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Climate Refugees from Other Worlds: Migration, Borders, and Planetary Displacement in Science Fiction

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Abstract

Climate change has transformed migration from a predominantly social and geopolitical question into an increasingly planetary one. Rising temperatures, droughts, floods, sea-level rise, resource scarcity, and ecological degradation increasingly determine where communities can live and whether they can remain attached to particular territories. Contemporary science fiction extends this problem beyond the conventional figure of the refugee crossing a national border and imagines populations displaced by ecological collapse, environmental violence, and even the failure of extraterrestrial settlement. This article examines Paolo Bacigalupi's *The Water Knife* (2015), Mohsin Hamid's *Exit West* (2017), Octavia E. Butler's *Parable of the Sower* (1993), Kim Stanley Robinson's *The Ministry for the Future* (2020), and Robinson's *Aurora* (2015) to investigate how climate displacement destabilizes the political assumptions underlying borders, citizenship, territory, and belonging. Drawing upon scholarship on climate migration, refugee studies, political ecology, and literary representations of mobility, the article argues that climate fiction does not merely predict future refugee movements; it exposes the historical contingency of territorial belonging. The article introduces the concept of "planetary displacement" to describe a condition in which ecological transformation makes the distinction between home and elsewhere increasingly unstable. It further argues that technological migration into extraterrestrial environments cannot automatically resolve terrestrial ecological crisis. Read together, these narratives demonstrate that climate displacement is not simply a problem of where refugees will go but a challenge to political systems founded upon fixed territories in an ecologically mobile world.

Keywords: climate migration, climate refugees, science fiction, planetary displacement, borders, migration, political ecology, space colonization.

INTRODUCTION

Climate change has made mobility one of the defining political questions of the twenty-first century. Droughts, floods, rising sea levels, extreme temperatures, declining agricultural productivity, and resource scarcity increasingly influence where human beings can live and how communities respond to environmental transformation. Yet the language used to describe this mobility remains politically contested. The term “climate refugee” appears intuitively appropriate because it connects environmental crisis with forced displacement, but the concept can also simplify the complex social, economic, political, and historical causes of migration. Lydia Ayame Hiraide, for example, argues that the category of the climate refugee can obscure the political structures through which environmental vulnerability is produced and instead proposes the language of “ecological displacement” as a more critical vocabulary. Similarly, Andrew Baldwin, Christian Fröhlich, and Delf Rothe argue for an “Anthropocene mobilities” approach that understands climate migration not as the automatic consequence of environmental change but as a phenomenon shaped by political and social relations (289-97).

Science fiction provides an especially productive literary space for examining this problem because it can transform contemporary migration into a planetary thought experiment. It can imagine borders after ecological collapse, populations moving across transformed landscapes, communities rendered immobile by environmental destruction, and human beings attempting to abandon Earth altogether. Ben De Bruyn’s study of migration fiction argues that contemporary narratives of climate displacement can challenge militarized and humanitarian approaches to migration by imagining alternatives to the conventional representation of migrants as threatening outsiders (De Bruyn). His argument is particularly relevant because climate fiction repeatedly demonstrates that the distinction

between “migrant” and “settled population” becomes unstable when environmental transformation affects entire societies. Bryan Yazell similarly argues that American climate fiction sometimes reproduces outdated migrant stereotypes, revealing an imaginative failure to conceptualize the complex social conditions underlying climate-induced mobility (155-80).

The present article develops these arguments through the concept of “planetary displacement.” Planetary displacement refers to a condition in which ecological transformation destabilizes the relationship between people and territory so profoundly that “home” can no longer be understood as a permanently fixed geographical location. In conventional refugee discourse, displacement assumes a stable homeland from which a person has been removed. Climate change complicates this assumption because the ecological conditions that make a territory habitable may themselves disappear or transform. The displaced subject consequently does not merely cross a border; the meaning and stability of the border itself become uncertain.

This question also connects with earlier research on science fiction and planetary colonization. Study of Alastair Reynolds’s *Revelation Space* similarly examined the ecological, social, and existential limits of space colonization, challenging the assumption that technological expansion necessarily constitutes human progress (Raj 43-51). The present article extends these concerns from colonization to displacement: if technological expansion can reproduce colonial relations and if extraterrestrial settlement has ecological limits, then migration cannot simply be understood as an escape from environmental crisis.

