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# Transmodern Reconfigurations of Territoriality, Defense, and Cultural Awareness in Ken MacLeod's *Cosmonaut Keep*

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Received: 5 September 2018; Accepted: 17 October 2018; Published: 19 October 2018

**Abstract:** This paper focuses on the science fiction (SF) novel *Cosmonaut Keep* (2000)—first in the trilogy *Engines of Light*, which also includes *Dark Light* (2001) and *Engines of Light* (2002)—by the Scottish writer Ken MacLeod, and analyzes from a transmodern perspective some future warfare aspects related to forthcoming technological development, possible reconfigurations of territoriality in an expanding cluster of civilizations travelling and trading across distant solar systems, expanded cultural awareness, and space ecoconsciousness. It is my argument that MacLeod's novel brings Transmodernism, which is characterized by a “planetary vision” in which human beings sense that we are interdependent, vulnerable, and responsible, into the future. Hereby, MacLeod's work expands the original conceptualization of the term “Transmodernism” as defined by Rodríguez Magda, and explores possible future outcomes, showing a unique awareness of the fact that technological processes are always linked to political and power-related uses.

**Keywords:** cultural awareness; future warfare; globalization; Fifth-Generation War; intergalactic territoriality; planetary civilizations; SF; space ecoconsciousness; speculative fiction; technological development; transmodernism

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“Where there is no vision, the people perish.”  
—Proverbs 29:18

“If these are the early days of a better nation,  
there must be hope, and a hope of peace is as good as any,  
and far better than a hollow hoarding greed  
or the dry lies of an aweless god.”  
—Graydon Saunders

## 1. Introduction: Transmodernism, a New Paradigm

In order to understand the conceptual framework in which transmodern fiction is contextualized, it is necessary to explain the paradigm shift that occurred in the late 20th century and the beginning of the 21st century that led us from the Modern and Postmodern into the Transmodern Age. Thus, an overview of the most essential characteristics of transmodern discourse will be offered in order to better understand the particularities of transmodern fiction, as represented in the Scottish writer Ken MacLeod's science fiction (SF) novel *Cosmonaut Keep* (2000).

Since the late 1980s, many critics have observed a paradigm shift taking place in literature, architecture, art, and other fields of culture affecting the present human condition at large [1]. In 1989, Linda Hutcheon famously proclaimed that postmodernism, which she understood as both a continuation and a break from modernism, was “over” [2] (p. 166). For Hutcheon, as for an increasing

number of literary critics and theorists [3] (p. 3), “the postmodern moment has passed” [2] (p. 181). Pioneers of postmodernism such as John Barth, Raymond Federman, William Gass, Malcolm Bradbury, and Ihab Hassan dismissed it, as “the concept can no longer serve as a useful explanation in relation to contemporary culture” [4] (p. 97). This has led to two inevitable and crucial questions:

First, “what is or can be *after* postmodernism?” [3] (p. 4).

And second, is this epistemic break with the postmodern a radical break or does it reenact “the postmodern break with modernism”—that is, is it “both complete and partial”? [3] (p. 5).

In response to the first question, critics have used numerous different names to refer to what comes *after* postmodernism. This variety of names might make the subsequent movement more difficult to identify. As Irena Ateljevic has argued, the reason we do not hear much about “the transmodern movement” is “because it is not centralized under a single unifying name” [5] (p. 86). But it is a fact that they all highlight the need to find an adequate concept to define the shift taking place in the last decades. Andreas Huyssen, who has been considered the first critic to theorize a period *after* postmodernism [3] (p. 14), stated that postmodernism requires “a new label of its own” [6] (p. 181), one that no longer implies such a strong connection to the past. Some authors, such as Alan Kirby, refer to this new age as “Pseudo-modernism” [7] or “Digimodernism” [8]. Others, such as Bourriaud, Moraru, and Armitage, use “Altermodernism” [9], “Cosmodernism” [10], or “Hypermodernism” [11]. Zavarzadeh, Okediji, Furlani, Dumitrescu, Vermeulen, van den Akker, and L. Turner all prefer the term “Metamodernism” [12–17]. Alexenberg uses the term “Post-digital” [18]; Hassan, “Post-humanism” [19]; and Gans, “Post-millennialism” [20]. T. Turner used the term “Post-postmodernism” or “Post-POMO” [21] and Epstein, “Trans-postmodernism” [22]. Despite the differences in nomenclature [23], all these terms accept that “postmodernism has reached a point of exhaustion” [24] (p. 367), and they point toward a new contemporary awareness of and sensitivity to inclusion, diversity, partnership, quality of life, sustainability, and universal human rights [25] (p. 201). In line with the theorizations of many of these critics and artists, Gibbons has also argued that “[e]motions [...] are again playing a central role in literary fiction, as authors insist on our essential relationality—our connectedness as humans to one another in the globalizing world” [26] (n.p). Moreover, they also share “a legacy of modernist and postmodernist stylistic practices, and a rehabilitated ethical consciousness” [26] (n.p.).

