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The coldest of all cold monsters: state infliction of infertility.

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Abstract: The state may decide to limit its population due to a variety of reasons. This paper reviews the intersection of state-induced infertility in science-fiction, exploring eugenics, overpopulation, along with state-devised strategies to control both overpopulation and the quality of the remaining population.

Keywords: science fiction; infertility, demodystopias, eugenics.

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Infertility is a common problem that afflicts many couples, and has been used as a springboard for many SF narratives. The trope of infertility in SF is too vast to embrace in one paper. In a previous essay, the trope of the state manipulation of the human sex drive was discussed, with a focus on the deliberate tampering of the sex drive and on gender orientation as methods by which fertility can be reduced (Grech 2012). In this paper, only the intersection of deliberate, state-induced infertility on the large scale in other ways will be examined. All of this work is derived from a doctoral thesis (Grech 2011).

Infertility may be perceived to be a desirable form of contraception, deliberately and selectively induced by the state as in the absence of intelligent restraint, it is natural biological law and instinct that drives reproductive behaviour, and hence, the presence or absence of offspring and their numbers. In the modern world, factors which determine the desired number of children are economic, cultural, political, historical, or geographical. Children are now often viewed as commodities, and the cost-benefit ratio of offspring can actually be calculated as an economic value to the parents and on the state. In developed countries, these factors appear to be consciously or unconsciously but accurately calculated by potential parents, and children are now produced where the overall benefits are perceived to be positive to their parents (Tian).

Thomas Moore originally depicted utopia as a dream of heaven realised on Earth, and in the setting of this paper, dystopia represents a demographic “version of hell as a projected societal future” (Domingo 725). Domingo has coined the term “demodystopias” for “[d]ystopias that are brought about by demographic change or that make population matters a salient concern” (725). Shriver classified such literary works into three categories: fear of population excess, of population

decline, and of population professionals, referring to groups of individuals that attempt to influence demographic change (Shriver).

This paper will attempt to exhaustively list all narratives in SF wherein the dominant trope is the wide-scale state inducement of infertility, for whatever reason, although most of the narratives depict the State as controlling the population for fear of excess, or influencing demographics through eugenic principles. All narrative forms will be included, and hence, only a brief synopsis of each story will be given. This paper will inevitably have an interdisciplinary leaning as the first author is a medical doctor, and hence, any scientific inaccuracies that surmount acceptable poetic license will be pointed out.

Narratives

Brave New World was one of the earliest works to anticipate the social impact of improved reproductive technology and it is the state's dystopian strategy to regulate and regiment all aspects of individual and group life. In the same year, von Otfred's "In The Year 8000" depicted a dystopia with rigid birth control and a with a substantial proportion of the female population voluntarily desexualized and neutered.

Reality may soon catch up with Huxley in that manipulation of rhesus monkeys has shown that behaviour can be permanently altered, turning subjects from aggressive to compliant creatures by blocking the effects of a gene called D2 that is expressed in the brain. This destroys the link between the monkeys' motivation and perceived reward, and monkeys were made to work enthusiastically for long periods without the need for a reward at the end of their labours. Humans have an identical gene that could potentially be used to create individuals akin to Huxley's Omegas in *Brave New World* (Liu). The novel depicts 'ectogenesis', that is, extrauterine fetal incubation, a term coined by J. B. S. Haldane, the transhumanist pioneer. Indeed, Japanese researchers have created an artificial uterus and kept goat fetuses alive for several weeks (Kuwabara). Haldane argued against the automatic rejection of transhumanist advances due to our innate conservative biases and fear of the unknown, predicting that the 'abolition of disease will make death a physiological event like sleep'(73).

Celibacy is actually imposed by brainwashing techniques in Knight's "Hell's Pavement" (1955) wherein the protagonist, who is immune to the brainwashing imposed by State machines, attempts to embrace a girl, who automatically shies away from him. Similarly but more benignly, the ruler of a religious cult in the *Star Trek* universe enforces his member to pledge a covenant of abstinence (Kretchmer). However, the first major dystopian novel incorporating the total State control trope, including interference into ordinary citizens' sex lives is Zamyatin's *We* (1924), where sex frequency, timing and partners are all selected by the state. In a more technological vein, in Levin's *This Perfect Day* (1970), the programmers of a master control computer dictate every aspect of marriage and reproduction.

