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# "Solarpunk" & the Pedagogical Value of Utopia

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**Abstract:** This paper examines the ecologically oriented speculative fiction genre known as "solarpunk" and its value for the cause of environmental justice. This article argues that the status quo is characterized by relative inaction on the issue of fighting climate change and that this inaction is the result of an inability to imagine a "green" future. As a form of speculative fiction which explicitly depicts such green futures, solarpunk may be a valuable tool in promoting action by overcoming widespread cynicism about the future. Solarpunk fiction is thus a useful tool for sustainability educators because it encourages critical examination of one's environmental impact. This article details the ways in which solarpunk stories function as counter-hegemonic media by intertwining issues of race, gender, sexuality, class, and colonialism with an ecological ethic.

**Keywords:** solarpunk; speculative fiction; environmental justice; sustainability education; social imaginary; media

"It is easier to imagine the end of the world than it is to imagine the end of capitalism." (Fisher, 2009, p. 2)

Day by day, the dichotomy between the end of the world and a fundamental change in our way of life becomes increasingly relevant. In 2018, the Intergovernmental Panel on Climate Change (IPCC) published *Global Warming of 1.5°C*, a special report predicting both the consequences if warming reaches the threshold of 1.5°C above pre-industrial levels *and* possible responses to warming. In it, the IPCC affirms that we are currently on track to pass 1.5°C warming in the next few decades, such that "ambitious mitigation actions are indispensable to limit warming to 1.5°C" (IPCC, 2018, p. 51). The consequences of such warming include "extreme drought, precipitation deficits, and risks associated with water availability... local species losses and, consequently, risks of extinction," and, for coastal areas, "sea level rise and changes to the salinity of coastal groundwater, increased flooding and damage to infrastructure" (pp. 178-181). The report strongly recommends that we limit warming to this threshold, as 2°C warming or above would produce substantially worse outcomes (p. 178).

Faced with these facts, how is one to react? For those aware of this information, and of the fact that we are *not* on track to limit our warming to 1.5°C, it can feel as though the clock is ticking and we are willfully ignoring it. The contrast between the action-inspiring energy which comes from the IPCC's report and the sheer immobility of our response mimics the energy of someone who knows they ought to stop procrastinating, but continues to do so regardless. How better to describe anxiety than energy in an actionless body? Thus, the contradiction between the idea that we ought to act, and the fact that we are not doing so, produces a special kind of anxiety. In Swedish, it's called *klimatångest*—climate anxiety, or climate despair. Increasingly, this describes the state of young people who get to watch the next several decades unfold. If we surpass 2°C of warming within the century, there will be some alive who will be able to recall a time when there was hope of averting climate disaster.

If we wish to avoid climate catastrophes, we must pursue a different future than the one we are on track for today. However, there is a problem: How do we move toward a future that we cannot imagine? Inspired by this problem, there is a unique task which accompanies fighting climate change: imagining what the world looks like in which we *do* succeed. Without direction, we cannot make demands. Without an image of what a changed world looks like, where does hope lie? If we persist in thinking that positive change is impossible, we will prove ourselves right. If we are to commit ourselves to consequential change, we *need* a positive vision. One such vision can be found in *solarpunk*. For media literacy educators, solarpunk is an example of alternative media texts that challenge ego-centric narratives with more sustainable counterhegemonic paths for eco-centric possibilities.

#### What Is Solarpunk?

Solarpunk is a genre of ecologically-oriented speculative fiction characterized both by its aesthetic and its underlying socio-political vision (Sylva, 2015). In many ways (down to the

name), solarpunk is the inverse of its moodier older sister, cyberpunk. Cyberpunk is perhaps most succinctly summed up in the phrase "high tech, low life," referring to the immense technological development imagined by the genre and its insurmountable social problems (Neon Dystopia). By contrast, solarpunk can be said to be "low carbon, high life." Pointedly, solarpunk has no commitment to "low tech" as such (as, for example, anarcho-primitivism does), but rather rejects technologies which are not in harmony with the environment. Indeed, many solarpunk stories imagine clever, high tech yet low carbon solutions to environmental problems (see Grzyb & Sparks, 2017). Where cyberpunk explores problems tackled by an ever-accelerating arms-race of digital technologies, solarpunk points toward a world where problems are solved in the most carbon-efficient and environmentally harmonious way possible (Dincher, 2017). Cyberpunk stories are filled with the bleak hopelessness of shady corporations and immense income inequality, while solarpunk offers worlds where people are learning to live in balance with one another in the process of learning to live in harmony with the world (Ulibarri, 2018b).