“Transmodernism” is another term that is used to refer to this epistemic break or paradigm shift by thinkers in different fields, and it is becoming more popular lately. The Spanish philosopher Rosa María Rodríguez Magda coined the term in 1989 to refer to the theoretical configuration of the change of paradigm [27] (pp. 1–2). Likewise, the Liberation philosopher Enrique Dussel [28–31], the Belgian philosopher and mathematician Marc Luyckx Ghisi [32,33], the Filipino social activist Nicanor Perlas [34], the Brazilian theologian Leonardo Boff [35], the Pakistani expert on Muslim thought Ziauddin Sardar [36], and the French anthropologist Etienne Le Roy [37], among others, have preferred the use of this term to postulate the hypothesis that transmodernism indicates the new paradigm shift that has been taking place since the late 1980s [1]. These authors seem to implicitly or explicitly accept the fact that transmodernism transcends the two previous periods of modernity and postmodernity. As Suarez succinctly puts it:

Modern discourse, using the spheres of science and knowledge, was understood as an attempt, through reason [...] to comprehend a unified reality. Postmodernity, on the other hand, addresses a crisis in scientific knowledge and the unitary paradigm proposed by modernity [...] constituted as the antithesis of modernity. [5] (pp. 85–86)

In this line of thought, transmodernity is understood as a dialectical synthesis of the modern thesis and postmodern antithesis, accepting the ethical and political challenge of modernity and postmodern examination in order to define a field beyond nihilism and uncertainty [5] (p. 86).

I have preferred this term too, because the prefix ‘trans-’ “not only connotes aspects of transformation” [5] (p. 86), but also of transcendence, as it acknowledges precisely the break with *and* the continuation of modernity and postmodernity. As Rodríguez Magda states, “[t]o characterize the new situation, rather than the prefix ‘post,’ the most appropriate prefix is ‘trans,’ since it connotes the current form of transcending the limits of modernity” [27] (n.p). Mikhail Epstein also believes that,

in this new sensibility, “one finds that the prefix ‘trans-’ stands out in a special way” [22] (p. 2). As Epstein further states:

The last third of the 20th century developed under the sign of “post,” which signaled the demise of such concepts of modernity as “truth” and “objectivity,” “soul” and “subjectivity,” “utopia” and “ideality,” “primary origin” and “originality,” “sincerity” and “sentimentality.” All of these concepts are now being reborn in the form of “trans-subjectivity,” “trans-idealism,” “trans-utopianism,” “trans-originality,” “trans-lyricism,” “trans-sentimentality,” etc. [22] (p. 2)

However, as Rodríguez Magda states, “‘trans’ is not a miraculous prefix, and does not represent the longing for an ‘angelic multiculturalism’ either [27] (n.p). “It is the synthesis of modernity and postmodernity” [27] (n.p).

It must be explained that what Rodríguez Magda rejects from the concept of multiculturalism or cultural pluralism is that the concept is based on the assumption that “there are a variety of different and self-sufficient cultures, with their own traditions, that are [...] independent” [38] (p. 328). In contrast, for (transmodern) globalism, there is no such radical independence, and differences complement each other, creating “a new interpersonal transcultural community to which we belong, not because we are similar but because we are different” [38] (p. 328). In this line, as Mikhail Epstein puts it, “the transcultural perspective opens a possibility for globalization not as homogenization but, rather, as further differentiation of cultures and their ‘dissemination’ into transcultural individuals” [38] (p. 328).

Because of this break *and* continuation of Transmodernism with the previous periods, and in answer to the second question implicitly raised by the announcement of the death of Postmodernism, it is my argument, following Andreas Huyssen [6], that the nature of the epistemic break of Transmodernism is only partial, rather than abrupt and radical: “Each epistemic break is always, or only, a reconfiguration because its formation is necessarily contingent upon the fact that something [...] always [...] passes on” [3] (p. 5). Or, to put it differently, Transmodernism is *both* continuous *and* discontinuous with Postmodernism. For Rodríguez Magda, transmodernity is characterized by a continuation, transcendence, and critique of the two earlier periods—modernity and postmodernity—entailing a change in human perception and thus in the understanding and representation of reality [1]. There is no real break, “hence the necessity to abandon the prefix ‘post-’, but a fluid return to a reconfiguration of the previous phases” [27] (p. 8).

Transmodernity has been conceptualized as “a global transformation process, consisting of a paradigm shift that transcends modernity and postmodernity” [5] (p. 85) and has been brought about by various contemporary global processes. Technology has been considered the main factor in the configuration of the new transmodern society [5] (p. 87), especially technology related to informatization and communication. The development of technical knowledge and telecommunication has been associated with “the hegemony of digital reason” and the rise of a “cyber-universe,” in which the subjects interact virtually [27] (n.p.). The capitalist expansion of globalization and the creation of the global market, which have increased mobility and internationalization, have also been considered key factors in the development of the Transmodern Age. As Andrea Mura explains, both globalization and the development of informatization have brought about “dramatic transformations in the way in which space, time and communication are perceived” [39] (p. 72). This has provoked the rise of virtuality, which has brought about “the emergence of a new way of *experiencing* space and reality” [39] (p. 72, original emphasis) by means of the new technological structure of multimedia communication, as well as the creation of what she calls “spatial displacement,” which enacts “both the *dislocation* and *re-shaping* of notions of *space* and related cognitions of *time*” [39] (p. 72, original emphasis).