A more recent take on this trope is depicted in Oliver's *Delirium* (2011) where government is a right wing dictatorship, love is outlawed, and on their run-up to their eighteenth birthday, teenagers are evaluated, their career mapped out, and given three choices of prospective spouses. At around their eighteenth birthday, they then undergo a lobotomy-like procedure that renders them emotionless. All of these stories restate foreboding with technology and science, and where these might lead us, as "SF [...] is a popular literature that concerns the impact of Mechanism [...] on cultural life and human subjectivity" (Luckhurst 4).

On the other hand, the state may decide to logically limit births according to eugenic principles. Eugenic population control is a common trope, as we shall see time and again, not only for humanity, but also for alien species. The English scientist Francis Galton, cousin of Charles Darwin, coined the term “eugenics”, which he defined as “the science which deals with all influences that improve the inborn qualities of a race; also with those that develop them to the utmost advantage” (Galton 1).

In 1907, for this reason, the state of Indiana passed the world’s first compulsory sterilisation law, and other states and countries, including Nazi Germany, followed suit. The result was a program of compulsory sterilisation of physical, mental, and social “inferiors.” In 1955 Alan Gregg likened the human race to a cancerous growth on the face of the planet and in 1960, Raymond B. Cowles proposed a “nonbaby bonus” to be paid by governments to potential parents for not having children. In 1967, William and Paul Paddock proposed a system that would cancel all American food shipments to countries that failed to control their population problems, proposing that such countries should simply be left to die out of mass starvation (Chase).

Perhaps the greatest influence however was Ehrlich’s *The Population Bomb* which forecast massive famines for the 1970s in the Third World and encouraged authors to “to write novels or plays emphasizing near-future worlds in which famines or plagues are changing the very nature of mankind and his societies” (170).

More recently, between 1990 and 2003, the Roma minority in Czechoslovakia experienced coercive sterilisation to curb their fertility (Bertram). This exact scenario was depicted in Lester’s “The Reign of the Ray” (1929) where, after a superpower war, the American people live under a dictatorship, with the unfit and criminal sterilised by the State. Similarly, in the future represented in Tucker’s “The Cubic City” (1929), defectives and the insane are sterilised.

Eugenics feature in Walter M. Miller’s “Conditionally Human” (1962), wherein overpopulation forces all governments to limit births eugenically. Overpopulation is blamed on science that has made it easier for the individual to survive into a long old age. The solutions to this conundrum are seen to be euthanasia, an increase in the retirement age, working the elderly to death or impeding scientific progress. Since the elderly are able to vote but the unborn are not, birth restriction is enforced. Couples who break the law and have children are separated and reassigned to a common labour pool. The state allows the sublimation of the parental instinct in ‘neutroids’, semi-intelligent animals with induced infertility and growth failure derived from chimpanzee gametes. Women have voluntary medically induced false pregnancies and then undergo ‘pseudoparts’, at which point they are united with their chosen neutroids, who are exogestated.

The desperate substitution of human babies with surrogates, including those of primate origin, is also seen in Jensen’s *Ark Baby*, James’s *The Children of Men* and Kress’s *Maximum Light*. It must be reiterated, at this stage, that in these narratives, which are generally representative of SF, ‘ambivalence towards technologies is often the presiding spirit of engagement’ (Luckhurst 5), particularly in this context where individuals, including notable figures such as Aldous Huxley, were convinced that without eugenic population control, the overall intelligence of the populace would inevitably plummet, since in terms of numbers of offspring, the less intelligent outnumber more intelligent (Huxley, “What Is Happening,” “Are We Growing Stupider?”).