Within this more optimistic perspective, solarpunk is not homogenous—each author explores their own vision of the future. As such, many stories which are termed solarpunk take place in a period of transition from here to utopia, embodying a world where the fight for climate harmony is still ongoing. While there is a consensus from theorists that solarpunk ought to be hopeful, or depict a world on the path to eco-harmony, not all stories labelled solarpunk do so (Dincher, 2017; Ulibarri, 2018b). In part, this is because solarpunk (and related strains like ecopunk, climate fiction, etc.) is such a young genre: it is not particularly well-defined, and it does not yet have its definitive text. Surveying the literature, there can hardly be said to be many necessary or sufficient conditions for inclusion in solarpunk (Dincher, 2017; Ulibarri, 2018a). However, it is the notion of solarpunk as forward-looking, counter-dystopian, and hopeful which persists most clearly in the descriptions of the genre (Grzyb, 2017; Ulibarri, 2018a). In this sense, the pure idea of solarpunk—as espoused by its theorists and the editors of anthologies—tends to diverge in practice from the details of many of the short stories available (Dincher, 2017; Sylva, 2015; Ulibarri, 2018a; Ulibarri, 2018b).

Perhaps the first work of solarpunk fiction, broadly conceived, is Ernest Callenbach's (1975) *Ecotopia*. It reflects the economic revisions of a solarpunk world, the rejection of polluting forms of transportation in favor of walking, and the fundamental shift in a culture of consumption-and-waste. While it preceded the advent of the term solarpunk, *Ecotopia* hits many of the major chords which solarpunk hopes to tackle (although, it also lacks many of its more social-justice oriented features). In another oft-cited antecedent of solarpunk (Heer, 2015), Kim Stanley Robinson (1990) provides a look at an ecologically harmonious Orange County, California in *Pacific Edge*, depicting the structural and political changes necessary for a transition to eco-harmony. *The Fifth Sacred Thing* by Starhawk (1993), of all of solarpunk's antecedents, is perhaps closest to the genre proper, with its emphasis on ecofeminism, sustainable economics, and local agriculture.

In her examination of solarpunk, author RoAnna Sylva (2015) breaks down the name "solarpunk" to illuminate its meanings. "Solar" is meant to evoke *light*, both the broad daylight in which life happens, and also the tone of the narrative. Where cyberpunk stories, such as *Blade Runner*, persist in a permanent, rainy darkness, solarpunk narratives feed on the warmth and beauty of a sunny day. "Solar" is itself a reference to solar energy, from photovoltaic cells to

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passive heating—clean, sustainable, renewable energies with minimal carbon footprint. In the darkness of climate anxiety, solarpunk is a beam of hope showing the way toward a livable future. "Punk" evokes the rebellious and countercultural aspects of the genre. Fundamentally, solarpunk imagines an overturning of the status quo—challenging ecological and social injustices. Punk has a long history of anti-establishment, anti-authoritarian, and anti-capitalist thought. Solarpunk proudly carries this tradition into the twenty-first century. "Punk" also evokes individuality, although not individualism. By aligning with the marginalized, solarpunk resists the stifling taboos which promote uniformity. By depicting empowered, autonomous communities, neither the sameness of Soviet brutalism nor the false diversity of fifteen different potato-chip brands persist in a solarpunk world. Rather, communities are able to decide their own dress, speech, architecture, life-style, etc.

