

Ilenia Vittoria Casmiri

Affection, Attraction, and Aversion

Climate and Cultural Crises in *The Ice People* by
Maggie Gee

Abstract

*The multi-faceted nature of the climate crisis in *The Ice People* (1998) by Maggie Gee is examined from an interdisciplinary perspective aimed at highlighting ways in which the joint effort of the humanities and the sciences can achieve effective environmental communication and audience engagement. An ecocritical reading of the novel incorporates the “Biophilia Hypothesis” (1993), a set of values through which Edward O. Wilson and Stephen Kellert have articulated genetic explanations to historical or emergent cultural patterns. Biophilic and biophobic values shed light on how humans affiliate to the other-than-human. Throughout the fictional apocalypse, biophobic values such as Aversion reveal the fracture between human beings and other species while Attraction, Affection, and other biophilic values are exploited for biophobic reasons. The values supporting our innate affiliation to nature can be identified, decoded, deconstructed, and consciously implemented to foster a novel cultural climate able to avert the climate apocalypse.*

Keywords: *climate change, climate fiction, biophilia/biophobia, Maggie Gee, apocalypse*

T*he Ice People* (1998) by Maggie Gee invites an interdisciplinary perspective that integrates ecocriticism and the “Biophilia Hypothesis” (1993), a set of values through which biologist Edward O. Wilson and social ecologist Stephen Kellert define positive and negative ways to explain how humans affiliate to the other-than-human. An analysis of inter-species interactions highlights the cultural climate during and after the apocalypse in the novel. A focus on anthropocentric and biophobic affiliations reveals that a detachment between humans and other species fosters an exploitative approach to the natural environment.

A new methodology will be proposed for reading fictional representations of positive and negative interrelationships between the human and the other-than-human. Then, the tenets of the sociobiological theory known as “Biophilia Hypothesis” will be incorporated within the framework of ecocriticism and applied to an ecocritical reading of *The Ice People*. Inter-species

relationships in the novel will be connected to the value system proposed by Wilson and Kellert's hypothesis to define the unsustainable cultural and environmental climate of Gee's fictional London. These interactions can be divided into human biophobic attitudes toward the other-than-human and biophilic values exploited for biophobic reasons. On the one hand, instances of biophobic attitudes in the dystopian society mirror the cultural climate stemming from human hubris and exacerbated by the quest for unlimited material growth. On the other hand, the lack of interaction with the other-than-human is sublimated through the utilisation of positive approaches toward robots.

1. A biophilic approach to climate narratives

For centuries human beings have talked about nature and in the name of nature using anthropocentric cultural constructions, vocabulary, and sentimentality. In western cultures, rooted in Judeo-Christian traditions, the relationships between the human and the other-than-human reveal dichotomies founded on hierarchical tensions. The natural environment is often depicted as subordinate to human hubris due to religious beliefs about human nature and fate (White Jr. 1967, 1205). These cultural constructs were challenged by the 18th century "modern individual" (Greenblatt 2006, 2063-2066), who started incorporating the new scientific discoveries in philosophical thinking, including the New World, microscopic organisms, and the circulation of the blood. Scientific discoveries and technological advancements downsized the role of divine truths in favour of human reason.

However, in *A Philosophical Enquiry into the Origin of our Ideas of the Sublime and Beautiful* (1757), Edmund Burke argued that emotion and mental habit are not accessory to reason, instead they form the basis of most human beliefs and impulses. Strong emotions defined as "passions" (53) are spontaneous, immediate, embedded in our genetics more than in our education. One of the most powerful passions is fear, which is expressed by terror in case of extreme danger or threat to one's own life. Irrational reactions to fear are often triggered by the other's aesthetics (89-90): deformities and flaws in the proportions will likely cause a sense of rupture and division.

Burke's philosophy is exceptional if we consider that evolutionary theories and ethics would stem from the work on evolutionism produced by Charles Darwin and Herbert Spencer in the 19th century, and on the interrelationship between human and other-than-human beings defined by Wilson in the 20th century. In fact, Burke's theories were endorsed by Wilson, who further expanded on the idea of an intrinsically physical and mental dependence on nature. He defined this connection as "biophilia." The term was first used in *The Anatomy of Human*

Destructiveness (1973) by American psychoanalyst Erich Fromm in contrast with the Freudian psychoanalytic theories on necrophilia. At this stage, biophilia was considered as the wish for further growth, whether in a person, a plant, an idea, or a social group (365).