Mankind has also inflicted infertility on cloned dinosaurs in Crichton’s *Jurassic Park* (1990) by limiting the creation of clones to those that are only female. Human clones created specifically for fighting are also created sterile in Kojima Productions’ futuristic computer game *Metal Gear Solid 4: Guns of the Patriots* (2008), and also age more quickly and die more quickly. The inclusion

of computer games that also deal with infertility in SF bolsters the contention that humanity has entered “the third stage of capitalism, [...] which issued in the radically different technology of cybernetics and computers” (Jameson 21), a world dominated by “the new abstractions of the computer and of globalization and finance capital” (Jameson 93).

Eugenics also plays a role in Silverberg’s *Tower of Glass* (1980) which recounts that starting in the 20th century, humanity reduced its numbers with war, famine and anarchy, particularly in Asia, Africa and South America, while developed countries reduced their populations through contraception. Since machines and androids performed all menial labour, the proletariat, feeling itself redundant and encouraged by free government contraception, slowly bred itself out of existence, spurred on by “genetic laws” that only permitted those considered fit to have children to reproduce. Conversely, in Čapek’s *R.U.R.* (1921) human-created and human-looking androids continue the race when humanity finds itself becoming sterile.

It has made some writers and thinkers harbour (somewhat social Darwinist) ideas about the success of modern medicine. As physician and poet William Williams put it:

[b]y and large we couldn’t live in the world today were it not for the medical profession [...] we’d plain die, masses of us, tomorrow, if medical techniques were not kept up [...] on the other hand, we may be populating the world with idiots. No one knows the answer (Williams 291).

This is famously depicted in two of C. M. Kornbluth’s stories, “The Little Black Bag” (1950) and “The Marching Morons” (1951). Kornbluth was a satirist who, in the style of Jonathan Swift, wrote about worlds where idiots take control, and in these two narratives, Kornbluth explains that while the intelligentsia of the past were being prudent and demonstrating foresight by curtailing their total number of offspring, the shiftless, short-sighted and less intelligent outbred them, leading to an extreme but logical conclusion: that self-imposed fertility limitation by the intelligent leads to an overall decline in humanity’s collective intelligence. These two narratives also highlight a common Straussian strain in SF, the somewhat fascist notion that the enlightened should administer and rule for the betterment of all. These narratives all support the assertion that SF

notoriously reflects contemporary realities back to us through the lens of a particular type of imagination, one associated with the future, with the potentials of technology, and with the important idea that life does not remain static; what we know today may be entirely different tomorrow (Pearson 3).

An even more chilling and drastic solution to the overpopulation problem is envisioned by Hoffman in “Soundless Evening” (1972), where each individual is given one “life permit”, the right to have one child, and couples are therefore only allowed to rear two children. Any extra children are only allowed to live up to the age of five as up to this age, such individuals consume relatively little resources. At this age, by a chilling methodology that is reminiscent of the deaths of Magda Goebbels’s children, these children are murdered by their parents through the use of a painless poison that is collected from a government agency, and official arrangements are made for the corpse to be collected on the following morning.¹

¹ Magda Goebbels was the unofficial First Lady of the Third Reich and wife of the Third Reich’s Propaganda Minister, Joseph Goebbels, from whom she had six children, Helga, Hilda, Helmut, Holde, Hedda and Heide (all deliberately starting with the same letter as Hitler). During the invasion of Berlin, at the end of the Second World War, she poisoned all six children and then committed suicide with her husband in the garden of the Reich Chancellery (Meissner)

This unsettling short story unquestionably lives up to Ellison's *Dangerous Visions* anthologies notoriously contentious reputation (which commenced with the original *Dangerous Visions* in 1967).

Similarly, in Disch's "334" (1972), both compulsory contraception and eugenics are practised in response to global overpopulation. Keller's older "A Biological Experiment" (1928), depicts the progression with time from the populace requiring a permit to marry and to have a child so as to control overpopulation, to compulsory sterilisation for the unfit, to children fertilised outside the body from selected gametes and gestated in artificial wombs, with a permit also needed to raise such a child, once again depicting the techniques with which SF showcases humanity's "concerns over the creeping advance of Mechanism" (Luckhurst 5).

