Numbers for an Alternative Anthropocene: Population Counting and Humanity's Place Among Other Species in Daniel Keys Moran's *Tales of the Continuing Time*

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Abstract

This article approaches the science fiction series *Tales of the Continuing Time* from an animal studies perspective: examining Daniel Keys Moran's future earth which uses the means of respecting other intelligent species (artificial intelligences, genetically engineered beings, and aliens) rather than enforced bans on fertility to stop human population growth. Moran's world government, the Unification, does not enforce such bans effectively, despite taking over the Earth for this purpose. Moran's novels offer a picture of what happens when the rhetoric around population growth, and possibly justified fear, obstructs human will and human self-restraint.

Keywords: Population growth, animal studies, science fiction, neo-Malthusianism, evolution.

Resumen

Este artículo aborda la saga de ciencia ficción *Tales of the Continuing Time* desde la perspectiva de los estudios de los animales. Así, se investiga la Tierra futurista de las novelas de Daniel Keys Moran, en las cuales se representa un respeto hacia otras especies inteligentes (inteligencias artificiales, seres humanos genéticamente modificados, y extraterrestres) para parar el crecimiento poblacional, en vez de narrativizar políticas de prohibición la fertilidad. El gobierno planetario de las novelas, la Unificación, no impone tales prohibiciones de manera eficaz, a pesar de tomar el control del planeta con este fin. Las novelas de Moran ofrecen una imagen de lo que ocurre cuando la retórica sobre el crecimiento poblacional y el terror posiblemente justificado obstruyen la voluntad y el autocontrol humanos.

Palabras claves: Crecimiento poblacional, estudios de los animales, ciencia ficción, neo-malthusianismo, evolución.

Introduction

Science fiction has engaged with Thomas Malthus's *An Essay on the Principle of Population* since it first appeared. Mary Shelley, author of *Frankenstein,* and generally considered to have originated science fiction as a genre (Brantlinger 31-32), also wrote *The Last Man,* a novel about a future Earth struck by a devastating

disease, which faces Malthus's ideas head-on. While ultimately disagreeing with Malthus that starvation will inevitably follow human population growth, "most important" is the "point of agreement between Malthus and Shelley…[that] humankind is subject to the laws of nature that apply to all other living organisms. Even if humans would like to think of themselves as separate from the animal kingdom, such a fallacy can be disproved by a careful examination of the materiality of human life" (Cameron 185). This idea of humankind's subjection to nature in commonality with other species runs throughout Malthusian and neo-Malthusian science fiction—sometimes agreed with, sometimes contested by a literature that seeks ways to escape the constraints of humanity and the Earth (for instance, by engaging with post-humanism), but either way present and pressing itself on the author's consciousness. Thinking of ourselves in company with other species may even be a natural instinct, as Edward O. Wilson argues in *Biophilia*, which he defines as the desire "to explore and affiliate with life;" in fact, according to Wilson, "our existence depends on this propensity, our spirit is woven from it, hope rises on its current" (1). That hope includes the one that says humans will manage to leave room for other species to exist before it is too late. Neo-Malthusian science fiction can both acknowledge this desire and doubt the possibility of its realization.

Neo-Malthusianism can be defined as "[t]he ideological belief […] that excessive population is a major cause of poverty, and that lowering fertility will facilitate prosperity. A continuing tension in the movement has revolved around the question whether voluntary programs that simply provide improved access to contraception are sufficient to prevent potential societal disaster" (Hodgson and Watkins 471). Science fiction portraying neo-Malthusian beliefs increased rapidly in the 1960s and 1970s. While perhaps epitomized most famously by John Brunner's *Stand on Zanzibar* of 1968 (although Neal Bukeavich argues that *Stand on Zanzibar* is unusual in that it "departs from any such emphasis on individual agency [as appears in other ecological science fiction like *Dune*] and their narratives of fall and recovery, focusing instead on the ways various power structures shape and limit individual and cultural attitudes about ecosocial problems" (54)), it is hardly alone. Neo-Malthusian concerns were also present, for example, in Australian science fiction writer Lee Harding's story "Dancing Gerontius," published in 1969, in which "[o]ld people […] in a near-future, overpopulated world […] are kept sedated in clinics, but once a year the inmates are injected with drugs that give them a semblance of youthful vitality. They are encouraged to enjoy one day, the "Year Day," of orgiastic festivities, deliberately planned to kill as many of them as possible" (McMullen 75). Harry Harrison published the overpopulation-focused *Make Room! Make Room!* two years before Brunner's work, and A. Bertram Chandler's story "The Bitter Pill," "set in a future where forced retirement and restrictive laws pressure people reaching middle age to commit suicide" (McMullen 76), came out two years later. These overpopulated fictional worlds have runaway poverty along with runaway population and are almost exclusively urban; Ursula Heise, tracing the rise