The term was later used by Wilson in *Biophilia* (1984) to define the human innate desire to establish relationships with non-human beings and to encapsulate them through the sciences, art (63), narratives, and psychology (64). The cooperation between Wilson and Kellert led to the development of the “Biophilia Hypothesis,” which is the idea that biophilia and its opposite, biophobia, have a genetic component (Kellert and Wilson 1993, 360) and are linked to every aspect of our existence, from biology to culture. In 2012, Kellert revised the original formulation of the hypothesis in *Birthright* (2012) and reshaped the diverse approaches to the non-human identifying eight values. Biophilic values are useful to ascribe meaning to the ways humans interact with the natural world. These values are Attraction, Reason, Aversion, Exploitation, Affection, Dominion, Spirituality and Symbolism (xxi).

The most recurrent values in *The Ice People* are Attraction, Affection and Aversion. Although Attraction is defined as biophilic, Gee’s dystopian society leverages on this value to exert biophobia. Thus, biophobic inter- and intra-specific interactions can be associated with both biophilic and biophobic values.

According to Kellert, the response of human beings to other beings is driven by the aesthetic preferences in our genes “representing adaptive responses to the natural world that proved advantageous to our fitness and survival during the long course of human history” (3). Thus, human beings do not merely exert the value of Attraction in response to aesthetically pleasing physical features. Attraction is addressed to the other-than-human incorporating the qualities that have favoured human evolution and that contribute to our ability to reason, organize complexity, manage stress, and that foster intellectual development and cognitive capacity (4-5), as well as physical and mental benefits (11). According to the Biophilia Hypothesis, humans are drawn to “proportion, balance and symmetry” (5), “creatures with round, vaguely childlike faces, such as bears, raccoons, pandas and seals” (9). Humans are genetically inclined to express aesthetic preference for the other-than-human when the focus of their attention displays a large head compared to their body size, a curved forehead, round eyes, a short nose, and a small chin. Humans associate these aesthetic traits with vulnerability, which triggers our inclination to care for and protect the other. This behaviour seems to justify the human biological tendency to emotionally respond to art (Dutton 2009, 6; 164) and the consequent exploitation of these qualities in the visual and graphic creations used in advertisement and in pro-animal and pro-conservation campaigns (Kellert 2012, 9). In fact, beautiful objects motivate humans to act

(Dutton 2009, 85-86), for example by influencing consumer decision processes or by inspiring the audience to actively militate for environmental causes (Stern 2018, 31).

Aesthetic responses can also inspire emotional attachment to the other-than-human (Jawer and Micozzi 2009, 17): Kellert defines biophilic emotional attachment to the other-than-human as feelings of “caring and nurturance, ... affection and companionship” (70-71) that are regulated through the value of Affection. The affective responses engendered by the exposure to the harmless, endangered other are indeed intrinsic to human beings (152). Nevertheless, genetic predisposition to express care for the other-than-human is not always enough to inspire long-term, selfless commitment. In fact, the bond that motivates humans to affiliate and sustain other creatures and places entails a “profound realization of our own self-interest” (79). Extreme manifestations of Affection can take the shape of anthropomorphism, or the projection of human motivation, characteristic or behaviour on the other-than-human (Cartmill 1993, 138; 152; 186). Biophilic values can be exacerbated and thus become entrenched with phobic intent as well as biophobic values. In fact, Attraction and Affection are liable to utilitarian intents, which are at the core of the anthropocentric self-interest ascribed to Exploitation, Dominion, and Aversion. The three biophobic values stem from diverse ways of prompting human hubris. Kellert defines Exploitation as the systematic inclination to value nature as a source of material goods or environmental resources (49) and identifies Dominion with the aspiration to control and master other species (81) through the subjugation of nature (82). According to historian Lynn White Jr., the root of the contemporary climate crisis lies in the anthropocentric tenets delivered by the Genesis and their influence on the western world (White Jr. 1967, 1205). The growth—not the wellbeing—of other-than-human nature is therefore ensured only insofar as it benefits human progress.