Eugenic constraints also feature in Brunner's *Stand on Zanzibar* (1968) where only the genetically approved may have children. Likewise, in the overpopulated Earth depicted in Asimov's *The Caves of Steel* (1954), the protagonist and his wife are allowed to have two children because of their intelligence rating, genetic status and position in Earth's bureaucracy. Conversely, and binding in two more tropes that will be discussed later, extrasolar spacers have life expectancies that are far longer than Earth humans, and hence, population increase is rigidly controlled, and this is associated with distaste for physical (including sexual) contact.

A similar development in Heinlein's "Beyond this Horizon" (1942) leads to self-imposed infertility. In this particular future, genetic technicians enable couples to have the best possible offspring which they could potentially procreate by combining their genes in a process of artificial selection instead of by blind chance alone, prefiguring *GATTACA* (1997). A group of completely unaltered humans are left untouched, so called control naturals. One such couple applied to undergo the process of artificial selection, only to be told they had no characteristics worth reinforcing in a baby, and they therefore decide not to have any children.

In an even crueler twist, in Nourse's *The Bladerunner* (1975), the general population's access to medical care is dependent upon their acceptance of medical sterilisation, a true Hobson's choice that will be encountered again within the general trope of medical treatment. Interestingly, Kirby stipulates that Niccol's *GATTACA* suggests that bioethical issues arise when society blithely accepts the genetic-determinist ideology constructed by geneticists who envisage humanity enslaved by its genes, and "blood provides the dominant metaphor" (Kirby 206), a symbol for the individual's genetic make-up, and hence the film's subtitle 'there is no gene for the human spirit'.

In a more sinister vein, in Cowper's *Kuldesak* (1973), an overpopulated Earth gives free rein to a controlling artificial intelligence (AI) to find a solution for overpopulation before humanity destroys itself. The AI's solution is to cull huge swathes of humanity, and imposes itself as a god over the remainder, the majority of which are 'budded'. Budding refers to 'cortical implantation', presumably of electrodes of some sort that allow direct individual stimulation of pleasure centres in the brain. Males are inexplicably rendered infertile by this process and both sexes are rendered docile and malleable to the AI's purposes. This is erroneous as deliberate damage to the areas controlling sex hormone and sperm production – the hypothalamic-pituitary axis located in the base of the skull – may be caused by electrode implantation, but the novel only mentions cortical implantation, a reference to the forebrain.

Some humans, referred to as 'roamers', are not budded and allowed to run free, and their function is to be milked of sperm during physical punishment for transgressions in an almost sado-masochistic ritual. These narratives illustrate humanity's concerns, possibilities "in which our own war machinery begins to function for itself, computer intelligence now turning against the human

intelligence which once constructed it and, in its autonomy, turning against the human beings which are now its enemy” (Jameson 114).

In Piercy’s *Woman on the Edge of Time* (1976), a “utopian community manages successfully to integrate advanced technology, social planning, individual liberty, and a close connection to nature [...] all citizens [...] are treated equally regardless of race, gender, or other differences” (Booker 340). The population is controlled by having children to only replace deaths, and children are raised by groups of three co-mothers who may be male or female. Any of the trio may lactate, even males, as milk production is stimulated artificially, and all infants and toddlers are housed communally in large nurseries. Monogamy, the nuclear family and sexual exclusivity are obsolete. Language is therefore not gendered, the word father is lost, mother may denote a member of any sex and the third person pronouns “he” and “she” are replaced by “per”, a contraction for “person”. Piercy also depicts an alternative dystopia in a parallel universe wherein “women function only as the property of men and the men themselves are little more than machines,” (Booker 340), and a privileged clique of capitalists enjoy long life and affluence on space platforms, while the majority live on a decayed Earth, living on a diet of drugs and sex with ultimately death to look forward to in middle age after selling their organs to the rich for transplantation. Once again, SF clearly cautions us; “the message seems clear: we can continue the way we are going until we reach this dystopian state, or we can change our ways and work toward utopia” (Booker 340).

In Damon Knight’s discursive utopia *A Reasonable World* (1991), the impact of a totally foolproof contraceptive leads to the development of sexual intercourse as a performance art form. Silverberg extrapolates this theme even further “In the Group” (1973), where sexual experiences (including the input of all senses) during copulation are transmitted through technological means to the rest of the members of an entire group, a assemblage that is dispersed around the world.