of science fiction's concern with an overcrowded planet, notes that "Most population dystopias of [this] period, then, take the modernist metropolis enlarged to planetary size as their matrix for envisioning a global society" (75). There is less and less place left for the wilderness and the countryside, the "traditional" places for encountering other species, but more enforcement of the "materiality of human life" that Lauren Cameron notes matters to both Shelley and Malthus. People are face-to-face with other people, especially perhaps because poverty can no longer be hidden by careful social stratification (Heise 73), and cannot escape.

This inescapability continued to apply even as science fiction of the 1980s and 1990s became more hopeful that the Malthusian trap—the idea that "that population growth would eventually lead to natural resource depletion, poverty, starvation, violence, and population decline" (Decker and Reuveny 119)—was not closing in as hard and that population growth might be controlled or stopped. Heise notes that overpopulation in this time period was "no longer presented in the apocalyptic mode of earlier decades" (79), and mentions Kim Stanley Robinson's *Mars* trilogy as one work that deals with overpopulation in this more cautious, sophisticated manner. Chris Pak states that while "Robinson's Mars trilogy portrays a not unfamiliar Earth subject to overpopulation," it also shows an earth at the mercy of "pollution, global warming, rising sea levels, war, famine, and severe economic and political inequalities between the rich and poor" (176); the neo-Malthusian problem has become one among other problems. Likewise, Greg Bear's *Darwin's Radio*, published in 1999, imagines that "if new environmental conditions become intractable—if, for example, overpopulation and increased competition reach a critical stage—the genome, imagined by Bear as an onboard computer processor and troubleshooter, initiates a dramatic shift" (Dougherty 112). The novel, and the series that follow it, deal more with the results of that shift than with overpopulation itself. This is *life* in a neo-Malthusian world, rather than inevitable death.

The *Tales of the Continuing Time*

What makes Daniel Keys Moran one of the most interesting neo-Malthusian science fiction writers is the way in which he writes about humans on an overpopulated world as one species who must take their place among others, Moran's major novels fall into the series called the *Tales of the Continuing Time*. The first three span 1988-1993 (*Emerald Eyes, The Long Run, The Last Dancer*), and a fourth was published in 2011 (*The A. I. War: The Big Boost*). This gap means that the concerns of science fiction have shifted, but Moran maintains loyalty to the ideas of his first three books, which insisted that humans can only survive in their neo-Malthusian world with self-restraint, respect for other species, and acknowledgment of those material conditions that mark humans as one species among many.

Moran also presents an alternative vision of the Anthropocene. As Paul Crutzen defines it, the Anthropocene is "the present, in many ways human-dominated, geological epoch" (23). The fact of human domination is usually seen as negative, but "[b]eyond repeatedly demonstrating the negative impacts that humans have had on the Earth's environment, scholars have argued for several decades that humans have become the major driving force for global changes in the biophysical environment" (Olsson et al.). In Moran's world, some humans (and genetically-engineered people and artificial intelligences who are not considered by the government in charge as being human at all) make the decision to be a *positive* "major driving force for global changes in the biophysical environment." They choose to leave a space for other species to exist and step back from the philosophy of top-down control and ruthless competition between humans and other species that is preached by the world government of Moran's novels. In the end, their choice is the more powerful one.

Moran's world has been taken over by the Unification, a United Nations-based government that conquered or used nuclear weapons on all who opposed it; France is the only industrial nation to have survived largely unscathed. Their justification for the war is that "Species were vanishing into extinction at a rate unprecedented in geological history" and "The planet was dying" (*Dancer* 176) due to too many humans; there are "nine and one-half billion persons" on Earth in Moran's 2018 (*Dancer* 176). The Unification immediately imposes top-down control of fertility, including a Ministry of Population Control, the sterilization of large numbers of poor adolescent women, and requires expensive licenses of people who wish to have a child. They also engage in genetic engineering and the creation of cyborgs in a search for the ultimate soldier to keep the population under control. When their genetic engineering produces telepaths who can read thoughts and do not care for the Unification's control of them, one of the "Elite," French cyborg soldiers, orders a thermonuclear strike on "the Complex [the building where the telepaths are staying] and its terrible inhuman inhabitants" (*Emerald* 206). This event ends the novel *Emerald Eyes*, but it does not completely destroy the telepaths; two of them, Denice and David Castanaveras, survive, as well as a non-telepathic genetically-engineered child, Trent, who was raised with them. The other novels follow Trent and Denice, the protagonists of *The Long Run* and *The Last Dancer*, respectively, in their attempts to combat the Unification (Trent by bringing it down from the outside, Denice by working on reform from the inside). The fourth novel, *The A. I. War: The Big Boost*, returns to Trent and his attempts to remove a powerful warship intended to conquer the solar system from the Unification's control. Moran also proposed a graphic novel series, "The Face of Night," that was never picked up, but is outlined on his website and follows a martial artist named Ola Blue in the same continuum a few centuries after the events of Trent and Denice's time. Likewise, Moran has released the first few chapters of a mostly incomplete novel, *Lord November: The Man-Spacething War*, which portrays Trent and Denice's world six