Dominion is therefore an antagonistic value symbolising the hierarchical supremacy of human beings over the other-than-human and is fuelled by exploitative intents. Kellert explains that, when Dominion feeds on emotions such as fear and antipathy or is exerted through ignorance and alienation (x), it evolves into the value of Aversion (34). The genetic component of Aversion is composed of fears and anxieties manifesting themselves in human evolutionary history “when rapid response to dangerous features in nature was vital to our survival” (39). Indeed, biophobic reactions to large predators, such as sharks and wolves (41), are often neither based on personal experiences nor on scientific knowledge of other species. Biophobic behaviour originating from Aversion dominated by instinct (43) is very difficult to suppress: it generates ignorance, disrespect for and negative emotional attachment to the other-than-human.

2. *The Ice People*: a climate narrative

In the 1960s, public understanding of science became a very popular field of research (Nuccitelli 2015, 19) due to ambivalent attitudes towards science and technology after World War II. Science was promoted outside laboratories and its dissemination was aimed at allowing the general public to achieve intellectual and moral benefits (Durant and Thomas 1987, 1). Nevertheless, the wide amount of information was difficult to process (Kluwick 2014, 502), so much so that the lay public started feeling and expressing unease, mistrust and hostility concerning public controversies (Ungar 2000, 298; Bauer 1996, 42-43) such as the promotion of nuclear power plants and potentially risky technologies in the medical and biological fields (Sturgis and Allum 2004, 56-57).

The opposition to the spread of scientific notions related to climate change and sustainable practices indicates that availability of information does not necessarily lead to a change in behaviour (Chess and Johnson 2007, 224). The problem is not the amount of data communicated by scientists, but the quality of information and communication effectiveness employed in the discussion. Mike Hulme clarifies that public perception of climate change does not only entail a blind rejection of “a bunch of scientific data or profound antipathy felt toward this or that expert,” but the reaction of the individual to the narrative suggested in a specific context (Hulme 2009, 325). Ineffective communication about an intrinsic scientific concept may often result in little public engagement and/or refusal of empirical data: these are issues that an authoritative and convincing narrative can overcome (Stern 2018, 69).

Literature often produces effective storytelling by appealing to the cultural imaginary, without dismissing the significance of hard facts and scientific data. As far as anthropogenic climate change is concerned, convincing narratives have been delivered through Climate Fiction. According to traditional systems of classification, Climate Fiction has been defined as a sub-genre of Science Fiction, for it entails the narrative dominance of a fictional world validated by cognitive logic (Suvin 1979, 4). CF presents extreme dystopian scenarios in coherent universes (Suvin 1979, 7) in which authors speculate on human adaptation to the greatest anxieties, worries, and uncertainties of our time (Spinozzi 2018, 86). Its most recurrent tropes are global warming, introduced by Doris Lessing in *Mara and Dann* (1999), the rising seas that have permanently altered John Lanchester’s Great Britain in *The Wall* (2019), the hyper-technological world envisaged by Jeanette Winterson in *The Stone Gods* (2008), and the ice age of Maggie Gee’s *The Ice People*.

The Ice People introduces a dystopian novum set in a future Britain, where the current interglacial period is only a distant memory and is looked back on as Tropical Time (16). This

period was characterized by the materialization of environmental risks such as shortage of water and rising sea levels (17), infertility (23), as well as social issues, with which we are all but too familiar: climate migration (18), extreme racism (19), and drug abuse (21). The anthropogenic responsibility for the crisis can be traced back to the long-standing biophobic management of the non-human, which is managed and disposed of in terms of economic assets. In fact, the narrator explains that although “love for nature” seems to exist, “nothing was natural”: for example, flowers were selectively bred to comply with certain aesthetic preferences concerning size and colours (111) and every green space in the centre of London had been destined to host residential buildings (33).

The icescape is Gee’s device to introduce an apocalypse that could not be avoided by hypertechnological inventions (15; 24), extremely militarized law enforcement (17), and the rise of a new current of gender segregation in London (23). The narrator, Saul, informs the readers that his life is about to end, because the “Children” will soon feed on his body. The “Children” are a generation of humans that survived the apocalypse: their names sound like “roars and grunts” (1), they cannot read nor write and only a few of them can speak in full sentences (2). Saul claims that barbarism is the result of an extremely consumeristic society, in which capitalism and globalization have destroyed cultural identities, so much so that the 20th century is recalled as “a time when each place had its own special taste” (22).