Climate Refugees and the Politics of Mobility

The concept of the climate refugee carries a fundamental political contradiction. On one hand, it recognizes that environmental conditions can make continued residence impossible. On the other, it can construct

displaced populations as external threats to the political stability of receiving territories. Climate migrants consequently become caught between two opposing narratives: they are vulnerable subjects requiring protection, and they are imagined as potential sources of disorder. Baldwin, Thomas Methmann, and Delf Rothe identify this tendency in the securitization of climate-induced migration, in which future environmental mobility is represented primarily through the language of security and threat (121–30). The result is a political paradox: the people most affected by climate change may be those whose mobility is most heavily regulated. Mohsin Hamid's *Exit West* is particularly valuable for exposing this contradiction. The novel imagines magical doors through which people can move almost instantaneously from one country to another. By eliminating the physical difficulty of migration, Hamid removes one of the conventional obstacles to movement and exposes another: political exclusion. Nadia and Saeed can travel across continents, but their arrival does not automatically produce belonging. The problem is not simply geographical distance but the political mechanisms through which states distinguish citizens from outsiders.

Ben De Bruyn argues that *Exit West* contributes to a literary reimagining of climate migration by challenging militarized representations of borders and by treating migration as an increasingly ordinary condition rather than an exceptional catastrophe. Hamid's novel consequently suggests that mobility is not inherently a political crisis. It becomes a crisis when political communities define belonging through exclusion. The novel's magical doors therefore function less as fantasy devices than as instruments of political estrangement: by making movement easy, they reveal how artificial the restrictions surrounding movement actually are. *Exit West* is also significant because it refuses to portray migrants as a homogeneous mass. Nadia and Saeed experience displacement differently, and their relationship changes as

they encounter new environments. The migrant therefore remains an individual subject rather than becoming merely part of an imagined "invasion." This literary strategy is important in climate-fiction discourse because it resists what De Bruyn identifies as the tendency to reduce future migration to apocalyptic spectacle. Climate displacement becomes politically meaningful when individual experiences of loss, uncertainty, and adaptation remain visible.

The Water Knife: Ecological Scarcity and the Internal Border

Paolo Bacigalupi's *The Water Knife* intensifies the relationship between ecological crisis and territorial exclusion by relocating the refugee question inside the United States. The novel imagines a near-future American Southwest in which prolonged drought has transformed water into the central source of political and economic power. Texas has been devastated, the Colorado River has become a contested resource, and migration toward regions with remaining water supplies is increasingly restricted. Maria Villarosa, a young migrant from Texas, embodies the relationship between environmental displacement and political vulnerability.

What makes Bacigalupi's novel particularly significant is that displacement is produced simultaneously by ecological degradation and political inequality. Water scarcity does not automatically create refugees. Instead, it interacts with wealth, property ownership, political authority, violence, and access to infrastructure. Maria's movement is therefore not simply a response to drought; it is a confrontation with a political geography that determines whose movement is legitimate and whose presence is treated as disposable. Bryan Yazell's concept of "sociology of failure" is useful here. His analysis of *The Water Knife* argues that the novel's representation of climate migrants can reproduce established migrant typologies, thereby revealing the difficulty of imagining new forms of climate-induced

mobility (155–80). Yet this limitation is itself productive. Bacigalupi's novel shows that even a future transformed by climate change can retain the political assumptions of the present: migrants are categorized, criminalized, exploited, and prevented from accessing resources. Sonja Ayeb-Karlsson's work on climate-induced "trapped" populations further complicates this picture. Environmental crisis does not necessarily make everyone mobile. Those who are most vulnerable may also possess the fewest economic resources required for migration. The result is a paradox in which climate change simultaneously produces forced mobility and forced immobility. *The Water Knife* dramatizes this contradiction by showing that the ability to move safely is itself a form of privilege. Water infrastructure becomes the equivalent of colonial infrastructure: whoever controls the resource controls movement. The climate refugee is consequently produced not simply by environmental degradation but by unequal access to the technologies and institutions through which environmental survival is organized.

The Ministry for the Future and the Globalization of Displacement

Kim Stanley Robinson's *The Ministry for the Future* expands the problem from national borders to planetary governance. The novel imagines a near future in which extreme climate events produce mass suffering, political instability, financial transformation, and population displacement. Rather than treating climate change as exclusively an environmental problem, Robinson connects ecological crisis with economics, international politics, migration, institutional responsibility, and future generations. One of the novel's important narrative strategies is its inclusion of testimony from displaced people. John Eperjesi's recent study argues that refugee voices in *The Ministry for the Future* have received comparatively less attention than the novel's economic and technological solutions. He identifies climate-migration testimony as a narrative form through

which migrants describe departure, movement, arrival, encampment, release, and integration. This observation is important because Robinson does not represent migration merely as a statistic. The refugee becomes a speaking subject whose experience challenges the institutional language of climate management.