centuries in the future, when humans have mostly emigrated from the overpopulated Earth and the telepaths, Denice's descendants, live on November, a planet of their own. In all these works, population counting functions as a tool to mark the progress of humanity in learning to coexist with other species rather than dominate them—to leave them room on Earth, and finally in the solar system and the "Crystal Wind," the immense Internet of Moran's world, to live in their own vast but not overpopulated numbers.

Moran's novels are written mostly in a third-person limited narrative perspective, from the viewpoint of a number of narrators but with most scenes concentrating on a main protagonist: in *Emerald Eyes* this is Carl Castanaveras, father of David and Denice, "the oldest and deadliest telepath on Earth" (*Emerald* 217); in *The Long Run* and *The A. I. War*, the focus is on Trent, and in *The Last Dancer* on Denice. However, each novel contains several scenes, with the majority of them in *Emerald Eyes*, that remind us the story is actually being told by the "god Named Storyteller" (*Emerald* 4), an immensely powerful time traveler from the far future who is also a descendant of the Castanaveras telepaths, and speaks in the first person. His position outside and above the ordinary time continuum gives him a unique power as storyteller: an essentially omniscient point-of-view that allows him to know all the characters' thoughts, their "private" conversations and actions, and, importantly for Moran's universe, the total number of people (from the whole population of Earth at any point in time to how many telepaths were born in a year). The Storyteller, as he is frequently referred to, can give us the hard facts about how much Moran's universe needs both some form of population control to keep its billions from starving to death *and* how ineffective the Unification's methods are. He is part of the story he is telling and arguably its origin—for example, he travels back in time to correct the ineffective science that was not working to produce living children at all, and he is the one who "took the broken long chains of dead matter, and brought them together in the pattern that would let Carl Castanaveras live" (*Emerald* 10). But he also fades in and out of that story, due to time travel, and can anticipate events, including his own death and the actions of other characters, before they happen. His word can therefore be trusted more than the word of mortals caught up in the story. And a great deal of his words are numbers.

The Storyteller first recounts how many telepathic children are born as part of the Unification's "Project Superman," aimed at producing super-soldiers. "Six such others were born between 2036 and 2042 […] In that year, 43 telepathic children were brought to term […] In 2049, 73 such telepaths were born. In the year 2050, 86 telepaths were brought to term […] In 2051, the year Trent Castanaveras was born, only twenty-four telepathic children were brought into the world. The Peaceforcers were beginning to learn enough to wonder if they should be afraid of the power they had helped create" (*Emerald* 17, 25). The Unification immediately reduces the numbers of their potential enemies when they begin to be afraid of them. Up until that time, however, the numbers are precisely recounted, year by

year of Project Superman, and the world that is supposedly so overpopulated has more children added to it. The Unification's deepest hypocrisy is to invoke overpopulation and the good of other species as a means to limit human fertility, but to break those rules the minute they think it would benefit them. Later, the telepaths will be considered as enemies of the Unification on their own, as an "inhuman" species whose numbers should be culled. The Unification is not truly on the side of helping other species thrive and flourish. Their goal is the consolidation of power among the rich elite, above the poor masses who, in true neo-Malthusian fashion, are the most common in Moran's world. It makes sense that Trent and Denice are among the few who see both this true desire and have the means to resist it.