In fictional London, mass media weave a web of lies and provoke different reactions among the lay public, as well as between highly educated cross-sections of society. Saul starts his tale by highlighting that he is the only survivor of the cultural and climate apocalypse. With hindsight, he warns the readers against ignorance, which is not the ignorance of the uneducated, or the result of an intrinsic deficit model, rather “the complicated kind” that smart, yet inattentive people, “not only tolerate, but consent to” (Wagner-Lawlor 2011, 175). Saul denounces this ignorance by reporting his own conjugal discussions about the melting of the icecaps. At the news that the ice was getting thicker, his wife Sarah suggests that it is a conspiracy aimed at achieving “some kind of fraud by business interests,” while Saul selects a few details of the research conducted in Antarctica and suggests that the information could not be considered valid, for the scientists had been taking samples from the wrong place (39). Saul’s coping mechanism is coherent with the cultural scenario introduced since the beginning of the novel, with hints of imminent climate disaster such as “orange skies,” “flaring clouds” (23) and trees turning blue in Autumn (111) yet ignored by the British population. In Gee’s novum, human beings count on constant adaptation and mutation of their bodies to the raising temperatures, for “we were all hotblooded. We were raised on heat” (23).

Gee chose to introduce her novum from the perspective of a privileged citizen, who lives in a wealthy urban area and survives the plagues untouched, manages to “stay out of trouble,” and let his life go on undisturbed, for the newscasts could not upset him (24). As a tech teacher in a Learning Centre, he owns all the tools to study, understand and spread the urgency of climate crisis. Nevertheless, his behaviour matches that of the lay public: Saul deliberately detaches himself from reality at such a length, that the reports about people in Portugal who live in caves are dismissed as merely intriguing “stories” about some individuals living as humans did in the Stone Age (25). This attitude stems from a divisive attitude toward other human beings, who are perceived by the tech teacher as something foreign and other. The physical distance between him and the Portuguese climate victims allows Saul to cope with the imminent apocalypse by exerting the biophobic value of Aversion. The diverse stages of the crisis characterising the two countries function as a mental and emotional wall, fortified by the rational choice to ignore empirical data due to his unexpressed fear of the future consequences of climate change in Great Britain.

Later in the novel, Saul recalls the first time he and his wife Sarah had discussed some “weird data” from the Antarctic, as new tech fixes were being developed with the aim of slowing down the melting of the icecaps. The two scientists were blinded by romantic reverie of evenings in front of the fireplace, an escapist utopian scenario they could never enjoy yet recalled in the cultural memory, just like the wonder aroused by “the great bluewhiteness creeping back” (44). Considering Saul’s and Sarah’s scientific background, their attitude toward the apocalyptic consequences of the thickening of the icecaps deserves careful consideration. In fact, the couple endorses the aspirations of growth determined by human hubris and are prepared to accept the extinction of animal species such as lions, birds (273), dogs and wolves (274) by rejecting human primary responsibility for the effects of the climate crisis. Instead, they romanticize an idyllic past delivered through cognitive dissonance and downplay the implications of an ice age, narrowing them down to the microsphere of their material necessities. Although the two scientists are aware of the macro-implications of the thickening of the ice (39), their Aversion toward the subject is expressed through full compliance with the general attitude of their academic environments.

The dissemination of scientific data via television news broadcasters led to a—temporary—growing interest in the subject:

a flurry of denials from scientists and politicians all over the world, worried that this freak bunch of results would undo every hard-won environmental resolution. Then the denials were challenged by a third group of scientists known to be paid by big businesses. But no one

believed them, no one could envisage that global warming was coming to an end. It was too damn hot, and getting hotter by the day, for the news broke in spring, and soon it was summer... no one took the odd data seriously and the original scientist who had published the results kept her head low while she repeated the probes. (40)

Diverse social and political consequences stem from this evaluation error, including the fall of the government, increasing depression due to low birth rates and gender segregation or “segging” (23). The narratives concerning Gee’s cultural and environmental apocalypses revolve around the dramatic visible effects of anthropogenic climate change.

Climate crisis storytelling tends to overlook numbers and data pointing to rising sea levels and growing drylands. Climatologists are depicted as ineffective in explaining that a new ice age is bound to take place sooner rather than later (60). This fictional scenario suggests that a huge amount of information is not necessarily a recipe for effective communication of science related to climate change and encourages a reflection on whether the communicators validated by academia and governments do possess effective storytelling skills. To communicate more efficiently, the appointed spokespeople should select a limited amount of relevant data and avoid information that overwhelms the public (Stern 2018, 121). Moreover, the inefficacy of the science communication portrayed by Gee can be ascribed to the citizenship’s insufficient emotional engagement toward endangered species and human beings, which could be interpreted as a lack of biophilic Affection. In fact, dry hard facts fail to alter selfless decision-making processes because they cannot deliver a sense of concrete risk (Ungar 2000, 298; Stern 2018, 12) and do not convey strong moral motivation to take action (Stern 2018, 31).

