SYMPOSIUM: LIVING IN THE END TIMES


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This paper examines Greg Bear’s depiction of a pandemic crisis response scenario in his text, *Darwin’s Radio* (1999). It analyses his portrayal of the biopolitical and necropolitical impacts of this response under neoliberal capitalism. We seek to explore how Bear represents such biopolitical and necropolitical pressures of a pandemic and the effects of this on characters who embody intersectional struggle. We do this by examining Bear’s use of what we term Network Oriented Sociological Storytelling (NOSS). NOSS is an identification of the networked connections of an existing social order and its resulting social phenomena. Borrowing concepts from posthumanism and feminist new materialism (Rosi Braidotti and Karen Barad), we examine Bear’s ontology of networked agency and emergence that produces these phenomena. This is then considered alongside Michel Foucault and Achille Mbembe’s analysis of institutional networks of oppression (Biopolitics and Necropolitics). By bringing these methodologies and Bear’s use of NOSS into conversation with one another, we reveal the extent to which Bear relies upon the construction of networks within *Darwin’s Radio*.

NOSS is a worldbuilding method that treats social connections and their resulting phenomena as the objects of its critique. By combining them with sf’s speculative nature, NOSS identifies existing social relations in the light of an imagined future to make them the subject to critical inquiry. In Bear’s case, his text elaborates on observations of actors from the historical context of 1990’s and early 2000s America, and its accompanying networks of social institutions, which remain with us into 2020/2021. *Darwin’s Radio* is a form of NOSS that helps us to better examine real world reactions to pandemics. In Bear’s text, protagonists, biologist Kaye Lang, and archaeologist Mitch Rafleson, discover that the fictive SHEV A (Scattered Human Endogenous RetroVirus Activation) is not a virus, but a part of the human genome, capable of short-term, directed evolutionary adaptation that spreads like a virus.

Bear’s text is a composite of sf and pandemic fiction. His choice to write within the genre of sf contributes to *Darwin’s Radio*’s enduring relevance (Haraway 6). Sf is noted for its ability to create thought experiments which act as self-reflexive critiques of contemporary social reality, which may be repurposed for different periods. The act of speculation involves constructing possible alternative realities based on the networked relations that underpin sociological phenomena. By identifying such patterns in the relations between agential networks, future developments can be imagined. The manufacture of these new realities is a key component of NOSS and one frequently present in sf. With a focus on social connections and their resulting phenomena, sf texts can remain pertinent beyond their historical context. This is because some of the larger cultural social
actors within the networks they examine continue to exist (capitalism, sexism, racism etc). Greg Bear’s *Darwin’s Radio* is one of these texts that exhibits its significance through its use of NOSS.

We argue that sociological interactions which are the basis of NOSS in *Darwin’s Radio*, are what feminist new materialist philosopher Karen Barad calls “Intra-actions”, material-discursive relations that produce social phenomena (33). She states that “the neologism ‘intra-action’ signifies the mutual constitution of entangled agencies” in contrast to the interaction of established bodies. “These entangled entities are productive, on multiple scales; different intra-actions produce different phenomena” (Barad 58). The objects of measurement “emerge from, rather than precede, the intra-action that produces them”. Therefore, in this paper we focus exclusively on the result of multiple sociological intra-actions and the social phenomena they produce (128). Intra-action illustrates the interconnectedness of social phenomena and their physical, material effects upon one another. Intra-actions refuse to artificially separate agency into distinct categories. Instead, it attributes agency to all phenomena, at the macro and microscopic scales. Thus, it provides a formula of networked agency that resists the conflict between seemingly innate material characteristics and contextual, environmental factors and relationships. In this model, agency emerges through relations, which can change. These dynamic forces include natural and social phenomena. It also includes the material phenomena these connections produce. How these intra-actions are/could be put to work means that they could be utilised for politically oppressive or liberating ends. Therefore, Bear uses NOSS to highlight the problematic aspects of state and industry involvement in pandemic responses under neoliberalism.

