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“Climate Change Fiction: A Brief Presentation.”

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As a specialist of contemporary British fiction, I have always had an interest in the ways in which the novel keeps adapting to its times and both reflects and problematises the crises of its time. And of course, ours is an era when a series of crises seem to be concentrating: geopolitical crisis, energy crisis, military crisis, sanitary crisis, and many others among which, foremost perhaps, is the menace of the 6th mass extinction of species concomitant with our entry into the Anthropocene. Now, clearly, contemporary fiction reflects and refracts these events and the transformations that they bring in their wake, and this goes along with a certain impression of fear and anxiety (eco-anxiety). The first point that I would like to make concerns the “Saving the planet” label. In fact, the Anthropocene is supposed to be a new geological age, succeeding the Holocene and characterised by the fact that it was produced by human activities. As we all know, the scientific consensus voiced by the members of the IPCC (English acronym for the French GIEC) is that our period is characterised by extreme emissions of carbon dioxide and other greenhouse gases like methane that fuel

climate change. This in turn is in the process of imposing on the planet the sixth mass species extinction due to both global warming and the unsustainable management of natural resources and even their predatory extraction and exploitation. Clearly, human activity has had visible consequences on the planet itself. For instance, the movement of water on the surface of the globe tilts the planet's axis:

The ability of the mass of water to change the Earth's rotation was discovered in 2016. In addition to tides, the melting of polar ice masses and the subsequent increase in the volume of water in the seas influence polar drift. However, a recent study published in *Geophysical Research Letters* by Korean geophysicist Ki-Weon Seo highlights a new and, to some extent, surprising aspect: the displacement of large water masses due to the extraction of aquifers has caused the alteration of the Earth's rotation axis by about 80 centimeters to the east. The study states that from 1993 to 2010, the deviation of the axis evolved at a rate of 4.36 centimeters per year. (<https://www.wearewater.org/en/insights/water-tilts-the-earth/>)

This phenomenon, caused by melting ice masses, is accentuated by the construction of huge artefacts like the Three Gorges Dam in China, according to the same source:

In 2018, NASA detected a variation in the Earth's rotation following the construction of the Three Gorges Dam on the course of the Yangtze River in central China. The enormous hydraulic work, which involved the construction of a dam 185 meters high and 2,310 meters long, forms a reservoir with a capacity of about 39.3 billion m³ and occupies an average area of 632 km². More than 100 million m³ of earth had to be removed, and about 1.5 million people were displaced. [...] According to NASA experts, the Three Gorges Dam has caused the Earth to alter its rotation, increasing daylight hours by 0.06 milliseconds.

(<https://www.wearewater.org/en/insights/water-tilts-the-earth/>)

This gives tangible proof that the planet IS affected by human activities, but it will go on rotating at one tilt or another. What is at stake is not saving the planet but the species and forms of life that it hosts.

Our entry into the Anthropocene and the effects of global warming raise a series of problems not so much for the planet itself as for its inhabitants, human and non-human. Coming top of the list, possibly, is the experience of geological, hence temporal scales that are contrasted to our scale of reference, i.e. what is called the human scale. This brings along a feeling of huge, menacing, impersonal forces that are not immediately perceptible but that generate a great deal of anxiety among the populations. The fact that they are not immediately perceptible (see T.

Morton's category of the hyperobject) introduces a feeling of sublimity inherent in the perception of objects of unimaginable magnitude that we seem to have little to no control on, and that defeat our agency.

Such a situation triggers off responses among people. The first one, possibly, is the appearance of a wave of eco-anxiety, among the younger members of the population, as already stated. Another one is the rise of environmental consciousness, since a part of the population is convinced of the reality of the menace and espouses a sustainable mode of life. As we know, this is also compatible with activism in certain cases (e.g. Extinction Rebellion, originally a British movement that has grown into an international one using the means of non-violent civil disobedience to put pressure on governments so that they take the necessary measures to curb carbon dioxide emissions). On the other end of the spectrum, the fear induced by the perspective of climate change may produce cognitive dissonance (we are afraid of what may happen and/but we do not to accept it) and lead to denial and even denialism. This exists as an individual response but also as an organised, collective one since lobbies, at times with backing at high governmental level (the oil lobby in the case of climate change, see N. Oreske's *Merchants of Doubt*) may implement disinformation campaigns that contradict scientific consensus.