In complete contrast to state imposed overpopulation measures, Silverberg’s *The World Inside* (1971) is an overpopulation story with a paradoxical twist in that a global population of 75 billion live in basic comfort, in a state of total promiscuity and unrestricted population growth. Questioning the *status quo* may brand the individual incurably insane with the imposition of an immediate death sentence.

In Del Rey’s *The Eleventh Commandment* (1962), anti-contraceptive matters are taken even further when the Vatican is vaporised in a nuclear war and a new pontiff is chosen from among the American cardinals resulting in a schism, with the establishment of an eleventh commandment: “be fruitful and multiply and replenish the Earth” with contraception actually being illegal. The protagonist, a human colonist from Mars, visits Earth and wears a contraceptive patch, but this fails, and the reason given is the higher gravity of Earth, rendering the patch ineffective. Conversely, in McDevitt’s *The Engines of God* (1994), in the setting of an overpopulated Earth, the State gives benefits to childless couples and the Pope exhorts the faithful with regard to the advantages of celibacy.

A similar scenario is depicted in Taylor’s *Star Trek* episode “The Mark of Gideon” (1969), when the *Enterprise* crew discover a grossly overpopulated planet and Kirk suggests to the rulers that his Federation would be willing to provide any kind of contraceptive devices that the populace would need. These narratives particularly illustrate SF’s need to pass a reality-test, a test of plausibility, often resorting to direct or indirect technical explanations to support narratives, thereby emphasising “the necessity and possibility of explicit, coherent, and immanent or nonsupernatural explanation of realities” (Suvin, *Metamorphoses* 67).

The state subversion of population control into eugenics is also used in Larry Niven's *Known Space* stories (Niven, *Protector*), and the best known novel set in *Known Space* is *Ringworld* (1970). This refers to an artificial, ring-shaped structure, a million miles wide with the diameter of Earth's orbit, and therefore a total habitable inner surface area of three million times that of the Earth, a slice of a Dyson sphere (Dyson). In this future, complete contraceptive birth control is achieved by the annual subcutaneous administration of a crystalline drug.

As in *Ringworld*, since the early 1990s, modern medicine has provided injectable depot contraceptive hormones that are released over several months, for both sexes. With an estimated 60% of all unplanned pregnancies in the developed world occurring in women using some form of birth control, it is anticipated that this range of options will provide more effective contraception, albeit without preventing sexually transmitted diseases due to the lack of the barrier nature of these systems (Johansson). Other alternatives, of course, include the daily contraceptive pill, developed in 1951 by Djerassi and colleagues, earning him the 1973 National Medal of Science.² Djerassi is yet another interdisciplinarian, having turned, in later life, to writing SF and plays.

Contraception in *Known Space* is enforced with humans on Earth only allowed one "Birthright" each unless one has proven abilities such as useful psychic powers, or for survival genes such as natural longevity or perfect teeth. Conversely, a select few (200 on all of Earth) with highly prized traits are allowed unlimited birthrights. Birthrights can also legally be bought for very large sums of money as the ability to make money is considered a proven survival trait, and this avenue incidentally supplants bribery attempts. One can also fight for Birthrights in the arena. The winner earns two Birthrights and the loser loses Birthright and life, evening out the equation (Niven *The Long Arm*).

Two other sentient species exist in this setting: the herbivorous (and therefore cowardly) "Puppeteers" (*Ringworld*) and the carnivorous "Kzin", evolved from plains hunting cats ("The Warriors"). Brave Puppeteers are considered to be insane and not allowed to breed forcing the (relatively) courageous Puppeteer protagonist in "Ringworld" to volunteer to visit the Ringworld in return for being allowed to breed. Kzinti are not allowed to breed until they display bravery and loyalty. Kzinti are occasionally allowed to go to the "sterile ones" (infertile female Kzinti) as a reward for valorous deeds (*The Ringworld Engineers*). A small percentage of Kzinti are telepaths, shunned and viewed with contempt as they are stunted and addicted to a drug that makes them telepathic, yet sought and used for these special abilities until they are burned out. However, this subgroup is despised and not allowed to breed ("The Warriors"). Therefore in all three species, despite radical differences, individual worth is deemed important in allowing members to breed according to eugenic principles. A recurring focus that is recurrently raised by these stories is that SF is a literature of "technologically saturated societies, a genre that can therefore emerge only relatively late in modernity" (Luckhurst 4).