Among the most essential characteristics of Transmodernism, we could highlight globalization, which has eroded spatial barriers, melted differentiated places into an indistinct global place, and transformed local economies into a global market [39] (p. 72), as well as the development and interaction of technological and computerized artifacts, which has brought about a change in our perception of space and time and a promotion of new formulations of reality [39] (p. 72), as well as a

transformation of modern warfare. As will be explored in the next sections, SF constitutes one of the most suitable genres to explore these transformations.

## 2. Transmodernism and Contemporary SF

Much of contemporary art in general, and literature in particular, reflects on the changes that occur throughout history, both thematically and stylistically. Social, political, scientific, and technological changes have always had a direct impact on culture. According to Rodríguez Magda, industrial societies found its correspondence in modern culture, postindustrial societies found its equivalence in postmodern culture, and our present-day globalized—or, rather, we should say “glocalized” [40]—society in transmodern culture. Such transmodern culture has been regarded as virtual, transnational, trans-ethnically cosmopolitan, connective, strategic, transubiquitous, etc. [27] (n.p.). In Rodríguez Magda’s view, transmodern culture describes the globalized, rhizomatic, technologic society that is being developed in first-world countries, which opposes otherness while at the same time penetrates and assumes it [27] (n.p.). As she further explains:

Globalization introduces us to the primacy of simultaneity; the territoriality is replaced by cyberspace, where the global and the local coexist, shaping the “glocal” (to use R. Robertson’s accurate expression), offering a panorama which is not *post* or *multi* but *transcultural*, beyond the reactive postcolonial drift that seems to go back to the premodern identity. [27] (n.p., emphasis added)

The theoretical construct of Transmodernism almost acts as an umbrella term to refer to change linked to the progress of technology and affecting contemporary culture. Bearing in mind that culture usually reflects the ideological and material changes experienced by societies, it seems logical to expect the rise of a Transmodernist literature in the Transmodern Age. Not much has been written yet about the formal or aesthetic characteristics of such writing, but most critics agree that the works described as Transmodern reflect on these contemporary changes and help us to better understand the evolution of present-day reality [41].

Many of the elements that Rodríguez Magda mentions as characteristic of Transmodernity are also present in the SF genre. In line with her reference to virtuality, diversity, technology (screens, computers, the Internet), connectivity and networks, the glocal, the transnational, megacities, the new economy, etc. [27] (n.p.), as key features of the Transmodern Age, SF is a genre that usually speculates about hypertechnologized and globalized near-future first-world societies.

Ursula K. Le Guin claims that “[s]cience fiction is not predictive; it is descriptive” [42] (p. xxiv). But one might wonder if the two adjectives are mutually exclusive when talking about SF. As she further states about her own writing, “I am describing certain aspects of psychological reality in the novelist’s way, which is by inventing elaborately circumstantial lies” [42] (p. xvi). It is true that SF describes many aspects from the present, but its speculative thinking also allows writers to go a step further and raise important questions about where present actions might globally lead us. Furthermore, literature expands reality, as Paul Holmer states: “Literature adds to reality, it does not simply describe it. It enriches the necessary competencies that daily life requires and provides” [43] (p. 28). It communicates in such a way that it creates new insights.

SF has been said to be “a literature of technologically saturated societies” [44] (p. 3). This genre has approached technology in an ambivalent way. On the one hand, it has often viewed technology as “an unproblematic positive force, serving as the principal [...] determining agent for progress” [44] (p. 5), exalting the virtues of modern Mechanism. However, this has not always been the case, and there are plenty of works that offer a critical view of technology, analyzing the deep social implications of its uses—from Mary Shelley’s *Frankenstein* (1818) to Aldous Huxley’s *Brave New World* (1931), to cite two keystones in the genre. In these novels, science and technology are scrutinized from a sociocultural perspective. As Luckhurst states, SF should be studied “as part of a *network* that ties together science, technology, social history and cultural expression” [44] (p. 6).

This is also the case of the contemporary Scottish SF writer Ken MacLeod, whose critique is descriptive as well as predictive, as it extrapolates some aspects of the contemporary, such as the

enduring critique of capitalism. His fiction is said to combine “hard science fiction concepts with sophisticated meditations on the potential social and political implications of those concepts” [45] (pp. 165–166). Much of MacLeod’s work deals with the possible impact on humanity of the development of technology [45] (p. 166), and he does so from a critical perspective that could be considered transmodern. In Modernity, science received a “quasi-divine” status [46] (p. 347), which is in complete crisis in Transmodernity. As Ghisi remarks, “citizens are asking science and technology to build a sustainable world, and modern science cannot deliver this” [47] (p. 42). Ghisi further states, “Transmodernity provides a completely different concept of science and technology. [...] Science and technology, as with all human actions, have to be reoriented towards world citizens’ desire for a sustainable and socially inclusive world. They have to respond and become ‘responsible’” [47] (p. 42). Along with this, future warfare and peacemaking are also inextricably linked to the development of the latest technological innovations, and they cannot be understood independent from the transmodern discourse [5] (p. 85). For the reasons mentioned above, the critical approach to technology shown by MacLeod’s writing turns his work into a good field to explore what could be called Transmodern(ist) literature, as we shall see in the following sections when analyzing his novel *Cosmonaut Keep* (2000), the first novel in the trilogy *Engines of Light*, which also includes *Dark Light* (2001) and *Engines of Light* (2002).