As organisms integrate environmental and genetic information at all levels, there is no line dividing where genetics ends, and the environment begins. Bear’s text highlights the significant societal responses to genetic differences, so the intra-actions stemming from SHEVA form the basis of our analysis. Intra-action thus removes agency from exclusive reference to the subject of liberal humanism and instead situates agency in the realm of entangled human and non-human entities. *Darwin’s Radio* also depicts agency as neither the exclusive property of either the human subject, or pre-established bodies. Rosi Braidotti notes that classical humanism distinguishes what is human (the properties, abilities, capacities, etc associated with the human) from the non-human through “the dialectics of self and other, and the binary logic of identity and otherness” (Braidotti 23). Here, the human needs the non-human for its definition, while the non-human is only defined negatively; as “other” to the human (23)

Subjects are deemed non-human, or less than human in relation to signifiers of difference, imagined or otherwise. This applies to discourse of health, disease, and disability, forming part of the mechanisms by which such identities are produced and maintained. But this alterity is not given but produced. The consequence of this production of alterity are the practices of biopolitics and necropolitics. Biopolitics is a political rationality that takes the administration of life as its subject. ‘Life’ applies to individuals, populations (groups, localities, states), or the species Homo Sapiens. It draws on the biological body of the human, but also discourses of biology, ethics, politics, and sociology. During pandemics, the desire to categorise and classify the infected from
the uninfected intensifies the power of biopolitical mechanisms. As a result, surveillance and additional measures of control are imposed under the guise of protecting citizens from becoming biologically compromised. Initially developed by Michel Foucault, biopolitics is defined as “the means to ensure, sustain and multiply life, to put this life in order” (Foucault 138).

To “put this life in order” means to establish heterogenous categories according to which forms of life can be classified and disciplined. The product of these power relations can result in material and immaterial forms of domination, such as the conflation of physical health with moral health, or the treatment of physical health and abnormalities with social ills. Likewise, this can lead to conceptual identification of marks of criminality on the bodies of those who do not or fail to adhere to the prevailing forms of categorisation. On the topic of capital punishment, Foucault points out the conflation of the rhetoric of disease with material practices of discrimination:

[C]apital punishment could not be maintained except by invoking less the enormity of the crime itself than the monstrosity of the criminal, his incorrigibility, and the safeguard of society. One had the right to kill those who represented a kind of biological danger to others. (138)

In the text, SHEVA mutations produce visible changes in the body, which distinguish the uninfected from the infected ‘other’. As SHEVA affects the species Homo Sapiens, the text shows society’s attempts to maintain an image of the species against the possibility of genetic difference. According to this, life and its growth may be allowed or disallowed, to the point of death. This power over life and its continual development is what Foucault calls ‘biopower’ - an apparatus which entails the classification, administration and regulation of individuals and populations, and even whole species, in accordance with norms:

[Biopower emerges with] numerous and diverse techniques for achieving the subjugation of bodies and the control of populations. (140)

The intra-action of these different discourses within and between institutions, is instrumental to the functioning of biopolitics.

In Darwin’s Radio, Americol (Bear’s representative for the pharmaceutical industry) and the American state intra-act to continue profit production during a pandemic. In contemporary capitalism, social relations become indistinguishable from productive forces, as both are geared towards profit production and administration. Writing of biopolitics after Foucault, Michael Hardt and Antonio Negri argue that post-Fordist capitalism is explicitly biopolitical, an arrangement in its prime at Bear’s time of writing. What is produced under post-Fordist capitalism are subjects able to labour and consume, constituted through economic, social, and biological relations, which in turn are consumed and geared towards profit production: “Production becomes indistinguishable from reproduction; productive forces merge with relations of production” (Hardt and Negri 385). Therefore, policing and sustaining the normative body and its reproduction is integral to capitalism.
Both Marc Augustine (Head of the CDC) and Marge Cross (CEO of Americol) are symbolic of biopolitical regulation. At one of their meetings, Cross and Augustine “embrace” and “kiss” (Bear 155). Their romantically coded encounter symbolises ways in which wealthy pharmaceutical industries court the cooperation of the American government in regulating healthcare and, by extension, the population, creating a literal public-private partnership. The profitable social phenomena from their intra-action is the manipulation of the president to acquire more funds, and the exploitation of biologist Kaye Lang to marketize the SHEVA cure.