In *The Ice People* British citizens keep ignoring the danger arisen from an eternal summer and replace it with naïve contemplation of the infinite possibilities raised by a less hostile, warmer climate. Nevertheless, after a few years the truth becomes undeniable: the mainland freezes and rivers stop flowing, humankind is committed to produce “frostresistant” crops, “computers built to withstand low temperatures” in a state of “complacent controlled panic,” while the population of the poorest regions of Indonesia is cut in half (161). Eventually, temperatures drop until biologists begin to talk about extinction and an exodus from north to south hits the whole world with a noise of “thousands of running feet, panicking voices, massed birds wheeling” (162). As the novel ends in parallel with Saul’s life, killed by the Children with a macabre cannibalistic ceremony (317), the apocalyptic scenario reaches its climax. During the last moments of his life, Saul focuses on the landscape with snowfields radiating in a ring of ice (319) and conveys a glimpse of hope along with a warning against the risks of imposing anthropocentric worldviews on the other-than-human (Johns-Putra 138).

In the apocalyptic frozen world once known as Great Britain, now inhabited by a barbaric society of illiterate (13) and cannibalistic human beings (21), Saul has been spared by the Outlaws, or the new generation, only because he is a good storyteller, embodying the cultural memory of a civilization that ended after committing too many mistakes.

Serious topics of conversation like climate change, political instability, and social issues (95) are dismissed in favour of entertaining talks on technological innovations in robotics, described as a spreading “Dovemania” (110). At first, dovemania does not appear to be so different from the frenzy of technology enthusiasts during the release of the latest videogaming console model. Doves are in fact household robots that can move across the room, reach their mobile charging station after cleaning the house, and play voice messages when their buttons are pressed. This hyper-technological future must look familiar to the contemporary reader: household appliances such as automatic vacuum cleaners, vocal assistants, and other technological devices preceded by the word “smart” are ordinary devices in 2022. Twenty years ago, Gee had already foreseen the appeal and potential cultural power of end-of-the-century technological trends. In her speculation on unsustainable futures she anticipated the fracture between humans and nature caused by relentless technological advancement, and showed how the acceptance of the disconnection between human animals and the space they inhabit with other beings ultimately leads to the end of humanity.

In 2050 Doves look like quivering, winged birds (91) with the ability to walk on stumpy legs and big, black feet (93), speak or “murmur” and eat with the “slurping, sucking sound” typical of pets while eating (96). Doves exert their addictive power because they were designed with physical and intellectual qualities that evoke the biophilic value of Attraction. Throughout their evolutionary history, humans have approached with affection all those beings with the ability to feel or endowed with sharp intellect and predisposition toward empathy and care (Kellert 2012, 1). In fact, Saul tries to convince us—and himself—that the Doves’ latest upgrade, advertised as “improvements in loveability” (110), would allow the robots to feel, think and care for their family. Nevertheless, his connection to his own household robot, Dora, cannot be ascribed to mere attraction, rather to intense emotional attachment. He calls it his “companion” and “friend,” who likes to read him love poems (123) with the “innocent affection” of a “biddable wife,” or a “well-trained child” (125) sounding “too attached” sometimes (127). The market understands the potential of advertising new Doves models with emotional ascendant on the consumers through a combination of Attraction and Affection. The new robots are called “Warmbots” and are advertised as the perfect companion for lonely humans, with “furry

exteriors and long, thick arms” to keep their owners warm at night and make them feel protected (114).

Humans feel close to the Doves due to the genetically embedded positive reaction to non-human aesthetic qualities. This tendency would extend to vestigial ones too (Kellert 2012, 2). In fact, the Doves’ components are usually decorative rather than functional. Dora for example is described as “extremely pretty, a petrol blue with a slight rainbow sheen on its wings and feet, a fluffy blue head, shallow babybird beak” (120). The genetic character of biophilia is highlighted by the fact that the Doves’ design draws from characteristics ascribed to a natural world that Saul has never seen with his own eyes. Nevertheless, ideal environments are stored in his cultural memory through reminiscences of an idyllic past: the colour of deep waters, the calm after the storm, the soft fur of wild animals, a tiny, vulnerable new-born bird.