### 3. Ken MacLeod: A Description of Possible Futures

MacLeod is one of the leading figures in contemporary Scottish SF, and a key member of what has been called the “British Boom”—a loose designation applied to the rise of a group of young British science-fiction writers in the middle 1990s and continuing well into the 21st century [45] (p. 49). As O’Connell mentions, the British science-fiction boom was not a “purposefully aligned and properly manifestoed movement,” but rather the “conjunction of a particular set of political and cultural forces that created both a cultural-economic void and a cultural product to fill it” [48] (p. 2). The authors included in this movement—Iain Banks, Gwyneth Jones, Kim Lakin-Smith, Ken MacLeod, China Miéville, Adam Roberts, Jane Rogers, and Charles Stross, to name but a few—usually focus “on the Earthly, the contemporary, and the near future” [48] (p. 3). Their texts not only offer a subjective imprint of globalization’s consequences, but also theorize on globalization: “they offer useful, revealing insights into the operations and/or consequences of the increasing scale and pitch of emergent global interconnectivity during the long twentieth century and beyond” [49] (pp. 369–370).

As mentioned previously, MacLeod’s writing style has been praised because of his combination of science and the social and political implications of its uses [45] (pp. 165–166). The political repercussions of technological and social development and the political debate on individual and collective struggles are very much present in his work, which makes him an ideal author to explore the representation of the Transmodern in fiction. His speculative writing, which he has been pursuing with great literary skill over the last 25 years, offers particularly precise observations and understandings of future possibilities. Not in vain, the objective of speculative-fiction stories is mainly “to explore, to discover, to learn, by means of projection, extrapolation, analogue, hypothesis-and-paper-experimentation, something about the nature of the universe, of man, of ‘reality’” [50] (p. 27).

For MacLeod, elements such as coalition, compromise, conflict, and coercion are essential in the representation of any complex society and therefore should not be ignored in the SF genre, which is generally less prone to considering these fundamentals, as “[t]he characteristic sf cast of mind is inclined to the logical and uncompromising” [51] (p. 230). For his interest in the social repercussions of technological development and progress, as well as his not uncritical view on contemporary and future issues such as globalization, the possible uses of technology, and the construction of future cultural identities, MacLeod seems an ideal author to explore, from a Transmodern perspective, the representation of some future warfare aspects related to future conflicts and possible reconfigurations of territoriality in intergalactic conflicts, along with interplanetary migration and the (peaceful) coexistence of different intelligent and socialized species across different but interconnected planetary systems.

According to the theoretical physicists and futurist Michio Kaku, “[a]ll technological revolutions [...] are leading to a single point: the creation of a planetary civilization” [52] (p. 379). The Internet, which has been considered, together with virtual reality (VR) [53], a crucial technological step in shaping Transmodernism [51] (p. 9), “is the beginning of a Type I planetary telephone system” [54] (p. 384). Globalization, another hallmark of Transmodernism, which recognizes the problematic and uneven, if not also unfair or unethical, nature of current globalized realities [55], is also considered “the birth of a planetary economy” [52] (p. 384) and of a “planetary culture” [52] (p. 386). Therefore, it could be argued that Ken MacLeod’s novel *Cosmonaut Keep* brings Transmodernism, which is characterized by “a planetary vision in which humans are beginning to realize that we are all (including plants and animals) connected into one system, which makes us all interdependent, vulnerable and responsible for the Earth as an indivisible living community” [56] (p. 203) into the future, expanding this original conceptualization of the term “transmodern” and exploring possible outcomes. This “transplanetary” novel asks readers to forget about postmodern multiculturalism, which assumes that some cultures are “hardly comprehensible and penetrable for each other” [57] (p. 328), and to engage with transmodern globalism, which *transcends* the idea of radical otherness understood in oppositional terms, offering “a mode of positioning oneself *beyond* rather than *against* the dominant culture” [38] (p. 331). As the analysis of *Cosmonaut Keep* will show, the “planetary vision” mentioned by Marc Luyckx Ghisi becomes an expanded “intergalactic vision” in MacLeod’s work. It goes a step further and not only promotes “Earth citizenship” [33] (p. 284), but proposes a broader and sustainable intergalactic system encompassing “AI singularities, divergent human cultural evolution” [58] (n.p.), and the coexistence of diverse species from different solar systems. As Epstein explains about the transmodern transcendence of a given culture, its aim is to position that culture “as one among many historical and imaginable cultures and mov[e] toward the horizon of all such possibilities” [38] (p. 331)—a horizon of future possibilities.