#### The Aesthetic

Aesthetically, solarpunk is heavily influenced by Afrofuturism, retrofuturism, and various strains of utopianism. From Afrofuturism, solarpunk takes an orientation toward diverse cultural forms (where the present, especially in the West, tends toward mass-cultural homogeneity), and acute concern for issues of racial and gender equality (see Goh, 2018). For an example of cultural diversity as a key theme, Yilun Fan's (2017) story "Speechless Love" features a protagonist aboard a hovercraft (over a semi-destroyed world) preserving the Chinese cultural heritage passed to them by their father. For an example of gender and representation, T.X. Watson's (2017) "The Boston Hearth Project" features a protagonist who explicitly uses "zie/zir" pronouns—the linguistic equivalent of "he/him" or "she/her" as used by those in the gender binary—offering representation for non-binary gender identities. Unique and diverse architecture and clothing, often reflective of cultures denigrated by Western hegemony, are elements of a solarpunk aesthetic with their roots in Afrofuturism. Olivia Louise's now-classic solarpunk concept art perhaps best exemplifies this, with its prominent depiction of people of color in clearly non-Western attire. As speculative fiction concerned with ecological harmony, solarpunk stories often take place in worlds with a past (or a collapsing present), like our own, of mass consumerism, environmental degradation, and colonial exploitation that the characters must deal with (Ulibarri, 2018a). This, too, grounds similarities between Afrofuturism and solarpunk, with an in-universe or thematic reckoning with these injustices.

Yet solarpunk also shares a lineage with retrofuturism, in more ways than one. It is worth mentioning that retrofuturism was once simply futurism, until that future failed to arrive. What the people of the 1950's imagined the future would look like is, quite often, the essence of retrofuturism. Similarly, solarpunk can be described as (one vision for) what the optimists of our time imagine the future to be. However, the stakes are much higher here. Adapting a phrase from Joel Kovel (2014), the future will be solarpunk, or there will be no future. Many of the aspects of the futures imagined in the 50's, because they never arrived, can still persist in solarpunk futures: monorails, dominantly glass architecture fused with greenery, etc. Much of retrofuturism is rejected by solarpunk: all things nuclear (both family and energy), the reliance on individual transportation (i.e., cars), and the glorification of consumerist culture.

One of the greatest influences on solarpunk is the utopian tradition: it imagines what the future can be, beyond what it is today. In this sense, it shares much with the work of Ursula K. Le Guin, perhaps the most oft-mentioned influence on the solarpunk genre (Heer, 2015; Ulibarri, 2018b). Le Guin's *The Dispossessed* is thoroughly a sci-fi story—it features interplanetary travel and a physicist pursuing the method for faster-than-light communication. Yet, its main claim to fame is its depiction of a planet guided by anarchist principles. Le Guin makes a good-faith effort to depict this society, explaining its difficulties and drawbacks. It is utopian, yes, but does not simply wish away its problems. It contains an critical reflection on what a society espousing economic and gender equality looks like—utopian, but not perfect. This notion of an "ambiguous utopia" is also something that solarpunk shares. A shift in relation to the environment, and even the socio-economic system, does not ameliorate all of the conflict in the human condition.

Having established its influences, what are some particular aesthetic components one might expect from a solarpunk world? With its concern for ecological harmony, solarpunk is often defined by its sustainable architecture—indeed, the solarpunk-architecture movement is well-established in concept-art. A real life example of solarpunk architecture might be Milan's Bosco Verticale, a pair of residential buildings whose facade is covered in plants. A solarpunk city, then, might be composed entirely of buildings—designed from scratch or adapted from older buildings—in the mold of Bosco Verticale. In imagining a sustainable world, solarpunk emphasizes sustainable materials and an efficient use of renewable resources. For example, Jerri Jerreat (2018) describes "skycities" in the story "Camping with City Boy." These are huge skyscrapers covered in lush greenery, growing crops or trees on every available surface, and fixing wastewater for the purpose of irrigation. Where solarpunk depicts urban settings, surfaces might be covered in plants (ideally crops) or solar panels. Both of these components reduce carbon consumption through a combination of passive cooling, renewable energy, and locallysourcing food. Buildings may be constructed mainly from glass, as this enables passive heating and lighting and can also accommodate "solarglass" (Goh, 2018, p. 115): translucent, stainedglass-esque solar panels. As an aesthetic, solarpunk often chooses a world which radiates "ecological harmony," a fact which is beautifully depicted through the designed-space of the city itself.