If we consider the Biophilia Hypothesis as a valid tool to try and decode the why and how of human interrelationships to the non-human, the implication is that biophilic human perception towards alien creatures—or robotic devices—can be triggered by manufacturers through the accentuation or minimization of certain features. It is not by chance that the Doves’ success in Gee’s fictional London is due to the commercial exploitation of aesthetically appealing features to inspire emotional attachment to the other-than-human. Saul informs us that after a few years from the release of the first Dove model, the producers started designing “Sexbots” (114) with the aim to induce the buyers to establish a deeper bond with the robots. The Sexbots present sexualised human features (151) and feed on the primal fear of lack of affection, determining a technological-bound reconfiguration of human sexuality. Through the Sexbots, Gee explores the disruptive power of technological devices which cause irreversible changes to human inter- and intra-specific dynamics when they are introduced in our everyday life. This is a recurrent theme in Climate Fiction, as demonstrated by the novums described by writers such as Kazuo Ishiguro’s *Klara and the Sun* (2021), *Fran-Kiss-Stein: A Love Story* (2019), Ian McEwan’s *Machines Like Me* (2019) and Jeanette Winterson’s *The Stone Gods* (2008).

The third Dove model available on the market is advertised with the name Hawks, created for defensive purposes only. According to their creators, Hawks would paralyse, cut into pieces and feed on any attacker (115), only in the case of their owner’s mortal danger. No further information is provided as to how such order is given by the Hawks’ owners so that the robots can decode it correctly. Hawks are designed to instil fear through biophobic features. With their watchful eyes and stern beak (114), Hawks generate Aversion, defined through rapid responses to dangerous animal features, crucial to human survival. Aversion motivates distancing or destructive behaviours, prompts quick judgements regarding friends versus foes and seldom

acknowledges the vestigial aspect of threatening features in nature (Kellert 2012, 39).

Gee has not explained why she chose to name the main robot models after two bird species. The choice might refer to the Hawk-Dove Game designed by John Maynard Smith, a British theoretical and mathematical evolutionary biologist and geneticist. In 1982, he published his *Evolution and the Theory of Games*, in which he applied the mathematical theory of games to economic issues. According to him, mathematical models defined as Evolutionarily Stable Strategy (ESS) can anticipate animal behaviour in any situation (10). Its basic model of assessment is called the Hawk-Dove Game theory: when two individuals are fighting over a resource that would improve their Darwinian fitness, they may adopt one of two contrasting behaviours—or strategies (11). The individuals who choose the “Hawk” strategy will initiate aggressive behaviour and will not back down until injured or until the opponent gives up. Those who will reject violence and aggression will adopt the “Dove” strategy by immediately retreating as soon as their opponent initiates aggressive behaviour (12).

Strategies can also be mixed (68) and are always influenced by external factors independent of the specimens competing for the resource (81-92). In absence of relevant external factors, two Hawks have the same chance to win (12). In the fight between a Hawk and a Dove, the Hawk will secure the resource. Two Doves will instead decide to equally share the resource (13). The crucial point of the Hawk-Dove Game is that it allows researchers to simulate the outcomes of the various strategies in the generation born after the examined one (Grafen 1979, 905). For this reason, ESS has been recently employed in politics (Foster and Keller 2010, 417), economics, sociology, anthropology, and philosophy to study the cultural evolution of human beings through alterations in beliefs and norms over time (McKenzie 2021).

The dystopian society described by Gee enacts Maynard’s ESS in the battle over the Earth’s resources among humans. Politicians and market leaders enact the Hawk strategy toward their citizens and buyers. The same dynamics are replicated among different cross-sections of society and human groups. The linguistic references to ESS also suggest that human social warfare is indeed replicated by their technological counterpart, the household robots.

As the Hawks’ presence in Great Britain becomes pervasive, Saul explains that language could be seen as a sort of litmus test to observe the consequent cultural shift and aversive behaviour towards the defence robots. The words used to describe Hawks are now tailored on their threatening behaviour, in fact Hawks are now defined as “things moving silkily out of the shadows,” “swaying, quivering, almost silent,” covered in “greasy shimmer” (242) that makes them look like “a stream of robot fetuses” able to slice and suck a man’s face “like chicken.”