Kaye's services are utilised to research the SHEVA virus with the aim of finding a cure and to produce biopolitical bodies able to labour under these conditions. This fusion of intellectual labour, institutional, political, and scientific rhetorics become the absolute of biopolitical rationality:

The symbiosis between intellectual labor and institutional, political, and scientific rhetorics became absolute on this terrain, and every conceptual formation came to be marked by it: the formalization of politics, the instrumentalization of science and technique for profit, the pacification of social antagonisms. (Hardt and Negri 80)

When Kaye initially agrees to work for Marge Cross, she is told her research and presentability are profitable, indicating the subordination of scientific labour to profit-production. She reduces herself to being “Kaye Lang the corporate item.” (Bear 142) She uses the idea of “corporate item” to express her self-exploitation and to berate her choice to comply with capitalism for better “dresses” and “silk blouses” because she doubts Americol's stated goals of population protection for scientifically sound reasons. She is not sure that SHEVA is a virus that should be eradicated via a cure, yet she still works towards this goal. Her sense of self is subsumed into Americol's property. The consumption of her body as an Americol asset further demonstrates its likeness to an immune response, turning her from a threat into an advocate for its cure and its subsequent marketization. Kaye is even told that she “is... female and presentable enough” to “ease the public” when discussing the disease on TV. She is also “famous” and “presentable” (Bear 141-142) which demonstrates how celebrity culture serves to marketise both the virus and its cure through a medium that already exerts a strong amount of biopolitical power. Augustine manipulates the political system using fear of “mutant children” (154) to force the president to adhere to his agenda. The birthing body is legislated by those in power, transforming SHEVA mothers and children from subjects to “reservoirs” of infection:

[Augustine]: “If the babies get out in the general public, they’ll be vectors. All it took for AIDS was a few.” (331)

The ruling class attempts to reproduce itself, and its ideological image of humanity, through the intra-action of state and private companies.

Bear highlights the mechanisms of stigma and control that operate on a macro-level (global and state) by introducing the reader to the public sanctioned violence, and the micro-level by
including characters that exemplify the intersectional oppression faced during global pandemics. Here, states, institutions, and individuals intra-act to produce ideologies of discrimination that are often violent. Bear represents these to make them objects of critique.

SHEVA patients experience changes in skin pigmentation, second pregnancies post-miscarriage, and cold and flu like symptoms, which become signifiers for the dualisms of self/other and uninfected/infected other. These divisions based on physical differences, are grafted onto the human/non-human split. Such dualisms are typically codified by a series of social norms, from which the infected, or unhealthy ‘other’ are seen to deviate. Norms are both a common standard, and a unit of measurement against this standard. In biopolitics, distribution around norms creates categories into which individuals may be grouped, on medical, political, and moral lines (Foucault, *Discipline* 197-198); healthy and unhealthy; able-bodied and disabled; sanity and madness; typical and atypical, etc. Within Bear’s text, this manifests as the dualism between infected and uninfected. This power produces subjectivities, and at the same time excludes them through apparatuses of stigmatization based on bodily characteristics, which are treated as signifiers of infection. People who display such signs are not only the target of social, political, and medical stigmatization, but likewise have their political status partially or completely revoked.

Neoliberal values of responsibility, individualism, and rationality, are also some of the characteristics defined as being part of liberal humanist ideology (Braidotti, *Posthuman* 29). Liberal humanism elevates a “partial image of Man”, one with these qualities, to “the top of a hierarchy” which measures ontological worth (Braidotti, *Posthuman* 105).