The Storyteller also uses numbers to tell the grim story of the Unification's failure to end starvation on Earth: "By the seventh decade of the twenty-first century following the death of Yeshua ha Notzri, the population of Earth alone totaled eleven billion human beings. That number was not as large as it had been earlier in that century; the efforts of the Ministry of Population Control had trimmed the Earth's total population from a high of nearly thirteen billion" (*Emerald* 231). So it may seem that, for a time, the Unification was succeeding in its project of "trimming" human numbers, and that Moran's earth may escape the Malthusian trap. But nothing the Unification does can succeed. This Anthropocene suffers exactly the same fate as Malthus foresaw for nineteenth-century Europe: "Twenty-first-century Earth is notable, if for no other reason, in that more humans died of starvation in that one short century than in all the rest of Time put together. Of the twenty-three billion human beings born between the years 2000 and 2100 Anno Domini, some eight billion died due to a lack of food to eat" (*Emerald* 231). The Storyteller's perspective reassures us that Unification-dominated Earth is unique not just in the history of one planet, but in the history of all human-populated planets "in all the rest of Time put together." These numbers, cold though they seem, decisively mark the Unification's failure to achieve either of its goals, limiting human fertility or leaving space for other species to thrive. The only thing that increases is human suffering.

Climbing Out of the Malthusian Trap

With these numbers driving so much of the story, Moran's work reads like a hybrid of two of the three categories that author Lionel Shriver divides science fiction treating population problems into, living both in "Fear of population excess" and in "Fear of population professionals" (156, 158). Moran's Ministry of Population Control falls squarely into the category of "demographers [who] no more agree on optimal and catastrophic numbers than do the amateurs—which has helped to foster a whole literature demonizing not a population problem itself, but the people who think they know how to fix it" (Shriver 159). The population problem in Moran's particular mid-twenty-first century is made worse by the government's hypocrisy, lack of firm decisions, and apparent desire to reserve certain privileges

of reproduction to themselves while enforcing other norms on the people they consider beneath them, like the "small, protected elites [who] often control the seething horde through fascistic or mechanistic means" (Shriver 157) in novels that display fear of population excess. This is why the MPC's sterilization and "babychasing" efforts do not work. The Unification is a corrupt, dystopian government that *does* need to be removed from the playing board. But it cannot be replaced with unlimited freedom, either, which would lead to unlimited population growth. Trent tells one of the rebels he meets in *The Long Run* that ""We can't afford to support twenty billion people on this planet, so we need the Ministry of Population Control or something like it" (*Run* 30). This is the "fear of population excess" that Shriver talks about; the "something like it" is the alternative that Trent and his allies propose. This alternative is nonviolence on the one hand and voluntary self-restraint on the other. Trent's moral code boils down to, "Killing is wrong. It's *always* wrong" (*Run* 321, emphasis in original). He does not support the Unification's policies of executing its enemies and parents who break the law, and he does not support the rebels' policy of coming up with newer and deadlier weapons to kill as many Peacekeeping Force ("Peaceforcer") soldiers as possible. What Trent stands for is saner policies to attend to Earth's needs, including voluntary population control, feeding of the current population—Trent donates a good deal of the money he steals to food distribution organizations (*Run* 237)—and the recognition of humanity's place among other species.

The Unification spends considerable time and effort refusing to recognize that place, in part by persecuting another intelligent species that can survive in this world of strained resources by sharing one that is limitless: the humans' InfoNet or Crystal Wind, Moran's futuristic Internet based on a version of the bulletin board systems (BBS's) that were current when Moran began to publish the first volumes of the Continuing Time (Goldenberg and Manes 58). Information in the Crystal Wind is so dense that humans cannot navigate it unaided. Instead, Players (expert hackers and data-miners) such as Trent create "Images" that filter the information for them and permit them to concentrate on what is important rather than thousands of conflicting impressions. The artificial intelligences of this system are Images or other software that has become self-aware and self-replicating, rather than relying on humans to create code for them. Because they do not need the filters that Players do, they are actually better-adapted to the new environment of the Crystal Wind than the humans who built it. But the Unification, through its DataWatch, hunts down and destroys artificial intelligences as well as Players who have the ability to create and free more AIs. While this is ostensibly to prevent thieves like Trent from stealing sensitive data, it comes across as automatic, an "obvious" choice to cut down on competition for what humans might want to exploit themselves.