A biophilic approach to the design of the Doves shows the relationship between the aesthetic

features of each model and their functions: curves and sexualised human features determine the nature of the Sexbots, child-like features in the Doves trigger our willingness to protect the young, while the “avian guard dogs” (115) called “Hawks” (114) respond to aesthetic expectations ascribed to force and protection. All kinds of Doves are visually and functionally designed to target specific human feelings: diffidence, need for affection and security, sexual drive. Their success and popularity surged from the intrinsic validation of a hierarchical approach to the non-human fostered by human hubris. Humanity had already exploited and disposed of several non-human species by disregarding the emotional and material value of nature, to which we are genetically and culturally bound. The growing fragility of human interrelationships to the non-human is expressed by the fact that emotional and mental affiliation to the robots soon left space for the primordial instincts of sex and war.

The end of civilisation is described by Saul as a descent into a robotic hell mostly populated by Hawks. The defensive robots became more and more autonomous after a few years, to the point that they were not able to tell their owner from an attacker and started slaughtering random human beings (242) in the process. When Saul shares his story with the readers, humans have been almost totally exterminated and the new generation presents monstrous and savage features.

3. Cultivating a sustainable cultural climate through biophilia

The Ice People can be considered as a climate narrative that fosters debate on the visual and factual manifestations of biophilic values in our everyday life. In Gee’s fictional world, excessive reliance on technology, social fragmentation, gender segregation, lack of natural elements in the built environments, and extinction of species are a prelude to a human and environmental apocalypse. The novel successfully highlights the ways in which climate crisis discourses require the joint effort of the sciences and the humanities to achieve communication effectiveness and audience engagement.

Gee portrays the implications of climate change on the human and other-than-human environments by depicting divisive inter- and intra-specific approaches that can be classified according to the “Biophilia Hypothesis.” In biophilic terms, Aversion, Exploitation and Dominion prompt human beings to adopt the “Hawks” strategy. Aggressive behaviour in the fight over food, habitats, and other resources increase their wellbeing over their opponents. Biophilic values instead lead them to behave according to the philosophy behind the “Dove” strategy. By rejecting aggressive and divisive behaviours, humans could approach the other with empathy and rationality, so that all the available resources would be equally shared among

diverse species. This behaviour would support human and other-than-human sustainable development along the lines indicated by the 1983 Bruntland Report, that is “a development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (16).

Incorporating the Biophilia Hypothesis within an ecocritical approach proves that literature plays a major role in climate change discourses, because the power of storytelling is far more convincing, clear, and relatable than plain scientific theories. While acknowledging the importance of scientific research on climate change, it is important to also stress the narrative strategies spreading crucial information among the lay public.

Because humans make sense of historical, scientific, and cultural changes through narratives and practices of storytelling, contemporary Climate Fiction can successfully stimulate humans to (re)discover an eco-centric approach to the natural environment that includes humans and the non-human on the same level. This vision benefits from approaches to other-than-human that incorporate genetic reasons within historical or emergent cultural patterns as suggested by the Biophilia Hypothesis. In fact, the most habitual values supporting our innate affiliation to nature can be identified, decoded, deconstructed, and consciously implemented to foster a novel cultural climate able to avert the climate apocalypse.

Ilenia Casmiri is a Ph.D. student in *Environmental Sustainability and Wellbeing at University of Ferrara, Italy*. Her research interests concern human intra- and inter-specific relationships to the non-human in *British Climate Fiction*. Her Ph.D. project explores ideal and real environments in both literature and urban studies through the contribution of the sociobiological theories connected to the *Biophilia Hypothesis*.

Works cited

- Bauer, Martin. “Socio-Demographic Correlates of DK-Responses in Knowledge Surveys: Self-Attributed Ignorance of Science.” *Social Science Information* 35.1 (1996): 39-68.
- Cartmill, Matt. *A View to a Death in the Morning: Hunting and Nature Through History*. Cambridge, MA: Harvard University Press, 1993.
- Chess, Caron, and Brandon Johnson. “Information is Not Enough.” *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*. Edited by Susanne C. Moser and Lisa Dilling. Cambridge: Cambridge University Press, 2007. 223-236.