That [exclusionary] humanist image of ‘Man’ also implemented social systems built on sexism, homo-and-transphobia, colonialism and racism that turned cultural specificity into a fake universal and normality into a normative injunction. (105)

In the worst cases, this dialectic of self and other is naturalised and thus ‘social systems’ that create “a fake universal normality” also create the domination of disposable bodies. By establishing such hierarchies of decreasing worth, humanism mistakes this partial image of ‘Man’ for the differential reality of Homo Sapiens because Pandemics trouble the idea of what constitutes a healthy body. Consequently then, the SHEVA virus infection exposes the falsity of this image of ‘Man’ (Tully 45). The construction of a healthy body is dependent on a medical checklist to identify and categorise the human body as healthy, creating heterogenous categories of appearance, functionality, mental states, and their corresponding pathologies, around which norms are distributed and maintained.

It can be said, then, that Bear’s text and its representation of a pandemic, destabilises the ontology of philosophical humanism. The emphasis on a uniformity of the human body, and therefore identity, on functionality and action is because of a capitalist focus on the ‘healthy’ human body as one that can both labour and consume (Oliver 4). Those who fall outside of this category are then classed as disabled (Turner 1-6). This dualism of able and disabled stigmatizes those unable to labour in the expected manner. These anxieties are projected onto SHEVA
children because their ability to communicate differently is an unexpected anomaly and one that affects their ability to labour and consume in a predictable fashion.

Bear illustrates a form of necropolitics in the violence and “social death” (Mbembe 21) of SHEVA patients, up to and including the internment of children in ‘concentration nurseries’ (Bear 344). SHEVA occupies a liminal space between the biopolitical and necropolitical policing of populations. Bear introduces the reader to institutionally sanctioned stigma and the discrimination it engenders through his inclusion of genocidal measures of pandemic control. Bear compares the American approach to SHEVA to that of contemporary and Stalinist Georgia to demonstrate global similarities to pandemic responses. Their reactions are the same, they both follow similar populist reactions to SHEVA infected people, the only differences being their national and cultural contexts.

Bear uses the Nazi regime, an extreme example of biopolitical control, to inform his depiction of the genocidal administration and the generalised instrumentalization of death. By doing this, Bear brings the mechanism of stigmatisation and its signifiers to the forefront of his text. The SHEVA infection manifests in literal, visible marks that can be identified, classified, and used as a target for discrimination. These visible markers identify, isolate and segregate those who do not fit societal norms and are cast into a necropolitical zone of death:

Reliable sources in the Ukraine had told him of women bearing subtle, and not so subtly different children, of children immaculately conceived, of entire villages razed and sterilized... in the wake of a plague of miscarriages. (Bear 49)

Thirteen thousand men, women, and even children were killed in Georgia, Armenia, Abhazia, and Chechnya because they were believed to spread a disease that cause women to abort. Fifteen thousand pregnant women [in the USA] were murdered in the last six weeks. Fifteen thousand, Christopher. (153-154)

This resembles Nazi campaigns to find individuals who apparently belonged in internment camps, such as ‘a-socials’ or ‘hereditary degenerates’(Evans 74, 80) to remove them from the public based on assumptions of inherent criminality. It also animalizes the subjects in question, meaning political subjects, but beings that can simply be killed; their deaths become a technical question. By including this practice of eugenic purging, Bear demonstrates how the American state retains the right to kill of older sovereign societies. Though not as overt as the Nazi regime, Bear demonstrates that the US state has internalised the same compulsions to produce a ‘healthy’ body by eliminating those perceived as carriers of infection. The necropower these regimes exercise becomes self-defeating and auto-genocidal. As SHEVA is part of the genome, the virus is conflated with bodies and hereditary, meaning the only way to eliminate it is to eliminate anyone who has, is, or could carry it.