The Ministry for the Future also exposes the mismatch between planetary ecological processes and national political institutions. Carbon dioxide, ocean currents, temperature systems, financial markets, and atmospheric processes cross national borders without permission. Human beings, however, continue to encounter passports, immigration laws, camps, territorial restrictions, and citizenship requirements. Climate change therefore produces an asymmetry: the ecological crisis is planetary, but political responsibility remains predominantly territorial. This contradiction is central to the concept of planetary displacement. If climate change destabilizes the conditions that make territories habitable, then territorial citizenship becomes increasingly insufficient as the sole basis for political belonging. The climate refugee becomes a test of whether political institutions can recognize obligations that extend beyond national territory.

Robinson's novel does not offer a simple abolition of borders. Instead, it imagines the gradual development of institutions capable of responding to problems that exceed the nation-state. This distinction matters. The solution to climate displacement cannot simply be unrestricted movement without political organization. What the novel suggests is the need to transform political institutions so that mobility, environmental justice, and collective responsibility can be addressed at a scale appropriate to the crisis.

Aurora and the Failure of Extraterrestrial Escape

If *The Ministry for the Future* imagines populations displaced within an increasingly unstable Earth, Robinson's *Aurora* reverses the

direction of planetary migration. Its multigenerational starship carries human beings away from Earth toward a distant planetary system with the hope of establishing a permanent settlement. The voyage initially embodies a familiar technological fantasy: when Earth becomes insufficient, humanity can migrate elsewhere. Yet *Aurora* ultimately dismantles this assumption. The destination proves biologically hostile to long-term human settlement. The settlers experience disease, ecological instability, social fragmentation, and political conflict before abandoning the attempt to establish a permanent colony. Many eventually return to Earth. The narrative therefore transforms interstellar migration into an examination of the limits of human adaptability.

This argument connects directly with study of Alastair Reynolds's *Revelation Space*. The paper argued that science fiction can challenge the assumption that space colonization is an inevitable extension of human progress. Reynolds's novel instead exposes the ecological, social, and existential costs of technological expansion, demonstrating that technological sophistication does not necessarily produce security or transcendence (Raj 43–51). *Aurora* develops a related critique through a more explicitly biological framework: the problem is not simply whether humans possess the technology to reach another planet but whether that planet can sustain the ecological conditions required for human life. Robert Markley similarly identifies *Aurora* as a significant departure from the traditional romance of interstellar colonization, emphasizing the novel's attention to the biological and ecological limitations of extraterrestrial settlement (170–88). The importance of *Aurora* for climate-migration studies therefore lies in its reversal of the usual refugee narrative. The settlers are migrants who discover that their destination cannot become a sustainable home. Their eventual return to Earth demonstrates that geographical movement

cannot automatically solve ecological vulnerability.

This reversal is crucial. Climate discourse sometimes imagines migration to new territories as an inevitable adaptation strategy. At an extreme technological level, this becomes the fantasy of leaving Earth altogether. *Aurora* reveals the weakness of this assumption. If habitability depends upon complex ecological relationships, then migration cannot simply replace environmental repair. A new territory is not automatically a new home. *Aurora* is more skeptical about technological adaptation. Its settlers discover that biological and ecological dependence cannot be completely overcome through technological ingenuity.

From Territorial Refugees to Planetary Displacement

Octavia E. Butler's *Parable of the Sower* provides a further perspective on the political possibilities of displacement. The novel imagines a climate-ravaged California in which drought, economic inequality, violence, and institutional collapse make established communities increasingly unstable. Lauren Olamina loses her home and travels north with other survivors, eventually developing a new community through the philosophy of Earthseed. Butler's significance for climate-migration literature lies in her refusal to make the displaced subject merely passive. Lauren is not simply searching for a place where an existing political order will accept her. She participates in creating a new community. Displacement therefore becomes a condition through which alternative forms of political organization become possible. This challenges the assumption that the refugee is necessarily outside politics. The displaced subject can become a political agent. Butler consequently moves the question from "Where will refugees be accepted?" to "What forms of community can displaced people create?" Such a shift is crucial for planetary displacement because ecological instability may make permanent attachment to

existing territorial structures increasingly difficult.