- Durant, John and Geoffrey Thomas. "Why Should we Promote the Public Understanding of Science?" *Scientific Literary Papers* 1 (1987): 1-14.
- Dutton, Denis. *The Art Instinct: Beauty, Pleasure, and Human Evolution*. New York: Bloomsbury, 2009.
- Foster, Dennis and Jonathan Keller. "Rallies and the 'First Image': Leadership Psychology, Scapegoating Proclivity, and the Diversionary Use of Force." *Conflict Management and Peace Science* 27.5 (2010): 417-441.
- Fromm, Erich. *The Anatomy of Human Destructiveness*. London: Holt, Rinehart, and Winston, 1973.
- Gee, Maggie. *The Ice People*. London: Penguin, 1999.
- Grafen, Alan. "The Hawk-Dove Game Played between Relatives." *Animal Behaviour* 27.3 (1979): 905-907.
- Greenblatt, Stephen et al. *The Norton Anthology of English Literature: Volume 1*. New York: Norton & Company, 2006.
- Hulme, Mike. *Why We Disagree About Climate Change: Understanding Controversy, Inaction and Opportunity*. Cambridge, MA: Cambridge University Press, 2009.
- Jawer, Michael and Marc Micozzi. *The Spiritual Anatomy of Emotion*. Rochester, VT: Park Street, 2009.
- Johns-Putra, Adeline. "Care, Gender and the Climate-Changed Future: Maggie Gee's *The Ice People*." *Green Planets: Ecology and Science Fiction*. Edited by Gerry Canavan and Kim Stanley Robinson. Middletown: Wesleyan University Press, 2014. 127-142.
- Kellert, Stephen. *Birthright*. New Haven: Yale University Press, 2012.
- Kellert, Stephen and Edward Osborne Wilson. *The Biophilia Hypothesis*. Washington DC: Island Press, 1993.
- Kluwick, Ursula. "The Ecological Crisis and Narrative Form." *The Oxford Handbook of Ecocriticism*. Edited by Greg Garrard. New York: Oxford University Press, 2014. 502-518.
- Ingold, Tim. *What is an Animal?* London: Routledge, 1994.
- Ishiguro, Kazuo. *Klara and the Sun*. London: Faber & Faber, 2021.
- Lessing, Doris. *Mara and Dann*. London: Flamingo, 1999.
- Maynard Smith, John. *Evolution and the Theory of Games*. Cambridge: Cambridge University Press, 1982.
- McEwan, Ian. *Machines Like Me*. London: Jonathan Cape, 2019.

- McKenzie, Alexander. "Evolutionary Game Theory." *Stanford Encyclopedia of Philosophy*, Stanford University, 24 Apr. 2021, <https://plato.stanford.edu/cgi-bin/encyclopedia/archinfo.cgi?entry=game-evolutionary>. Last visited 05/10/2022.
- Nuccitelli, Dana. *Climatology versus Pseudoscience: Exposing the Failed Predictions of Global Warming Skeptics*. Santa Barbara, CA: Praeger, 2015.
- Spinozzi, Paola. "In a Prescient Mode: (Un)Sustainable Societies in the Post/Apocalyptic Genre." *Cultures of Sustainability and Wellbeing: Theories, Histories and Policies*. Edited by Paola Spinozzi and Massimiliano Mazzanti. London: Routledge, 2018. 85-104.
- Stern, Marc. *Social Science Theory for Environmental Sustainability*. New York: Oxford University Press, 2018.
- Sturgis, Patrick and Nick Allum. "Science in Society: Re-evaluating the Deficit Model of Public Attitudes." *Public Understanding of Science* 13.55 (2004): 55-74.
- Suin, Darko. *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre*. New Haven: Yale University Press, 1979.
- Thompson, John. *Studies in the Theory of Ideology*. Berkeley: University of California Press, 1984.
- Ungar, Sheldon. "Knowledge, Ignorance and the Popular Culture: Climate Change versus the Ozone Hole." *Public Understanding of Science* 9.3 (2000): 297-312.
- Wagner-Lawlor, Jennifer. "Doomed by Hope." *Changing the Climate: Utopia, Dystopia and Catastrophe*. Edited by Andrew Milner, Simon Sellars and Verity Burgmann. Arena Printing and Publishing Pty, 2011. 173-195.
- White Jr., Lynn. "The Historical Roots of Our Ecologic Crisis." *Science*, 155.3767 (1967): 1203-1207.
- Wilson, Edward Osborne. *Biophilia*. Cambridge: Harvard University Press, 1984.
- Winterson, Jeanette. *Fran-Kiss-Stein: A Love Story*. London: Random House, 2019.
- . *The Stone Gods*. London: Faber & Faber, 2009.