At the micro-level, Bear’s character Delia exemplifies similar injustices marginalised people face during a neoliberal pandemic response. NOSS enables Bear to connect the different types
of discrimination and how their intra-action results in the oppression of vulnerable people during a pandemic. Intersectional analysis of Delia’s circumstances examines the intra-actions of sociological phenomena that create multiple systems of oppression. Through the classification inherent in dominant liberal humanist ideology, those made less-than-human in the hierarchy of worth face different types of discrimination. The relationship between one identity category and the humanist image of man intra-acts to create discrimination. However, when a subject is ascribed more than one of these less-than-human identities, their associated oppressions intra-act, resulting in harsher and more violent forms of discrimination.

The sociological study of HIV/AIDS and the impact this has on social relationships is going to be used as a model for discussing SHEV A and the discrimination faced by SHEV A patients. Bear links SHEV A to HIV/AIDS in his afterword when discussing his interest in Human Endogenous Retroviruses (HERV). He states that scientific research changes fast, but he read about the role that HIV developed in combination with HERV to potentially mutate to be resistant to potent drugs. It is safe to say then that the HIV pandemic, with is biological interaction with HERV acted as a model for Bear’s fictional virus (Bear Afterword).

HIV scholarship has identified that one of the many causes of mass death during the pandemic was, and still is, the stigma around being infected (Loufty et al 1). This stigma is supported on the popularly accepted dualistic binary of infected/uninfected which in turn is part of the larger binary of healthy/unhealthy, able/disabled (Hanass-Hancock). HIV/AIDS patients have also said that sociological stigmatisation stems from a cultural mark associated with the disclosure of infection (Earnshaw et al 1160-1178). This mark is invisible, therefore, conceptual. However, Bear literalises this through SHEV A’s pathology and his patient’s marks. The sociological impact of SHEV A closely follows the model of the fallout from the HIV pandemic. Many disability scholars classify HIV/AIDS as a disability based on its impairment of the body to the point of inability to labour, produce and consume in the expected and desired manner. We class the SHEV A infection as a disability because it has the same effect - human bodies cannot labour and reproduce in the expected and desired manner, their process of labour is different, incompatible with the uniformity that capitalism requires to function.

While it is problematic that Bear only conveys such struggles through one character who is taken to embody them, Delia’s placement in the narrative allows readers access to the experience of other injustices relating to intersectional discrimination present in societies operating under systems of neoliberal capitalism. Delia is a young, black, and homeless SHEV A mother who meets the protagonists through hitch-hiking with her friends. Her bi-racial heritage and visible SHEV A marks create an intersectional discrimination borne of both racism and ableism. Black women with HIV have identified that their source of comfort and support about their diagnosis and all it entails are their families and other black women with HIV (Melton et al 300). Assuming similar circumstances for SHEV A patients, the fact that Delia is with her two white friends demonstrates that she is removed from adequate comfort and support.
“The girl’s face was blotched and mottled, as if splattered with reddish-brown paint [...] “Delia was pregnant, but her baby was born dead,” he said. “She got some skin problems because of it.” [...] “He was a white boy,” Morgan continued, [...] “and Delia is partly black.” [...] “I am black,” Delia said [...] “[he] said she was making him sick” [...] The pattern of demelanized, teardrop-shaped dapples, [were] mostly on her cheeks with several symmetrical patches at the corners of her eyes and lips. As she turned away from Kaye, the marks shifted and darkened. “They’re like freckles,” Delia said hopefully. “I get freckles sometimes. It’s my white blood, I guess.” (Bear 295)

There is also a triple layer of privilege being exercised by Delia’s boyfriend when her situation is analysed through the lens of intersectionality (Walby et al 240). His assumption of being able to hit her is based on the American acceptance of public sanctioned white violence against black people, the conflation of her infection with genetic pollution, and reproductive sexism. Bear states that men’s bodies are most likely the vectors of infection. However, women are still blamed for the spread of SHEVA, due to patriarchal views about feminine bodies and sexual morality. Therefore, Delia’s apparently unhealthy SHEVA body infects and supposedly feminises her boyfriend by placing him in the ‘passive’ position of receiver. The loss of privilege that comes from having his white, able-bodied, masculine identity challenged leads to him projecting his anxiety, and aggression onto Delia in a violent outburst. Delia’s boyfriend fits the identity categories Braidotti notes as being at the top of a hierarchy of ontological worth. His loss of this privilege (losing this status) leads to his violent attack against Delia, believing her infection to be the source of this loss.