#### 4. Ken MacLeod’s *Cosmonaut Keep*: An Interstellar Geopolitical Future

*Cosmonaut Keep* “is artfully constructed, populated with interesting characters, who inhabit thoughtfully realized worlds, and are engaged in matters of great moment” [59] (p. 94). In the novel, which mainly reflects on the evolution of human and extraterrestrial civilizations, technology in conjunction with intergalactic trade and space travel is a very relevant topic. The novel is considered an example of the “alternate history subgenre in the opening years of the new millennium” [60] (p. 32), and it participates in what Eric Smith calls “postcolonial science fiction,” which is “the literary and cultural expression of globalization” [61] (p. 16). As Smith goes on to argue, “postcolonial SF is formally equipped to offer critical mappings of its geopolitical structures” [61] (p. 16). In Malisa Kurtz’s words:

Postcolonial science fiction questions several of the assumptions that underpin science fiction, including the genre’s colonial gaze, the appeal to an ideology of progress, focus on the “future” and the construction of an assumed cosmopolitan future, and an implicit faith in technological solutions or the inclination towards techno-optimism. [62] (p. 28)

Like postcolonial SF, *Cosmonaut Keep* is definitely not inclined toward either a naive techno-optimism or a dystopic techno-pessimism; rather, it tries to depict a complex transmodern reality with many shades and portrayed from interconnected and divergent points of view.

In *Cosmonaut Keep*, there are two alternating worlds and timelines. One is narrated by the “homodiegetic narrator,” Matt Cairns, who participates in the story he tells [60], and is set in a near-future Edinburgh around the year 2050, in an alternate world where a neo-Soviet Russia has defeated the United States and installed socialism in Europe. The other alternating timeline of *Cosmonaut Keep*, narrated by a “heterodiegetic narrator,” one who does not participate in the story [63], is set in another star system, on planet Mingulay, five or six centuries later. Planet Mingulay is one of the many worlds belonging to “the Second Sphere, the hundred-light-year radius around Nova Sol” [64] (p. 59), where the following species cohabit: krakens or *Architeuthys extraterrestriis sapiens*, such as the character Teuthys, who are gigantic and extremely developed squids that have become “Masters of

the galaxy” [64] (p. 7) and who speak “the language of light” [64] (p. 314); saurs, highly developed and intelligent reptilian creatures, such as the character Salasso [27] (p. 6); different generations of human beings: the First Crew cosmonauts and their hominidae descendants; and other hominid species, three-meter-tall giants and “pithkies,” “slim and lithe at a metre and a half” [64] (p. 265). The novel thus offers a whole range of coexisting intelligent species, alien cultures, worlds, and relationships, conveying a sense of what Enrique Dussel calls the “pluriversality” of the world [29]. This “pluriverse” is very heterogeneous and could be described as an “intergalactic society,” projecting the transmodern “planetary vision” [17] (n.p.) into a possible future where power relationships have become even more complex due to the extension of the economic system and the shift of cultural identities from a more isolated structure toward a more interconnected arrangement of relations.

In the novel’s first timeline, we encounter a globalized and virtualized—transmodern—reality in which conflict has continued to escalate. The Third World War took place [64] (p. 74) before the year 2050, offering an alternative geopolitical situation strangely different to the one that readers are familiar with nowadays. As the character/narrator Matt explains when he finds out “the most important piece of global news,” that the European Space Agency (ESA) has established alien contact and received information about the aliens’ much more advanced technology [64] (p. 141):

Some of the hard-line generals in the European People’s Army think they can use what we’ve learned from the aliens to hit the Americans hard—to win the Fourth World War and complete the world revolution at what they consider the cost of a few million lives. [64] (p. 142)

As this passage shows, the sudden acquisition of advanced alien knowledge could cause some complicated security issues and imbalances on planet Earth, bringing a period of uncertainty and serious global conflicts. For MacLeod, technological progress implies power, and this goes hand-in-hand with an increased global responsibility, requiring more knowledge and an ethical approach to avoid a worldwide catastrophe.

In the novel’s second timeline, developing around the 27th century in what could be called an advanced-Transmodern or “intergalactic” society, some “independent human space explorers” [64] (p. 58), called Cosmonauts, have left planet Earth [64] (p. 43), which has experienced “much worse disasters by now” than the “*all-out nuclear war*” [64] (p. 42). In this new trans-Earth and advanced-Transmodern existence, human beings are expanding into space and have to adapt to this interstellar environment where “humanity had a respected but restricted place: restricted not by force but by circumstance” [64] (p. 58). That is, in the future, humans are no longer the most powerful beings in the prevailing intergalactic geopolitical situation. In this context, the grade of development, intelligence, technological progress, and trade seems to be crucial to establish (power) differences among space species:

The krakens plied their trade between the stars, navigating the lightspeed ships. The saurs steered a shorter course, piloting their gravity-skiffs and working in their tropical and sub-tropical biological factories, their *manufacturing plant*.

The humans, ah yes, the humans had a place: inventing and manufacturing, trucking and bartering, farming and fishing, all of it on the surface of land or sea, or passengers in the older races’ craft. [64] (p. 59)

The different species’ territories are linked to their power: “And so it was [...] on all the worlds of the Second Sphere, the hundred-year radius around Nova Sol. This was a generous limit of the journeys on which the krakens’ starships were willing to take humans” [64] (p. 59). In this sense, the world depicted here obeys the old imperialist ideology behind the narrative logic of growth or development [65]. However, and as we shall see in the following sections, the colonial impulse of material expansion and technoculture is portrayed by MacLeod not as an unquestionable reality, but as a human (capitalist) fantasy doomed to failure in a huge and diverse universe.