The solarpunk aesthetic is not limited to the architectural. Natural colors, bright greens and blues, along with flowers of all kinds, often adorn the bodies of those living in a solarpunk world. Clothing reflects diverse cultural origins, or is homemade (or homemended) rather than mass produced. Musically, anything upbeat or acoustic can be solarpunk, especially if it is hopeful, ecological, counter-hegemonic, etc. Take, for example, the song "Greens" by independent artist <a href="Be Steadwell">Be Steadwell</a>—who refers to her work as Queer Pop—which evokes ecological justice, hope, and love all at once:

I wanna keep you here
for one hundred years
I wanna run through trees
I want you running right in front of me
let's go and play with dirt
let's go and save the earth
ooh this love is so alive, alive, alive,

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That the liner-notes for her album quote bell hooks ("The practice of love is the most powerful antidote to the politics of domination") and that her songs fit so well with the solarpunk aesthetic, is no coincidence. One strength of solarpunk is its insistence upon promoting and including the voices of those who are so often excluded in the present. That a woman of color's song about ecological justice and queer love could be an anthem of solarpunk reflects its aesthetic commitment to overturning prejudices and encouraging fun at the same time.

#### The Vision: Solarpunk and/as Justice

While solarpunk is described here as an aesthetic, it is just as substantially a vision of the society of the future. By engaging issues related to the environment, urbanism, and representation, solarpunk stories—implicitly or explicitly—take positions on political issues. The growing awareness of the relationship between overproduction, hyper-consumption, and economic growth on one hand, and environmental degradation on the other encourages people to recognize capitalism and environmental harmony cannot coexist (Klein, 2014). With its utopian influences, it thus makes sense for many solarpunk stories to take place in a post-capitalist world, or to contain explicitly anti-capitalist elements (Hudson, 2015). When it comes to the environment, the infinite growth on which capitalism depends becomes an enemy rather than an ally. Where the logic of capitalism centers on growth at all costs, solarpunk fits much better with an ethic of compassion and temperance in economics. Perhaps Gregory Scheckler (2018) phrases it best, "Grow. Give. Repeat" (p. 215). Wherever growth is fueled by environmental degradation, domestic and international exploitation, or a disregard for the well-being of humans or animals, solarpunk rejects growth. The rejection of infinite growth opens up the possibilities of an unconditional income (in kind or in cash), of ten-hour work weeks, and an approach to economics which generally puts people before profits. A solarpunk world might be lighter than our own because its people are not crushed by the demands of the corporate world and are free from the alienation of modern life. In a sense, the compassion which marks a solarpunk world is inherently antithetical to the logic of capitalism—for example, it is hard to imagine homelessness in a solarpunk world. Solarpunk, recalling the "punk" in its name, encourages depictions of autonomous communities (often urban) with non-hierarchical organization (Solarpunk Anarchist, 2018). Indeed, many of the solarpunk anthologies available in print are themselves crowdsourced, funded by their readers rather than a centralized publishing house. Building from reallife examples, these take the form of urban-garden communes and energy co-ops, recognizing the relationship between community control of resources and environmental harmony. Incorporating the insights of social ecology, solarpunk tends to reflect an ethos that "the very notion of the domination of nature by man stems from the very real domination of human by human" (Bookchin, 1982, p. 1).

The vision of solarpunk is one which mirrors the growing sense that the issues of climate change and environmental degradation are interrelated with all other social issues. When imagining the future, is there any reason to imagine a future with such massive technological and cultural change while preserving old prejudices? Given the inherently political nature of

environmental justice—especially its anticapitalist elements—it often becomes impossible to imagine progress in one sphere without extending it to others. Solarpunk is a chance to imagine what the future could be, and this means imagining what a world would look like which *addressed* its injustices (rather than the simply-utopian path of imagining them away without a plan) (Mills, 2005; Mills, 2009). Three issues that solarpunk is particularly well-suited to address, to be discussed here, are: environmental racism, ability and disability, and representation. To say that solarpunk can "address" these issues is to say that it offers a depiction of a future where these concerns are recognized and then tackled by the communities affected by them. In this sense, it can serve as a guiding-light, depicting a path to the resolution of these problems.