This paper has examined the responses to a pandemic crisis scenario in Darwin’s Radio by examining the networked intra-action of different social forces, and their biopolitical and necropolitical consequences by analysing Bear’s use of NOSS. It has observed the linkages between Bear’s critique of biopolitics and a latent critique of capitalism, as well as the links between SHEVA and HIV, signifiers of discrimination, and institutionalised eugenic practices. Finally, it has demonstrated how Bear utilises characters such as Delia to represent the effects of such intra-actions at a personal level, as well as how neoliberal pandemic responses intensify the injustices suffered by already vulnerable members of the population. The focus on networks and the social phenomena they produce within Bear’s text gives us a critical framework with which to analyse and better evaluate the impacts of existing equivalents, such as the fallout from the Covid-19 pandemic.

Notes
1. ‘Significant modern SF, with deeper and more lasting sources of enjoyment, also presupposes more complex and wider cognitions: it discusses primarily the political, psychological, and anthropological use and effect of knowledge, of philosophy of science, and the becoming or failure of new realities as a result of it.’ Suvin, Darko. Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre. Yale University Press. 1979. 14-15.


Works Cited


Ben Horn’s project examines selected science fiction texts (both long and short form) by Philip K. Dick through the lens of ‘Speculative Realist’ philosophy. Drawing on thinkers such as Graham Harman, Ray Brassier and Timothy Morton, his work examines how Dick’s fiction critiques post-Kantian ‘correlationist’ philosophy (Meillassoux, 2007). His interest in ontology, genre fiction, and science has developed since his undergraduate dissertation. His project is supervised by two literary critics, one trained in phenomenology, the other in post-humanism. He is a fellow of the English PEN society, has participated in the ‘Anthropocenes’ and ‘Productive Futures’ conferences, and co-organised the ‘Speculative Futures’ event at the university of Birmingham (£200). He has co-authored a chapter for the upcoming book, Posthuman Pathogenesis with Jayde Martin and presented with her at the 2021 ‘Living in the End Times’ conference. He has likewise given seminars on the topic of science fiction, futurity, and crisis. He was an affiliate of the Centre for Digital Cultures During his undergraduate degree, he was awarded a Royal Holloway bursary and his work has been published in Foundation and Fantastika. He is also co-founder of the University of Birmingham Contemporary Theory Reading Group (CTRL Network).

Jayde Martin is a UKRI funded PhD student at the University of Birmingham. She has also been previously awarded a research grant for her MA in Literature and Culture. Her thesis analyses the representations of genetic science in feminist science-fiction by three authors: Octavia Butler, Nancy Kress, and Margaret Atwood. She uses posthumanist and transhumanist philosophy as a critical framework within her project. She has a special interest in the capability of science-fiction to act as a form of popular science communication. She has organised and chaired a panel on the importance of humanities methodologies in science and technology studies at the Nordic STS conference in 2019. Alongside this, she has co-founded two research networks These are the Central Posthumanism Research Network, and the Midlands Network of Popular Culture. She has previously contributed to the field of object-oriented research; her work explored museology as a key component of science (mis)communication. Her article Gender Identity: Friedrich Ziegler’s (1850-1920) Wax Models has been published in the journal Midlands Art Papers. She has co-authored a chapter for the upcoming book, Posthuman Pathogenesis with Ben Horn and presented with him at the 2021 ‘Living in the End Times’ conference.