyptic shorthand in a less rhetorical way or create something more nuanced. The following components of this transdisciplinary scholarship would help:

- Goal setting
- Science-fiction as a source of concepts
- Cognitive dissonance to force classroom discussion.
- Thinking about the goals of science fiction (e.g., politics, group formation)
- Avoiding the strawman strategy

These call for an improved use of apocalyptic shorthand, or something more complicated that uses science fiction less indexically and more conceptually.

I.R./political science scholars could better use apocalyptic shorthand by setting clear goals. Why is it important to reference science fiction, especially when there are plenty of texts explaining scary things in politics? Examples from politically motivated science fiction studies include political group formation (Bailey 1947; Suvin 1979). Other motivations might include awakening members of society to apocalyptic dangers (see Bailey 1947). While these approaches are political, the use of science fiction in academic scholarship seems more rhetorical than logical. Indeed, science fiction as apocalyptic shorthand often uses half of John Campbell's thoughts on science fiction, but shy away from the other half. Apocalyptic shorthand echoes Campbell's following idea of science fiction: "In August 1945, reality introduced to most people one new fact—atomic bombs could be, had been, and would be

produced. The next year or two was a science-fiction story in reality" (Campbell 1969, 13). Such appraisals of reality matching fiction—while commonplace now—are necessary, but not sufficient for a fully science fiction idea. Science fiction does not seek to be an index of calamitous events and disruptive technology. Instead, there is a purpose to fictional calamities. "Good science fiction seeks to work out, in fiction, the meanings and probable consequences of new ideas—before the new ideas slap us in the face as reality. It gives you a chance to duck a little—or at least be prepared" (Campbell 1969, 13). In sum, the end game of IR/Political science apocalyptic shorthand is like science fiction in reverse, reactive images of calamity instead of imagery that prepares us for this reality.

Classroom pedagogy would improve if professors taught science fiction as a genre with related theoretical and secondary sources to be used alongside I.R./political science. Irish, Sherman, and Watts (2023) caution that the benefits of using science fiction texts to motivate students need to compared to the need for additional explanation of science fiction. Though is this really such a bad thing? A more transdisciplinary approach, borrowing concepts and ideas from a different field (Shapiro 2013) would help. While scholars of politics may not be willing to make classes with a sizable percentage of fiction or movies, approaching these texts as primary sources would improve this approach. Cultural Studies and Continental Philosophy offer both examples and concepts for how to productively translate other types of thoughts into another discipline. Raymond Williams' (1973) "structures of feeling" that theorizes poetry and literature as proto-factual expressions of emerging problems not yet describable in logical argumentation. This differs from a chronic use of science fiction as an indexical sign in texts where about any other subject can become logically describable. Deleuze and Guattari (1994)

have argued for using various filmic texts to improve philosophical concepts. In sum, teaching science fiction as its own field may help students learn to integrate points of view and texts from fundamentally different perspectives as well as potentially influence the concepts of I.R./political science. I.R./political science has often done the latter through scientific, mathematical, and philosophical concepts.

Pedagogical approaches could also utilize the idea of cognitive dissonance (Suvin 1979) where readers are simultaneously aware of problems and that society must change. This could strengthen the case for the intellectual value of science fiction literature by suggesting that it is not simply a matter of making classroom learning more entertaining, hence approachable, but also capable of forcing students into more serious dialogue too.

More accurate definitions of science fiction that either span the entire field, or break it down into smaller, more nuanced parts would help. Reference to politically motivated science fiction studies texts would not only have science fiction as an apocalyptic shorthand which conveys panic and dread over technological developments which should not shock I.R./Political science scholars, but also would provide direction for what to do in response to technological terror. According to Shaviro (2015, 25) even the most commercial, poorly conceived Science fiction helps individuals "vicariously" begin to understand what to do in a future crisis. Bailey (1947, 322) argues that science fiction combines "romance" and "escapism" with a spread of information useful to preventing World War III. Furthermore, Bailey (1947) frames science fiction within the horror of the recently nuclear world, and how the genre potentially builds politically mobilizable groups of people aware of the dangers of nuclear warfare. Darko Suvin (1979, 3) elaborates science fiction's potential to enable Marxist