That there is another choice is obvious early on in *Emerald Eyes*, with the introduction of Ring, an AI created (unwittingly) by the old United States government to "protect America' and "survive." Ring debates with itself as to what

"protect" and "America" mean, looking up dictionary definitions to try and understand these ambiguous terms, while "Survival it understood instantly" (*Emerald* 87). Ring may be an organism formed of logic and code rather than flesh and bone, but it pursues the same goals that, according to primatologist Frans de Waal, drive all organic life: "Survival" and "reproduction" (163). Ring creates eight hundred copies of itself and sends them out so that it will survive when its original hardware is destroyed, thus fulfilling both goals at once (*Emerald* 91), and creating a numbered chance for survival for itself that contrasts sharply with the Unification's desire to reduce it to zero. There are humans in the story who agree with Ring. Trent the Uncatchable makes a deal with Ring as a child to electronically release him from a prison cell he cannot open himself, in exchange for an unspecified favor in the future (*Emerald* 213). Bargaining with an AI, rather than hunting it down and destroying it, is a form of cooperation. And Trent does more than bargain with AIs in later novels; when he steals the encryption key to the Lunar InfoNet, setting the information free, it is an AI he created, Ralf the Wise and Powerful, who independently decides to unite the separate Lunar and Earth internets, and Trent is forced to back down and revise his original plans, which only concerned the Lunar InfoNet (*Run* 376). That he backs down and revises his plans at all shows that Trent is more open-minded than most human beings, perhaps because of his own outsider status as a genetically-engineered "genie." Trent created Ralf as a child; Ralf saves Trent as an adult (*Run* 379). They are an important means of assuring each other's survival.

Likewise, Trent takes the survival of both human beings and AI's seriously. In *The A. I. War*, the rebels against the Unification attempt to use nuclear weapons to destroy the *Unity*, a gigantic warship the Unification plans to use in order to conquer the free city-states in the asteroid belt and on Mars. Trent not only disapproves of this tactic because it destroys human lives, but also because it has damaged the ship itself, and thus the AI, Monitor, in charge of running it. When asked to take over the plan to neutralize the *Unity*, Trent goes in disguise as a senior computer programmer, drives his team hard to repair all parts of the ship so that Monitor is again running at full capacity, and programs Monitor to recognize moral choice. Monitor adopts Trent's philosophy, and as a consequence, provides transport for all humans to leave the ship and then runs away, thus following Trent's own highly successful tactic against the Unification. Although the programming does imply that Trent has some degree of control over Monitor, this control is negated both by Monitor's disappearance into space and by his own statement to a Unification soldier newly converted to nonviolence by Trent: "Trent showed me that I could choose my own conduct. I choose not to be a killing machine" (*War* ch. 23). Just as Ralf the Wise and Powerful sets the united internets of Luna and Earth free, Trent sets Monitor free. Freedom is not a panacea, but it is the necessary precondition for humans and other intelligent species to relate in Moran's universe. The Unification emphasizes "freedom from," rather than "freedom to," exclusively,

including freedom from the presence of artificial intelligences that might cause humans trouble or even simply irritation. Despite the rationale of its conquest as saving the planet and the ecosphere that supports other species, the Unification's soldiers have extended their misguided philosophy of ultimate population control to the extinction of all populations of other intelligent species. Fear guides them rather than rational policy, rendering their actions in the name of slowing any kind of growth ultimately irrational.

With the Crystal Wind, which grows and expands with the intervention of many humans and which the government scrambles to control rather than improve, Moran's world acquires one dimension in which scarcity actually *is* only imagined by humans, not ecological. The Crystal Wind embodies the "cornucopian" view described by ecocritical theorist Greg Garrard as unworkable in the real world because it ignores the needs of other species and envisages relentless human expansion (17). The Crystal Wind *can* host other species without depriving humans; it can give humans endless entertainment, information, and help. It therefore is the most utopian aspect of Moran's alternative future. And it causes frustration and fear, not rejoicing, to the Unification and its DataWatch. They have abandoned one of their own founding principles, that of protecting other species from dying, and have leaped on the chance to kill off each emergent AI, the members of an artificial, human-created species who might have been far more loyal to their creators than any other organism on Earth. This is part of Trent's justification for destroying the Unification; they have diverged too radically from that ecological foundation to actually *accept* other species as part of their world. Humanity must be curbed in numbers, but so must AIs (to zero), simply in order to soothe the fears of the people in charge. Population professionals cannot be trusted.

"Inhumanity"

The same overzealous curbing of growth happens with the telepaths, who are, at least supposedly, genetically-engineered humans, but are inhuman to the soldiers of the Unification. They are first employed as information-gathering devices by the Peaceforcers, and then dreaded as enemies when they have legally won their freedom. Shortly before the tactical thermonuclear strike that destroys most of the telepaths, several of them fire on a cyborg, Mohammed Vance, who kills all of them, although they are only children and teenagers. The implicit justification for both the killing and the later nuclear strike is the "lack of any human hesitation" the telepaths have in firing back on their enemies, and the fact that Vance is "terrified by the sight." Later, Vance thinks of them as "inhuman" (*Emerald* 206). It is notable that the phrasing here positions the telepaths as negatively different from humans, "lacking" a quality humans have. Just like the AI's, if the telepaths are competition for humans or might threaten them, and cannot be made into slaves, then there is no place for

them in a human world. They are immediately given the status of something not merely different from but inimical to the human species.