Perhaps the most fruitful of these topics from the perspective of solarpunk is environmental racism. Environmental racism refers to situations of environmental access, hazard and degradation which disproportionately harm people of color. In particular, this often occurs at the intersection of racialized housing and urban planning, where environmental hazards are relocated away from wealthier, primarily white neighborhoods toward poorer communities of color. Because these communities often lack the institutional power of white neighborhoods, hazards such as factories or waste facilities will often be constructed near these communities. The utopian and architectural background of solarpunk infuses an imminent concern for urban planning, particularly the distribution of access to resources and/or exposure to hazards. Highquality, safe, and clean-energy public transportation is a mainstay of the worlds solarpunk evokes. For example, the public "ziptrains" in Jerreat's (2018) skycities are depicted as an explicit alternative to the "solo cars" found in our current cities (p. 85). Today, in car-dependent cities such as Los Angeles, public transportation generally accesses the poorest neighborhoods, while freeways pass through them. In stories such as Jerreat's, solarpunk reimagines the relationship between transportation, race, and poverty, by abolishing the class-distinction between those who drive and those who ride. Indeed, that there would be cars in a solarpunk world is a suspect notion, with bicycles taking center-stage along with public transportation (Jerreat, 2018). The justice-oriented architectural and urbanist elements of these narratives recall Adam Flynn's (2014) formulation regarding solarpunk: "infrastructure as a form of resistance."

Quite similar to the issue of transportation and race is the issue of food-access, race, and wealth. This issue is summed up in the notion of a food desert—an urban area with limited access to affordable and nutritious food, often on lines of race and poverty. Solarpunk frequently depicts communities where gardens are <a href="built-into">built-into</a> the architecture (à la Bosco Verticale), are added onto existing buildings (i.e., <a href="rooftop-gardens">rooftop-gardens</a>), or incorporated into urban planning (i.e., <a href="large-community-gardens">large-community-gardens</a> in otherwise empty plots of land) (Goh, 2018; Jerreat, 2018; Scheckler, 2018). That locally-sourcing food is an effective way to combat food deserts fits well with the general solarpunk ethic of minimizing powered-transportation, maximizing community autonomy, and glorifying the beauty of plants. The rejection of environmentally harmful forms of production, and of exploitative corporations, leads to a transition away from highly processed ("junk") foods. This pairs well with a glorification of culturally diverse cuisines, especially when the growth-oriented time-economy which encourages fast-food is transcended.

Solarpunk also has much to say about the global expression of environmental racism that is the disproportionate impact of climate change on those who least contributed to it. The

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wealthiest 10% of people in the world are responsible for nearly 50% of global carbon emissions, while the poorest 50% are responsible for only around 10% of the same emissions (Oxfam, 2015). Due to the ongoing history of colonialism, the wealthiest 10% of people are primarily to be found in Europe and North America. To transition from the status quo to a solarpunk world makes the greatest demands on these people to reduce their carbon footprint (to net zero) and pursue a generations-long project of carbon sequestration. In the language of environmental ethics, solarpunk may take a "beneficiary pays" approach to global climate change, charging those whose lives have most benefited from burning carbon with the duty to sacrifice comforts in pursuit of justice (Atkins, 2018). Thus, in the Global North solarpunk may manifest as a detechnologization, as a transition away from an addiction to fossil-fuels or amenities such as air-conditioning and always-on electricity. Again, Jerreat's (2018) "Camping with City Boy," taking place in Ontario and Quebec, represents a quintessential example. In the Global South, however, solarpunk might appear as (ecologically and economically) sustainable industrialization, brought on by some combination of reparations for colonialism, debt-reversal, and monetary compensation for the disproportionate impacts of global warming (Islam & Winkel, 2017). Antonio Luiz M. C. Costa's (2018) "Once Upon A Time in a World" tackles these issues, including direct reference to the demands made by the Global South onto the Global North. Similarly, solarpunk may seek to imagine a future where settler-states (such as the United States, Canada, or Australia) reckon with the reality of settler-colonialism, through a meaningful recognition of the demands for ecological justice, autonomy, and reparations made by indigenous activists. Arguably, Jane Rawson's (2017) "The Right Side of History" takes a sci-fi approach to this question, implanting the consciousness of settlers into the bodies of native Australian species. Indeed, the potential for indigenous influence in solarpunk should not be underrated as the environmental justice movement is increasingly cognizant of the importance of indigenous ecological knowledge (Four Arrows, 2019; Kimmerer, 2015). For an example of indigeneity in solarpunk, Andre S. Silva's (2018) "Xibalba Dreams of the West" depicts a technologicallyadvanced, never-colonized Mayan culture.