Hannah Arendt's famous formulation of the "right to have rights" is relevant here because rights depend upon membership in a political community. Climate displacement exposes the fragility of this relationship. A person may remain legally a citizen while losing the ecological conditions that make citizenship materially meaningful. Conversely, a displaced person may retain humanity while losing effective political membership. The climate refugee therefore occupies a particularly revealing position between human rights and territorial citizenship. Butler's *Earthseed* community offers one possible literary response: political belonging can be reconstructed through relationships rather than inherited exclusively through territory. The significance of this idea becomes clearer when placed alongside *Aurora*. Butler imagines the creation of community after territorial collapse, whereas Robinson imagines the failure of an attempt to create community on another planet. One narrative looks for political renewal through mobility; the other exposes the ecological limits of mobility.

Planetary Displacement and the Future of Borders

The texts considered here collectively reveal that climate displacement is not simply a future humanitarian emergency. It is a challenge to the territorial assumptions upon which modern political systems are constructed. *The Water Knife* shows how ecological scarcity can turn resources and borders into instruments of exclusion. *Exit West* reveals the artificiality of territorial barriers by transforming migration into almost instantaneous movement. *Parable of the Sower* imagines displaced people creating new political communities. *The Ministry for the Future* connects climate migration with institutional responsibility at the planetary scale. *Aurora* finally questions whether technological migration beyond Earth can

provide an escape from ecological vulnerability. Together, these narratives establish the conceptual importance of planetary displacement. Conventional refugee discourse generally imagines displacement as movement from a stable home to an unstable elsewhere. Climate change complicates this model because it can destabilize both locations. The place of origin may become uninhabitable, while the destination may simultaneously face its own ecological pressures. There is therefore no guaranteed "elsewhere" waiting to receive the displaced.

This is why climate migration must also be understood as a question of inequality. Those possessing economic resources, technological infrastructure, political power, and secure citizenship are more capable of adapting to environmental change or relocating safely. Others may be trapped in deteriorating environments or forced into increasingly precarious forms of movement. The climate refugee is therefore not simply a person displaced by nature. The refugee is produced through the interaction between environmental transformation and unequal political structures. The concept also changes how we understand borders. Borders are often presented as stable lines separating political communities, but climate fiction reveals them to be dynamic institutions whose meaning changes under ecological pressure. The border can become a wall, a camp, a checkpoint, a water-control system, a corporate territory, or even a planetary boundary. In *The Water Knife*, control over water determines territorial belonging. In *Exit West*, magical doors render physical borders almost meaningless while political exclusion remains. In *The Ministry for the Future*, planetary ecological processes expose the inadequacy of nationally bounded political responses. In *Aurora*, the planetary boundary itself becomes a limit to migration. Climate fiction consequently asks whether political belonging can remain exclusively territorial in a world where ecological conditions increasingly transcend

territory. A future of planetary displacement may require forms of political membership capable of recognizing mobility rather than treating movement as evidence of illegitimacy.

CONCLUSION

Climate migration is frequently imagined as a future crisis in which enormous populations will cross national borders because their environments become uninhabitable. The science fiction examined here makes the problem considerably more complex. *The Water Knife* reveals how ecological scarcity can produce exclusion and unequal mobility; *Exit West* challenges the assumption that borders naturally determine belonging; Parable of the Sower demonstrates that displaced populations can become agents of political reconstruction; The Ministry for the Future connects climate displacement to planetary governance; and *Aurora* demonstrates the ecological limits of escaping Earth altogether.

The concept of planetary displacement developed in this article brings these narratives together. It describes a condition in which environmental transformation destabilizes not only particular homes but the very assumption that human beings will always possess stable territories to which they can belong. Under such conditions, the refugee is not merely someone who moves from one country to another. The refugee becomes a figure through whom the political inadequacy of fixed territorial belonging is revealed.

Raj's earlier scholarship on the study of *Revelation Space* questioned the assumption that extraterrestrial expansion necessarily represents progress. The present article extends those concerns by asking what happens to human beings when the environments they inhabit become unstable and when migration becomes a condition of survival. The answer offered by contemporary science fiction is not simply that more people will become refugees. Its deeper suggestion is that the political category of the refugee itself may have to change. If climate

change makes territorial stability increasingly uncertain, then political systems must develop forms of belonging that do not depend entirely upon permanent residence within fixed borders. The future of climate migration will therefore depend not only upon where human beings can move but upon whether political institutions can recognize mobility as a legitimate dimension of planetary life.

The central challenge is consequently not to construct stronger borders against climate refugees but to reconsider the political assumptions that make displacement a condition of exclusion. Climate fiction asks us to imagine a world in which the question is no longer "Where do these people belong?" but "How can belonging survive when the ground of belonging itself is changing?" Planetary displacement thus transforms climate migration from a problem of movement into a question of political imagination. The future may require not merely planetary adaptation but a new conception of planetary citizenship in which the right to belong is not entirely dependent upon remaining in one place.

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