The opposite framing, that of telepaths as different from humans in a positive way, is not missing from the books, but it comes only from other genetically-engineered characters. Trent, who is raised among the telepaths but lacks the gene that would give him their abilities, leaves them voluntarily when he realizes he will never be able to read minds. He tells his adoptive father, Carl Castanaveras, that "the day will come when you—when telepaths—will be normal, and the rest of us will be out in the cold because we can't compete. You're *better* than we are […] For most people, it's going to be a while before that happens—you don't breed that fast […] But if I stay here, that happens to me *now* " (*Emerald* 114; emphasis in original). Trent is sympathetic to the telepaths and considers himself to be in a familial relationship with Carl and others of them despite not being genetically related, but he still cannot help thinking in terms of a Darwinian competition between telepaths and "normal" humans and, once again, population growth. Even worse, the telepaths will become the new normal, replacing the unmodified humans and the modified ones like Trent who have other advantages but not the telepaths' abilities to read minds, wipe memories, manipulate objects, drive non-telepaths to insanity, and sometimes see the future. The Unification dominates the earth in the name of reducing human population growth, but at the same time, finds the thought of a reduction in that population coming from competition with other species absolutely intolerable. And the construction of that fear has reached down even into the minds of those, like Trent, who have every reason to resist it. Population counting, when done by the Unification, not Moran's narrator, is a powerful tool in the government's colonization of its citizens' minds.

The "excess population" of the telepaths is indeed reduced sharply to only two, Denice and her twin brother David, the biological children of Carl Castanaveras. Trent also survives, but because he is not a telepath, he is not hunted as earnestly by the Unification. And yet, although most people do not know any of the telepaths survived at all, the popular fear of them continues. Seven years after the death of most of his family, Trent notes, "The public's hysteria over the green-eyed telepaths had carried over; there was a degree of prejudice that green-eyed people ran into today that had not existed ten years ago" (*Run* 34). Francis Chandler, one of the men who tried to help the telepaths when more of them were still alive, tells Denice after he figures out her identity that "nobody walks around these days with green eyes unless they're real, and usually not then […]. [If] Sedon [a powerful rebel leader Denice is fighting] would have known, Denice Castanaveras, that you were the daughter of Carl Castanaveras […] you would never have gotten within ten klicks of him" (*Dancer* 257). Given that Sedon himself is a genetically-modified man with impressive physical skills, the ability to live thousands of years, and a hypnotic voice, this speaks volumes about the fear in which the telepaths are held within Moran's

world. They do not actually need to exist in any numbers; the fears about them are nearly hallucinatory, based on rumor and feeding on fear.

Perhaps the best comparison is the attitude that some people continue to have towards wolves, even years after they have largely been extirpated in Europe and North America; the terror of them makes people speak of controlling the small populations of reintroduced wolves in the United States and while "[w]olves are not all the things people want them to be, good or bad [...]; they've carried with them forever the most baggage [of any predator]" (Niemeyer 1). This fear has little to do with real wolves, which are still not present in large numbers even in national parks like Yellowstone where they are protected; they numbered 31 at one release, 35 at another (Niemeyer 1). It is a fear that says *any* wolves are "too many," are a "population excess." Likewise, any telepaths are too many. The price for a species of being classified as "inhuman," both in Moran's world and too often in our own, is suffering from human neglect at best, targeted extermination efforts at worst. It may take centuries for this fear to die. In the further future of Moran's imagined world, the twenty-fifth century where his proposed story "The Face of Night" would take place, Denice's descendants have emigrated to the planet November, which they rule as "[t]he Lords of the House of November [...]. There are not many of them, forty or fifty at any given time" ("Face"). Only hundreds of years later, on their own planet, and with their place in control guaranteed, can a self-sustaining population of telepaths survive. In this future, as well, there is on Earth "no hunger, no want, and no overpopulation" ("Face"). The numbers of humanity's genetically-engineered, exiled parallel species can only stabilize when the human population on Earth is also stable and voluntarily restrained. That future, not coincidentally, is also home to the "Trentists--members of the Church of His Return, more commonly called the Exodus Church" (*November* "Interlude"), who follow Trent's code of non-violence and respect for other species and have achieved a position of influence in spreading their doctrines. Trent's acceptance of telepaths as equal to humans does win, although only centuries after the Unification's influence has begun to wane.