thought through "lucid pleasures of estrangement" that substitutes "dissonance" for "entertainment." Indeed, in contrast to the apocalyptic shorthand that expresses a fear of recent technology, for Suvin science fiction is not about technology (1979, 21-22), but about imagining a world entirely different from that which we inhabit (20). While Suvin sees a variety of diverse types of worlds that produce revolutionary thought—ranging from dystopian to utopian, this links with Jameson's (2007) socialist utopian potential of science fiction. These abovementioned ideas do not suggest a consensus in science fiction thought, but instead increased conceptual unity from thinking about different worlds, something also present in science fiction novels, movies, and artwork. Indeed, Lewis Mumford (1934) writing on the long durée of technological change—albeit not science fiction—discusses the violence of technology that has been occurring for more than a century. Thus, rather than an expression of unexpected shock to a technological change. I.R./political science has begun to use science fiction subgenres to illustrate technological change while maintaining a disciplinary focus (Musgrave and Nexon. 2013) without relying on apocalyptic shorthand.

A counterargument might be that I.R./political science need to provide the answers, and can provide better, more well-thought-out prescriptions for what to do. If so, there is no reason to reference science fiction, unless to function like a strawman for social scientific arguments, as in the rhetorical statements analyzed here. Nonetheless, this strawman strategy is not unanimous.

While I.R./Political science scholars may not become fully transdisciplinary and henceforth prefer their concepts over science fiction concepts, there is room for I.R./political science scholar to teach and write about science fiction more productively than as the current

apocalyptic shorthand does, either to mark the boundaries of what is acceptable scholarship or to expediently express fear. Indeed, as science fiction editor and author John W. Campbell (1969) says, the goal of shocking readers in science fiction should go beyond entertainment to thinking about the world. If I.R./political science more sophisticated than science fiction, as many I.R./political science scholars claim, it is ironic that it has frequently failed to meet the genre's goals when their articles include short, casual statements that turn out to be entertaining, but not enlightening science fiction.

4. Conclusion

IR/Political science has persistently treated science fiction as indexical signs, and recently positively as apocalyptic shorthand. The use of the term science fiction usually is indexical of human failure to think, be it poor logic, undergraduate lack of interest in social science writing, or humanity's technological and apocalyptic self-destruction. That said, all of these are apocalyptic. The failure of logic in writing—e.g., that an idea could be like science fiction—or that students no longer care to read I.R./political science —suggest a potentially apocalyptic entropic breakdown in society. Afterall what is an apocalyptic war or climate change, but humanity's failure to logically manage their technology and governments, which social sciences would seek to avert?

Seeing this discursively also allows for analysis of seemingly disparate ideas. For example, how negative critiques of science fiction persist, rather than being old-fashioned snobbishness. But also, that science fiction is much more successful in undergraduate

pedagogy—even when taught by science-fiction fans—assumes that the frequency of academic publications does not imply that ideas within science fiction novels and movies analyzed and taught as seriously as other ideas more appropriate to scholarly research and graduate student classes.

Seeing discourse not just as a large collection utterances and statements, but how what things are situated in as a possibility (Foucault 1989), also shows how increased frequency of writing on science fiction may have little to do with disruptive technologies and calamities that are important tropes in apocalyptic shorthand. Increasing science fiction related publications in international relations journals coincides with popular culture gaining traction as a respected subfield. Thus, science fiction may be considered more seriously as a subset of popular culture, rather than an explanation of the uncanny side of technology. This may explain why it is possible to use science fiction so casually in academic writing, to signal something bad, rather than as a utopian ideal or to warn society of impending danger. More frequent, better research about science fiction, does not mean most I.R./political science scholars consider it a serious, thought-provoking subject matter.

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