Ultimately, to wind off this contextualisation of climate change fiction, I need to allude to the paradigm shift that goes along with the climate crisis and the menace of mass extinction. In fact, since the Renaissance, and early modern times,

the human subject is or *was* supposed to stand at the centre of creation and above all other species and elements of the living world, a vision that is associated with humanism and is emblematised by Leonardo da Vinci's *Vitruvian Man*: superb, sovereign, separated, autonomous, independent. And emphatically male. With the current crisis, this situation has shifted and the human subject has fallen from its self-erected pedestal: all species, and all living organisms, from the animal and the plant world are seen to belong to the same spectrum and are seen to interact, to rely on each other, in a system of interdependences that have also been called embeddings and entanglements. The human is embedded and entangled in the natural environments. It no longer stands *above* it. This creates not only a sense of *responsibility* for the natural environment but also a sense of *solidarity* and of a common destiny or destination. This paradigm shift has introduced a move from anthropocentrism (associated with speciesism) to **de-anthropocentrism** (a category that goes along with various aspects of post-humanism, but entering into this would lead me away from the topic of this presentation).

Now, the contemporary novel not only addresses these problems (scales, denialism, de-anthropocentrism) but *engages* with them, as it is one of the societal functions of literature to intervene in the public sphere and to fuel public debate. One of the other functions of literature is anticipatory: in the same way as we could say that the Gothic romances of the 18th-Century had an intuition of the existence of such a thing as the unconscious more than a century before Freud theorised it, we could say that some late 19th-Century narratives intuit the

hypothesis of the Anthropocene and possibly of climate change. On this side of the Channel, this is the case with Jules Verne who, in his 1889 novel *Sans dessus dessous*, envisions a world where climate change intervenes as a result of the Earth's axis tilting due to human activity (rocket launching). Similarly, in his posthumously published work *Paris au XX^e siècle*, written in 1883 (published in 1994 only) and depicting the 1960s, the city of Paris undergoes a rapid decline in temperature, enduring a chilling three-year period. On the other side of the Channel, H.G. Wells's scientific romance *The Time Machine*, even if it is not exactly an example of cli-fi, as climate is not shown explicitly to be modified by man's activity, and not a piece of Anthropocene fiction either for the same reason, evokes a dying planet from which the human species has been wiped out. It may be said that it has paid a major contribution to the elaboration of the matrix for contemporary climate change fictions in Britain:

“So I travelled, stopping ever and again, in great strides of a thousand years or more, drawn on by the mystery of the earth's fate, watching with a strange fascination the sun grow larger and duller in the westward sky, and the life of the old earth ebb away. At last, more than thirty million years hence, the huge red-hot dome of the sun had come to obscure nearly a tenth part of the darkling heavens. Then I stopped once more, for the crawling multitude of crabs had disappeared, and the red beach, save for its livid green liverworts and lichens, seemed lifeless. And now it was flecked with white. A bitter cold assailed me. Rare white flakes ever and again came

eddy down. To the north-eastward, the glare of snow lay under the starlight of the sable sky, and I could see an undulating crest of hillocks pinkish white. There were fringes of ice along the sea margin, with drifting masses farther out; but the main expanse of that salt ocean, all bloody under the eternal sunset, was still unfrozen.

More recently, we could also refer to authors like Nevil Shute, with his highly influential 1957 nuclear novel *On the Beach*. Published during the Cold War, the novel evokes a post-apocalyptic situation in which all countries in the northern hemisphere have dropped nuclear weapons onto each other and radioactivity has reached such a level that it is spreading all over the globe, announcing the extinction of all species. The protagonists are refugees, in Southern Australia, seeing the disaster coming:

“In each hemisphere the winds go around in great whorls, thousands of miles across, between the pole and the equator. There’s a circulatory system of winds in the Northern Hemisphere and another in the Southern Hemisphere. But what divides them isn’t the equator that you see on a globe. It’s a thing called the Pressure Equator, and that shifts north and south with the season. In January the whole of Borneo and Indonesia is in the northern system, but in July the division has shifted away up north, so that all of India and Siam, and everything that’s to the south of that, is in the southern system. So in January the northern winds carry the radioactive

dust from the fall-out down into Malaya, say. Then in July that's in the southern system, and our own winds pick it up and carry it down here. That's the reason why it's coming to us slowly."

"And they can't do anything about it?"

"Not a thing. It's just too big a matter for mankind to tackle. We've just got to take it."

Among the British predecessors of cli-fi, one name crops up: J.G. Ballard. He wrote a trilogy in the 60s: *The Wind from Nowhere* (1962), *The Drowned World* (1962) and *The Drought* (1964). In *The Drowned World*, London is underwater, and in *The Draught*, because of the production of plastic particles, climate has changed drastically and the world is under the sway of a permanent situation of water shortage. These are clearly dystopian, are (post-)apocalyptic, disaster narratives that have paved the way for the emergence of what could be called the contemporary canon of cli-fi.

Of course, the format of this presentation makes it impossible to give a substantial presentation of contemporary cli-fi, and this is why I have chosen three emblematic examples illustrating three generic forms that accommodate cli-fi's favourite themes.