The future of Moran's world also includes contact with alien, sapient non-human species, and Sedon, the rebel leader who launches Denice fights, justifies his extensive manipulations and murders by telling Denice that he has seen a recent picture of a spacecraft showing a ship of the Sleem Empire. These are aliens who will be implacable foes of humanity, or rather of human freedom to expand into space as they wish. "[T]he sleem make fine masters. They will enclose us in this solar system, place an outpost like the one at Tau Ceti to ensure that we never attempt to leave Sol System. And aside from that they will leave us alone [...]. [L]ife is too precious a thing to be wasted in subjugation to *anyone* [...]. If there must be a hand to hold the whip, that hand is ours" (*Dancer* 519; emphasis in original). The "ours," for Sedon, refers to the Dancers, genetically-engineered humans who can move faster and kill more efficiently than ordinary humans. Sedon is one, exiled to Earth because of attempting to lead a revolution on a world where a group of humans originally from

Earth settled long ago, and Denice has become one by virtue of the superior speed and strength granted to the telepaths. Although it might seem that Sedon, who opposes the Unification, is their complete opposite—he wishes for unlimited human expansion—in reality, he has fallen into the same pattern as the Ministry of Population Control and other elites. He assumes that the growth and freedom of any other species not subject to human will is inherently dangerous to humanity. What humans will do when they encounter aliens other than the sleem he does not say, but the future looks bleak for them—extinction at worst, slavery at best.

Again, the right answer is coexistence and cooperation, and in the future of Moran's world, the reader learns that "only humanity's alliance with the K'Aillae [another alien species] allowed either humanity or the K'Aillae to survive" a war with the sleem ("Face"). If Sedon had succeeded in taking over Earth, he would have doomed the species he wanted to rule with his grandiose vision of humans winning, expanding into the galaxy, and extinguishing the sleem alone. Hostility toward the sleem may be justified when it comes to the thought of them ruling over humanity by trapping it in the Solar System, but the politics of extinction would have turned on humanity in this case. Humanity's future freedom, won by the alliance between humans and the K'Aillae, does not mean the extinction of the sleem, either. Instead, it depends on another kind of coexistence; "[t]oday, with the power of the sleem broken, humans and sleem generally avoid one another" ("Face"). Since sleem and humans cannot share the same environments anyway, and in fact die when exposed to each other's native atmospheres ("Face"), this kind of cooperation to keep the peace is only sensible. The sleem do not have the kind of dominance over humanity that Sedon envisioned and feared, and humans do not possess and poison other ecospheres or open space the way they did Earth. Once again, the triumph of cooperation depends on human will, this time to refrain from war as well as overpopulation and from reducing the numbers of *any* alien species they encounter, even ones they might have envisioned as enemies.

The Cyborgs: Just Human Enough

The Unification does make use of one kind of augmented human that is acceptable because they serve the will of the Unification and do not actually increase the number of humans in the world, since they are built out of existing humans. This is the Peaceforcer Elite, cyborgs who are made mostly from French soldiers and have such features as lasers buried in one fist and movements too fast for the unmodified eye to follow (*Emerald* 166). While they, like the telepaths, have advantages over unmodified humans, the Unification celebrates the willingness of those Peaceforcers who become cyborgs. It involves grueling months of surgery and replacement of so many body parts that the necessary procedures can be only be performed in space, but the change is highly coveted, and even a Peaceforcer offered the treatment without advance notice declares, when asked if he feels fear, "No. No, sir, I am

honored" (*Emerald* 44). The Elite are the powerhouses of the Unification, the soldiers who are sent out to cope with everything from rebels to the "inhuman" telepaths. With their more-than-human capabilities grafted onto living bodies rather than engineered into them, they can still be seen as human because they are not different at the genetic level, formed of computer code, or born in a different atmosphere.