As described in the above passage, the space territories where the different species can travel or trade and develop are well defined and not very flexible. However, there is still a certain harmony and stability, based on the evolutionary stages of each species, as well as a possibility for revolution, which is often present in MacLeod's works. As Roger Luckhurst points out when discussing MacLeod's *Fall Revolution* quartet, MacLeod offers in many of his works "the possibility of revolution," and often this is done by means of technology: "Surveillance systems and political containments are short-circuited by our heroes, and the virus of revolution is unleashed" [44] (p. 227). In *Cosmonaut Keep*, there is also place for freedom and dissidence, which is represented by means of resistance to central control:

[M]atters were managed very differently on Earth, the home planet; and perhaps on [...] Mingulay; to which humans had come from Earth on their own initiative, and their own ship. [...] [S]ome of the First crew, the original cosmonauts, were believed to be still alive, somewhere out in the wilds. [64] (p. 59)

From the margins, less privileged groups, such as human beings, can attempt to use their own technology, free from the strong control exerted by the more privileged who hold power.

In the Second Sphere, globalized trade seems to regulate most economic and political activities, and thus power relationships. This goes in line with what is said about Kardashev's Type I civilizations, in which "[t]he economy, not weapons, is the new criterion for a superpower" [52] (p. 385). On planet Mingulay, there are starships coming and going, gravity skiffs in the air that hurry "to and fro, loading and unloading" [64] (p. 124), and "larger submarine vehicles [...] transacting the starships' real business, which was between the krakens—the trade of the saurs and human beings in every sense superficial by comparison" [64] (p. 124). As Salasso the saur tells Matt, the kraken "and his kind will not fight you, and neither will the gods. But they [the krakens] will compete" [64] (p. 316) to hold their power and their trade. Despite the differences among the diverse cohabiting species, there is a communal language used for trade purposes, which shows the essential role of business: they all can speak "Trade Latin, the de facto lingua franca of the Second Sphere" [64] (p. 42). In this advanced-Transmodern society, trade and business seem to have replaced other previously used power demonstrations, such as the use of weapons and warfare.

As Kaku remarks, in the march toward a Type I civilization, "the nature of capitalism [is changing], and economic power [...] shift[s] from national governments to regional powers and trade blocks" [31] (p. 390). And, most probably, in more advanced civilizations, commodity capitalism based on natural resources will evolve toward a more intellectual and technological capitalism. That is, "software will become increasingly more important than hardware" [52] (p. 364), and knowledge will become almost synonymous with power. There is an awareness of this in MacLeod's work. His view on technology is definitely not uncritical of its possible political and power-related uses.

Let us focus on some of the technological developments appearing in *Cosmonaut Keep* to see how they are related to power and warfare.

## 5. Transmodern and Future Warfare: Technological Development and Intergalactic Defense

The Transmodern paradigm has also created a military structure to transform conflicts by means of violence [5] (p. 90). The type of war in a global society, which Suárez Bustamante terms "transmodern warfare," "is closely linked to transmodern politics and economics, and especially to technological breakthroughs" [5] (p. 91). This transmodern form of warfare is based on a new doctrine of war known as "Fifth-Generation War" (5GW) [66] (p. 63), which is a form of warfare featuring "a hybrid blend of traditional and irregular tactics such as guerrilla warfare and insurgency acts of terrorism" [5] (p. 92). In this transmodern context, the enemy is no longer an organized military force, but "groups that float freely around a belief or idea" [5] (p. 93). Additionally, technological innovations related to the evolution of cyberspace and robotics are essential in shaping this new type of warfare, completely changing the phenomenon of war to such an extent that cyberspace has been described as the "fifth battlespace" [5] (p. 93), and the "robotization of warfare" has completely changed the strategies of combat ops and the structure of the armed forces [5] (p. 94).

As we have seen, Rodríguez Magda's concept of the Transmodern envisions a transnational scenario where the economy, politics, and culture are considered interdependent. As Suárez Bustamante has remarked, "[i]n this scenario, transnational corporations play an essential role" [5] (p. 89). In an advanced-Transmodern reality, the economy will become the criterion for power supremacy, and in *Cosmonaut Keep*, the economy seems to be ruled by two interlinked factors: knowledge and technology. In the timeline situated in the near future, the narrator discovers the shocking fact that alien contact had been established some years before. *Cosmonaut Keep*, as in MacLeod's novels *The Human Front* (2001) and *Descent* (2014), also has a unique take on the UFO mythos [53] and the influence of advanced technology. In the novel there are several allusions to various classic alien myths related to defense, especially in its first timeline. There are playful references to the Air Force facility Area 51 in Roswell, New Mexico [64] (p. 139), which is the key place in the "Grey alien" and UFO mythos [64] (p. 146). "Dreamland," as the place in Area 51 is named, is linked to the US Army and its secret technological programs [64] (p. 144). At first sight, it seems that what was interpreted by many as a UFO sighting was in fact produced by secret military weapons and vehicles: "If unidentified flying objects were seen around secret military aircraft development bases, the obvious inference was that they were secret military aircraft" [64] (p. 146). However, there is another turn on the conspiranoid UFO mythos, that "*the secret aircraft were secretly reverse-engineered from secretly recovered alien spacecraft*" [64] (p. 145, original emphasis). As the narrator explains, "the post-modern tack" of old imaginary stories and paraphernalia—models of Grey aliens, "polystyrene hobby-kit flying saucers," "aluminium fake space-suits," etc. [64] (p. 146)—had all come to the surface by "[t]he real alien contact" [64] (p. 146). But then, when the contact with genuine alien intelligence is established, scientists and ESA cosmonauts revolt to warn "the world community to prevent the 'militarization' of their historic contact with the alien intelligence" [64] (p. 141). As the story unfolds, it becomes quite clear to the reader that the possible appropriation of their superior technology is what might lead different countries to militarize the alien encounter. Therefore, in the novel, evolution and progress are inextricably linked to technological development.