Even if such a topic as cli-fi is generally associated with forms like the disaster narrative, apocalyptic fiction, dystopia that are notoriously incompatible

with laughter, I would like to start with an example of satire that very often uses humour and irony as its main tools. This is the case with Ian McEwan's *Solar* (2010) which presents a caricature of the protagonist, Michael Beard, a physicist and an opportunistic advocate of the fight against global warming driven by a bulimia of travel, various consumer goods, women and meatier food products. His greed, lies and denial of empirical reality lead to a personal catastrophe: his death from a massive heart attack in the *explicit* of the novel. It resorts to the traditional form of the allegory to present a protagonist who is larger than life and stands for another, abstract idea: that of the extraction-based, exploitative, consumerist craze that goes along with neo-liberalism, has accelerated our entry into the Anthropocene, and is clearly denounced by the narrator. Beard is confronted with the consequences of his actions in manipulating scientific data and in using plagiarism for personal gain. The allegory of greed is obvious in this dramatic passage in which the portrayal of the character reflects broader themes of human greed, environmental degradation, and freewheeling consumption and exploitation of resources for short-term gain:

Beard's past was often a mess, resembling a ripe, odorous cheese oozing into or over his present, but this particular confection had congealed into the appearance of something manageably firm, more Parmesan than Epoisses. He was reflecting cheerfully on this formulation—it reminded him that he was still puckish—and was in sight of the Texan barbecue when he felt his palmtop trembling in his pocket.

Another direction into which cli-fi may be heading is science fiction, as a great portion of the corpus consists of narratives putting anticipation at the heart of their strategies, hence using the topoi of scientific innovation and cognitive estrangement. This form is compatible with the older genre of the “scientific romance”, a label that I have already used in relation to *The Time Machine* and I would argue that it applies beautifully to such a work as Jeanette Winterson’s *The Stone Gods* (2007). This is a multi-layered novel that weaves together themes of love (hence the romance tag), environmentalism, and the consequences of human greed and exploitation. It throws together multiple time periods and locations, it regularly refers to Defoe’s *Robinson Crusoe* as a matrix of a novel of exploration and exploitation of “unchartered” territories, and it delivers a scathing satire of a dystopian, highly technologised, fourth-industrial revolution type of world. *The Stone Gods* asks readers to reconsider our impact on the planet and on biodiversity, more particularly by providing an alternative version of Earth's past. To do so, it plays a massive trick on the readers who are presented with the evocation of a futuristic, highly technologised society and a ruined planet, from which a group of characters depart on board a spaceship as explorers in search of Planet B, where humanity could survive. But when the spaceship lands on this new virgin space, also called Planet Blue, they trigger off a massive chemical reaction that leads to an instant glaciation inducing itself a mass extinction. It is at this point that the readers realise that the Planet B of the future *is* in fact the

Earth, 66 million years ago (the spaceship story replacing the asteroid hypothesis). In a single moment, the carpet is swept from under the readers' feet as they realise are confronted with the sublime spectacle of huge geological scales and are led to think about the repetition of catastrophes, as the survivors have taken shelter in a cave:

I went to the opening of the cave. Some religions call life a dream, or a dreaming, but what if it is a memory? What if this new world isn't new at all but a memory of a new world?

What if we really do keep making the same mistakes again and again, never remembering the lessons to learn but never forgetting either that it had been different, that there was a pristine place?

Perhaps the universe is a memory of our mistakes.

Lastly, as I have already mentioned, a great deal of contemporary cli-fi uses a hybrid form that borrows from the disaster narrative and in which a post-apocalyptic situation is combined with the dystopian evocation of a society in which life has been replaced by survival. This is for instance the case with *Austral* (2017) by Paul McAuley or *Far North* (2009) by Marcel Theroux, which also take up the conventions of the exploration narratives to buttress dramatic interest. Like the other forms that we have envisaged (satire, SF, etc.) they contribute to ethical and political consciousness raising by renewing the tradition of the cautionary tale and making it compatible with a wider type of realism. This is expressed in the

incipit of *Far North*, which announces the demise of spring and, hence, of the idealised, utopian possibility of pastoral:

EVERY DAY I BUCKLE on my guns and go out to patrol this dingy city. I've been doing it so long that I'm shaped to it, like a hand that's been carrying buckets in the cold. The winters are the worst, struggling up out of a haunted sleep, fumbling for my boots in the dark. Summer is better. The place feels almost drunk on the endless light, and time skids by for a week or two. We don't get much spring or fall to speak of. Up here, for ten months a year, the weather has teeth in it. It's always quiet now. The city is emptier than heaven. But before this, there were times so bad I was almost thankful for a clean killing between consenting adults. (Theroux, Marcel. *Far North*)

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