In addition to issues of environmental racism, solarpunk worlds serve as a space to depict ability-conscious societies. Solarpunk demands the reorganization of an entire lived-space, which allows for the integration of questions of accessibility at the level of the basic structure of society. The question of accessibility is at the core of solarpunk's vision. As observed by T.X. Watson, the Art Nouveau fonts common in the solarpunk aesthetic have been compared to fonts designed for those with dyslexia, demonstrating the potential incorporation of accessibility into the very structure of the world. A solarpunk world, like that depicted by Jerreat (2018), must at some point examine the question: how does one accommodate mobility-related disabilities in a low-carbon environment? Imagine a society where each person has an energy budget, such that they are only allocated so much electricity-usage per week. Those who cannot take the stairs, and thus must use elevators, will be at an unjust disadvantage in such a society (Sen, 1999). Thus, an exception may be necessary—solarpunk societies aim not only to be ecologically harmonious, but also to be humane. The rejection of the automobile means there must be robust accessibility accommodations on public transportation for people with visual impairments and mobility-related disabilities. These are the requirements of any just society, not

simply a solarpunk one, but they are made solarpunk by the fact that they additionally intertwine with the vision of eco-harmony.

As a genre of fiction, solarpunk is subject to the discussions which surround any piece of literature. Few genres have as one of their core principles the topic of representation (Afrofuturism being a notable exception), yet if any do, solarpunk is one of them. For example, the well-circulated solarpunk concept art of Olivia Louise consciously and pointedly features women of color in prominent roles. The relationships between race, ability, and environment are fertile ground for diversity of representation, especially of people of color (including people from the Global South). Notably, one of the few solarpunk anthologies to date was published in Brazil, originally in Portuguese (Lodi-Ribeiro, 2018)—in this sense, it constitutes not only the representation in-fiction of people of color, but also the direct representation of voices from the Global South. Solarpunk has been a space for the representation of women, trans folks, and nonbinary people, with the promise that the future will be one which overcomes its history of misogyny and patriarchy. By the same token, solarpunk provides a space for the depiction of a future free of heterosexism, a future beyond compulsory monogamy (like the one Le Guin depicts in *The Dispossessed*), or a future beyond gender altogether. In a notable example, Daniel Jose Older's (2017) "Dust" plays with gender and sex, depicting a character whose sexual anatomy changes with increasing frequency. Solarpunk, as a genre imminently concerned with justice, makes representation central to its structure and message—representation of various levels of mental and physical ability, of various genders, races, and sexualities.

# Conclusion: Solarpunk as Pedagogy

For young people today, there is a persistent and creeping threat. This threat is, paradoxically, not climate *change*, but climate *grief*. That is, a well-organized and conscious society could quite easily address the issue of climate change in the next few decades—by transitioning to all renewable energy, dramatically cutting down on consumption, and shifting away from an economic system that glorifies limitless growth. However, a society which believes that climate change is inevitable—that "things cannot be otherwise"—is a doomed society. I am reminded of the opening lines of Césaire's *Discourse on Colonialism*:

A civilization that proves incapable of solving the problems it creates is a decadent civilization.