However, it seems that in *Cosmonaut Keep's* future interstellar society, the different species do not use armed conflict to solve their disputes and exert power. They seem to have reached a homeostatic ability, a tendency that directs itself toward an ultrastable equilibrium in cosmic evolution [67] (p. 29). More advanced species such as the saurs, who "have been civilised for millions if not tens of millions of years," will have "a greater intelligence" [64] (p. 190), becoming "super-civilised" [64] (p. 191), or belong to a superior and more advanced type of civilization, if we follow Kardashev's classification [52].

Nonetheless, in biological evolution, when it comes to capacity, to "economy of material, independence, efficacy, stability, speed, and last but not least, universality, chromosomal systems manifest superiority over brain ones" [67] (p. 456). This means that superior alien intelligence may be so different from anthropomorphic entities, their consciousness so alien, that perception or communication may prove impossible. As Kaku asserts, "we may have much more in common with a lobster or a sea slug than we do with an alien from space" [68] (p. 295). Furthermore, alien consciousness is "likely to have its own set of values and goals, independent of humanity" [68] (p. 296). Needless to say, peaceful relationships among space species will require a great amount of effort by all parts.

As Suárez Bustamante has pointed out, in order to find the tools to achieve peaceful conflict transformation, "transmodernity should be understood not as an interconnected totality to be imposed on societies, but as a new place where different cultures and opinions can peacefully interact and enter into dialogue" [5] (p. 96). Transmodern peace, or, rather, the many (relative) peaces, would be understood in the line of Ghisi's emphasis on dialogue and tolerance between different cultures, and recognizing "all earlier practices and achievements of premodern civilizations" [5] (p. 96). According to Wolfgang Dietrich, in Transmodernity, peace is no longer an absolute value, but multiple, relative, and relational instead [69] (p. 18). Approaches such as the "philosophy for making peace(s)," a term coined by Vincent Martínez Guzman [70] (p. 29) to refer to the transmodern attempt to transform the violence of recent armed conflicts, recognize that our identity is developed through

interactions with others, and that this interdependence “can generate a transformation of conflicts by peaceful means” [5] (p. 98).

In short, and after seeing that warcraft might not be as determining as one might think in an advanced interplanetary civilization and that transmodern peace is a desired aim, alien encounter serves the novel not only to tackle the issue of technological development, but also to emphasize the importance of the development of cultural awareness. Identity as we understand it nowadays might be something different for an alien culture. Therefore, in this possible future where alien contact has become an everyday reality, cultural awareness should be developed in planetary as well as galactic or even intergalactic civilizations.

## 6. A Transmodern Approach to Cultural Awareness: Intergalactic Coexistence of Species and Space Ecoconsciousness

In *Cosmonaut Keep*, the aliens “build quasi-organic mechanisms of incredible beauty and diversity. The basic unit, the builder, is something like an extremophile nanobacterium. [...] Collectively, though, they build something *greater* than themselves” [64] (p. 212, emphasis added). Moreover, there are billions of these entities, who form a “galactic empire” around the solar system, “in the asteroid belt and the Kuiper and the Oort” [64] (p. 222). “They’re everywhere [...] around a lot of stars. [...] Trafficking, communicating, maybe even travelling” [64] (p. 222). This “galactic empire” would be an example of the intergalactic system that encompasses divergent species’ evolution. The interconnectedness hailed by the Transmodern has further developed into a wider unity that does not ignore differences. Nevertheless, in order to reach that future state, human beings have to acquire new knowledge, and they need to broaden their consciousness and understanding, as some of the extraterrestrial realities they are confronted with still exceed their comprehension. It is very difficult for human beings to understand what they are perceiving, and even to perceive what is there.