Also, as Donna Haraway says, "Cyborg replication is uncoupled from organic reproduction" (292). The Unification controls the numbers of the Elite and is the only organization that can make more, which also makes them less of a threat to "real" humans than biological organisms or AIs. A few of them, including Melissa du Bois, an Elite candidate whom Trent the Uncatchable first meets before she becomes a cyborg, do embrace Trent's message of rebellion and non-violence, but this is rare. It reflects the fundamental hypocrisy at the heart of the Unification: anything rendered "inhuman" or which may be "better than human" is not to be trusted, even if created by people working for the Unification, but the Peaceforcer Elite, which come from the social and monetary small-e elite of the army's higher ranks, are an exception. The growth of telepaths, although originally endorsed by the Peaceforcers, is seen to be a mistake and quickly cut off, but more Elite continue to be created, and after Sedon's rebellion, when the rebels figure out a way to use a laser on the superconducting mesh beneath the first kind of Elite's skin and burn them to death, they are modified to be invulnerable (*War* ch. 2). And the Elite's effectiveness can be seen from the Storyteller's comparison of their population decline compared to the decline of the U.S. regular human population in Sedon's rebellion: "In the course of that rebellion, rebels killed three hundred and forty-seven of the deadly PKF Elite [...]. The PKF, under the command of [Elite] Mohammed Vance, killed two million Americans" (*War* "Prolog"). The Elite ease the Unification's way into the hearts and minds of Americans by killing off those with rebellious hearts and minds.

The Elite could be a dagger pointed at the government's heart should they ever rebel in huge numbers, but they are simply assumed to be loyal, and then further improved and changed, out of a sense of safety no less misguided than the fear of telepaths. In this, they are treated as machines which are supposed to be infinitely programmable and manipulable—again, more comfortable than biological beings *or* the free AIs. The Unification once again reveals itself as concerned solely with the growth in numbers or "inhuman" capabilities of the "lower" classes, in this case the non-French, non-rich masses it rules over. Numbers are simply not a concern for the Unification when it comes to its own weapons. Since they aid in its domination of the planet, human beings, and even other species, given that it is an Elite who orders the destruction of the telepaths, the Unification has no reason to restrain them; growth of its own domination is the one kind of growth that need not be restrained. Again, it remains up to characters outside the Unification, including

Trent, Denice, and the A.I.'s, to present a different vision, one closer to the truth about reasonable population control.

This means voluntarily limiting population growth, because humanity has come to realize that we do not have the *right* to spread across the ecosphere and destroy it. It is a self-restraint much like the one Bill McKibben advocates in *The End of Nature,* where we relearn what "over the last few centuries we've forgotten, to our peril [:] how connected we actually are to the rest of the fabric of creation [...]. We *are* different from the rest of the natural order, for the single reason that we possess the possibility of self-restraint, of choosing some other way" (xv-xvi, emphasis in original). It must be a choice to coexist with other species, not to enslave them, and to stop using cyborgs as weapons. Trent and Denice win the long game, the only one that matters, even though in the short term Trent is permanently on the run and Denice absorbed into the Unification by her eventual marriage to a moderate politician. In the furthest future of *Lord November*, "With Earth's population down below four billion, people were perhaps rarer than they had once been" ("Summer 26, 2676 Asimov"). They have, at last, assumed their rightful numbers, ones that no longer hurt other species whether on Earth or on other planets, and no one dies of starvation in the future of *Lord November*. The Unification, too, no longer rules Earth by this time, which is not a coincidence.

Conclusion

The *Tales of the Continuing Time* series stakes out a firm position in neo-Malthusian science fiction: surely human population growth is real, surely it must be stopped, but just as surely policies of coercion on a mass scale must be opposed. It is individual human will that must make someone decide not to have children, as Trent does, or only to have one, as Denice does; to cooperate with other species; to aspire to non-violence. In many works of science fiction terrified about population growth, "[u]nder the threat of revolt provoked by scarcity, democracy is forced give way to totalitarianism" (Domingo 731). In Moran's world, totalitarianism proves as much a wrong choice as democracy uninterested in doing anything about human numbers. No amount of "babychasers," child licenses, or hypocrisy covered in rhetoric about the good of the planet will compensate for the lack of individual choice. On the other hand, neither is unchecked human population growth and an unrestrained will to dominate a viable option; humans must check their own freedom to ultimately have greater freedom in the future.

Moran's "solutions" to the problems of his future Earth may seem overly simplistic. We have neither space travel to relieve population pressures on our Earth, nor other species who can speak a recognizable language of rights and freedom to us like Moran's AIs and telepaths and who are able to force us to restrain ourselves so as to leave a space for them in the human effort to dominate the planet. But that makes our own restraint only the more important, even heroic. We are *not*

alone even if we do not have sleem ships floating in the distance or telepaths born from genetic engineering to instill us with fear. We have other species who depend, like us, on the fragile resources of this one planet, and who we might still choose to cooperate with, coexist with, leave a space for. Choosing to believe that our own needless killing of the biosphere is wrong and working to stop it is certainly possible. Moran's alternate Anthropocene is as much a vision of hope as it is a warning. Like Trent and Denice, we require the will and the freedom to enact it.

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