A civilization that chooses to close its eyes to its most crucial problems is a stricken civilization.

A civilization that uses its principles for trickery and deceit is a dying civilization. (Césaire, 1972, p. 9)

These words may as well have been written specifically for the issue of climate change—indeed, that they were written for colonialism serves to underscore the relationship between the two. Every moment that climate change is not fought, with every available tool, is a moment that we, namely those in the Global North, are choosing convenience over justice. To confront climate change as an inevitability—to give in to climate grief—is to renounce the cause of justice just

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when it is most crucially thrust upon us. While there is no silver-bullet to fight the growing nihilistic resignation of climate grief, there are good reasons to believe that solarpunk is an important part of the fight.

As speculative fiction that is imminently concerned with ecology, solarpunk literature lies at the intersection of sustainability education and ecocriticism. Roughly, ecocriticism refers to the study of literature through an environmental or ecological lens, with particular emphasis on the depiction of "nature" in the text (Cohen, 2004; Glotfelty, 1996; Howarth, 1995). In his landmark piece of ecocriticism, William Rueckert (1978) infuses ecological principles into literary criticism, arguing that the creativity inherent to literature is "part of the energy pathways which sustain life" (p. 108). Just as energy from the sun flows through ecosystems, from photosynthesizers to apex predators (and back again), so too does engaging with literature enable creative energy to flow through the human community. The creative energy of literature is "the sun upon which life in the human community depends," the force which inspires thought and enables action (p. 109). Rueckert's literary ecology draws a direct and literal connection between pedagogy, literary criticism, and ecological harmony. He explains:

Literature in general and individual works in particular are one among many human suns. We need to discover ways of using this renewable energy-source to keep that other ultimate energy-source [the sun]...flowing into the biosphere. We need to make some connections between literature and the sun, between teaching literature and the health of the biosphere... One of the reasons why teaching and the classroom are so important (for literature, anyway) is that they intensify and continue this process [of energy-circulation] by providing the environment in which the stored energy of poetry can be released to carry on its work of creation and community. (pp. 109-111)

Rueckert encourages us to view the teaching of literature as a mechanism by which to disperse creative energy among a community (the classroom), for the purpose of producing change within and without that community. Solarpunk worlds are imbued with the kind of energy that Rueckert is talking about—not only the empathy that inspires a better world, but also visions of the practical solutions which enable it. The genre of solarpunk is perhaps the peak manifestation of "an ecological poetics," a literary vision for the future of the human-environment relationship (p. 114).

Sustainability education seeks, among other things, to encourage the "development of knowledge, skills, values, and attitudes necessary for transitioning to a more sustainable and just society for all" (Evans, 2019, p. 11). That this could be considered the mission-statement of solarpunk itself is no accident. Science fiction has frequently been cited as a source of inspiration for new technologies and social developments, from Asimov's "robots" to the increasingly identifiable figure of the cyborg (Haraway, 1991; Idier, 2000). Indeed, the promise of prefigurative fiction is not simply that it may *predict* the future, but that it will *produce* it. Just as someone inspired by the mechanical men in Asimov's stories may pursue robotics, the sustainable technologies, societies, and architecture of solarpunk hold the potential to inspire