As the novel reveals, perception, understanding, and ideology are inseparable. When Matt and other scientists meet the aliens and are able to establish some sort of communication—luckily, the aliens “know our languages” [64] (p. 213)—they learn that their worldview and ideology are completely different. Even the way they relate to each other is completely different [64] (p. 223), and these beings are unboundedly diverse. For the aliens, human beings are entropic noise, “spam,” nothing but “great lumbering spambots, corrupted servers, liable at any moment or any megayear to start turning out millions of pointless, slightly varied replicas of ourselves. Most of what we’re likely to want to do if we expand seriously into space is spam” [64] (pp. 223–224). By this means, the novel offers a shocking critique of the current understanding of evolution, as linked to (capitalist and colonialist) endless expansion. In *Cosmonaut Keep*, capitalism has proved to be a limited system that reached exhaustion in Transmodernism, “with low profit rates everywhere, and then there’s nowhere else to go but the steady state, an economy just quietly ticking over rather than expanding” [64] (p. 182). After five years of thoroughly studying these entities, scientists come to a shocking and humbling conclusion: “Where this all gets political is that it didn’t take long for us to realise that the ultimate engine of spam is capitalism. Endless expansion is the great capitalist wet-dream, and it’s totally incompatible with the way the universe really is” [64] (p. 224). And perhaps the most worrying thing about it, if we consider that these beings can probably “engineer mass extinction events,” is that “[i]t’s certainly incompatible with what the overwhelmingly dominant form of intelligent life in the universe is willing to accept” [64] (p. 224). So, as Avakian concludes, “[t]he dream you guys have of treating the solar system as raw material for orbital mobile homes, guns and beer-cans is right out” [64] (p. 224).

Endless expansion is just not possible, and this utter critique of the basic mechanism of capitalism and of imperialism inevitably leads to the ecoconsciousness fostered by the Transmodern. Drawing on the analysis of the European situation carried out by Jeremy Rifkin (2005), Ateljevic argues that in it there is

A call to move from the current geopolitics—and its assumption that the environment is a giant battleground where we all fight for our survival—to biosphere politics, or the premise

of the Earth as a living organism made up of interdependent relationships on which we all can only survive by stewarding the larger communities of which we are part. [25] (p. 212)

As this description suggests, the move from geopolitics to biosphere politics involves a change of sensibility toward mutuality, interconnectedness, and empathy for the other and the environment. As Fritjof Capra put it: “Deep ecological awareness recognizes the fundamental interdependence of all phenomena and the fact that, as individuals and societies, we are all embedded in (and ultimately dependent on) the cyclical processes of nature” [71] (p. 6). Discussing this move from an economic perspective, Marc Luyckx Ghisi analyzed what he calls “genuine sustainability,” by which he means “creating a political and economic environment in which our collective footprint on Earth is a positive one—an environment in which we put a stop to the current practices that do irremediable harm to Nature and we begin to heal and to clean our environment” [57] (p. 5). Ecoconsciousness becomes a Transmodern necessity.

And given the fact that NASA, Roscosmos (the Russian space agency), and the ESA, since the 1960s, have been researching humanity’s possible future endeavors for longer periods of time [72] (n.p.), ecoconsciousness and genuine sustainability should be extrapolated in the (near) future to the rest of the solar system, the Milky Way, the Virgo supercluster, the Laniakea supercluster, and so on. For “big space theory,” which assumes that “space is so big that the waste we create in it will cause no harm” [73] (p. 8), has been completely debunked nowadays. As stated on the NASA website: “More than 500,000 pieces of debris, or ‘space junk,’ are tracked as they orbit the Earth” [74] (n.p.). Due to the rapid and critical increase of space debris in the last decades, space ecology has started to become more popular (and necessary) in Transmodernity and this trend will hopefully continue in the future.

## 7. Conclusions

If we understand Transmodernism as a true paradigm shift taking place in a present where techno-scientific progress has accelerated unprecedentedly, we realize that looking into the future might be more difficult than ever. However, speculative SF writers such as Ken MacLeod demonstrate that one can still make playful guesses and explore possible alternative futures critically, as the author does in *Cosmonaut Keep*. We have to assume that one of those possible futures could involve human expansion in outer space, and this would involve many changes, such as possible reconfigurations of territoriality in intergalactic conflicts, interplanetary migration, and (peaceful) coexistence of different intelligent and socialized species across different but interconnected planetary systems, for example. In this context, globalization, one of the hallmarks of Transmodernity, together with technological development, virtuality, connectivity, transnationalism, and transubiquity, would be taken to an extreme and human beings would have to adapt to a new (and harsher) intergalactic environment. Our sense of space and time would naturally change too, as well as our relationship with the world. Because of all these possible or even probable transformations, the current transmodern planetary culture might become an advanced extraplanetary society in the future, interconnecting different intelligent (and nonintelligent) extraterrestrial civilizations. In this case, our values, ideologies, and perceptions might have to change accordingly. Moreover, and as this reading of *Cosmonaut Keep* has shown, contemporary views on offensive warfare might be substituted by other regulating systems such as (interplanetary) trade. Also, capitalism’s dream of endless expansion might be proven invalid, and space ecoconsciousness might become standard.

If all this were to take place, we would be watching the rise of a new human interstellar identity and a new global (advanced-Transmodern) context. And fiction could show us the way.

**Funding:** The research carried out for the writing of this article is part of a project financed by the Spanish Ministry of Economy, Industry and Competitiveness (MINECO) in collaboration with the European Regional Development Fund (DGI/ERDF) (code FFI2017-84258-P), and a project financed by the Centro Universitario de la Defensa Zaragoza (CUD2017-01). The author is also thankful for the support of the Government of Aragón and the European Social Fund (ESF) (code H03\_17R).

**Conflicts of Interest:** The author declares no conflict of interest.

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