their own existence. In this way, solarpunk fiction can be considered pedagogical: through depiction and sparking the imagination, the knowledge, skills, and creativity necessary for producing an ecological future make their way into the hearts and minds of readers. This is a virtue which can be brought out either through reading solarpunk fiction or writing it—indeed, writing solarpunk demands that students consider what aspects of the socio-economic structure contribute to environmental harm and imagine how they can be overcome or improved. Similarly, the emphasis on climate justice which is baked into the genre promotes the specific values and attitudes necessary for a transition to sustainability, in part because that is solarpunk's raison d'être. As Ursula Le Guin (1974) writes, "if science fiction has a major gift to offer literature, I think it is just this: the capacity to face an open universe. Physically open, psychically open. No doors shut" (pp. 24-25). Solarpunk worlds leave open the physical (read: economic and technological) door for sustainability in their physicality, illuminating readers with the knowledge and skills of its inhabitants; solarpunk worlds leave open the psychic (read: ethical and cultural) door for sustainability in their commitment to racial, gender, and climate justice. Le Guin emphasizes the way that science fiction teaches readers to consider the sheer possibility facing them, the fact that the future is not yet spoken for. In this sense, science fiction provides fertile ground for literary teaching or analysis which alters the social imaginary of its readers. As Buckles (2018) explains, "the social imaginary is the common understanding that makes social practices both possible and legitimate" (p. 16). As detailed above, science fiction has the ability to alter the landscape of what readers believe to be possible, either technologically or socially. Solarpunk proudly advances this pedagogical tradition, itself contributing to the production of an "ecological social imaginary"—that is, one which is "based around a global, future-oriented and ecocentric view of the world" (Buckles, 2018, p. 125).

Solarpunk comes to us as a "message from the future," as stories from the perspectives of people who have succeeded in mobilizing against climate change. In what will inevitably be considered a core, politically-important piece of solarpunk fiction, "A Message From the Future with Alexandria Ocasio-Cortez," an older Ocasio-Cortez explains what the future looks like, and how they got there (Ocasio-Cortez & Lewis, 2019). The video describes the role of wealth redistribution, the fundamental changes to employment, lifestyle, planning, etc.—in short, it offers a roadmap to a solarpunk future. The frame on which the video ends displays the caption "we can be whatever we have the courage to see," reflecting the relationship between hopeful fiction and climate justice. Behind the caption is a group of racially and culturally diverse people in a solar-paneled, greened city. This combination of hope, gardens, diversity, and high-quality public transportation is definitively solarpunk. Because solarpunk comes from the future, it breaks the illusion that things cannot be that way. If today it is "easier to imagine the end of the world than the end of capitalism," then, solarpunk aims to imagine the beautiful future which climate catastrophe threatens to take away from us. Perhaps, by doing the heavy-lifting of imagining the future for us, solarpunk can change the formulation, can break our self-induced coma and spur us to action. As Strazds (2019) puts it, "when we inspire hope, we inspire action, and we see change."

Fiction can teach us what the future might be by showing us that, against the "trickery and deceit" which makes it difficult to imagine a better world, things really can change. Fiction offers understandings of the world (or its possible future) which are novel, which have never

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been expressed before. In this sense, fiction offers a new vocabulary in which to understand the present and the future. Solarpunk fiction is "a tool for doing something which could not have been envisaged prior to the development of a particular set of descriptions, those which it itself helps to provide" (Rorty, 1989, p. 13). Those who do not see a future of successfully combating climate change are not likely to take the steps to get there. Climate anxiety emerges not in the face of climate change, but in the face of our collective unwillingness to act on it. To avoid the trap of nihilistic climate grief, we need to genuinely and deeply understand that we can and will make the necessary changes. Solarpunk, with its aesthetic beauty and poignant vision, demonstrates that the changes required of those living in the Global North need not be sacrifices —that the future holds more wonder if it is solarpunk than if it persists as the pseudo-cyberpunk world we live in today. If resistance to action on climate change comes from fears of losing one's standard of living, solarpunk demonstrates that these changes are worth it, from the perspectives of justice and well-being. Solarpunk's commitments to justice, to love, and to beauty are empowering. It is an antidote to climate grief; it is the kind of energy that can propel action. As a culture, we are "unable to make clear exactly what it is that [we want] to do before developing the language in which [we succeed] in doing it" (Rorty, 1989, p. 13). If that language is anything, it is the aesthetic and narrative language of solarpunk.

## Recommended Solarpunk Literature

- 1. *Ecotopia* by Ernest Callenbach
- 2. Glass and Gardens: Solarpunk Summers edited by Sarena Ulibarri
- 3. Sunvault: Stories of Solarpunk and Eco-speculation edited by Phoebe Wagner & Brontë Christopher Wieland
- 4. *The Fifth Sacred Thing* by Starhawk
- 5. Suncatcher: Seven Days in the Sky by Alia Gee

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