A state imposed, fertility-limiting theme is portrayed in Card's *Ender's Game* (1985), and a particular family that produced two brilliant children were allowed to have a third child. State coerced infertility has also been seen in our times in China, with the "one family one child concept" (Pao).

The State enforcement of abortion has also been depicted in Anderson's "The Big Rain" (1954) where the protagonist's female love interest is made to undergo an abortion so as to have an excuse to meet the protagonist – and use this opportunity to inveigle him into sedition – since she is depicted as not having become pregnant at a previous tryst.

²It is ironic that a prize was also given to the scientists to who made great inroads into infertility (Alok).

Only “worthy” individuals are allowed to breed in McMaster’s *Ethan of Athos* (1986), a male-only world where individuals’ works and actions that benefit society gain credits towards eventually having offspring.

The tables are turned on the white Caucasian population in Heinlein’s *Farnham’s Freehold* (1964) set in the future after a nuclear exchange. Whites are slaves and also livestock, bred solely to provide servitude and food for the State that consists of cannibal blacks. White male servants are used as breeding studs or as servants, and for the latter purposes, they are castrated for the purposes of domestication. A soma-like drug called ‘happiness’ provides further docility.

Discussion

A common theme that surfaces from these narratives is that SF has both questioned and explored the problematics of eugenic population control, including both pros and cons for this type of manipulation. Like *Brave New World*, many of these narratives fulfil several roles: “satire on contemporary culture, a prediction of biological advances, a commentary on the social roles of science and scientists, and a plan for reforming society” (Woiak 106), along with “a denunciation of totalitarian systems” (Domingo 726), reiterating the versatile nature of the genre through the wide variety of different depictions of dystopian futures.

Such narratives, particularly the older works, “reflected public anxieties about the supposedly degenerating hereditary quality of the population and how this decline would affect [...] economic and political future”, real and perceived worries as to the impending decline of entire empires and nations (Woiak 106). For individuals like Huxley, “in this social context, eugenics was not a nightmare prospect but rather the best hope for designing a better world if used in the right ways by the right people” (Woiak 106), an attitude that is nowadays considered not only reprehensible but also repugnant. These modern attitudes stem from our experience of how power corrupts and SF warns us that once such trends are initiated, it is almost impossible to stop the state juggernaut, since no one watches the watchers.

This admittedly small corpus of works also demonstrates that SF is “a literary response to scientific change ... [which] ... can run the entire gamut of human experience. Science fiction, in other words, includes everything,” (Asimov, *Asimov’s Mysteries*) facilitating our understanding of what might come about, and prospective ways of avoiding dystopic circumstances, potentially through simple prevention.

The demodystopias that have been reviewed have clearly demonstrated the perception that “demography plays in the contemporary exercise of power, particularly in reconciling the conflict between the individual and the collective” (Domingo 740). Again, our experiences have taught us that once utilitarian impulses take control and individual liberties become trampled for the ostensible good of masses, the state can continue to erode away at these hard-won liberties.

It is in such far-reaching narratives that “modern SF [...] also presupposes more complex and wider cognitions: it discusses primarily the political, psychological, anthropological use and effect of sciences, and philosophy of science, and the becoming or failure of new realities as a result of it,” cautionary tales developing from *gedankenexperiments* that allow us to anticipate potential future problems (Suvin, “On the Poetics” 381). Clearly, “[a]s with other dystopias in their own spheres, demodystopias seek to identify the negative population tendencies [...] and to pin responsibility for such an outcome on ourselves” (Domingo 740), a Sartrean indictment that prevents us from condoning excessive state control or manipulation.

The demodystopias also remind us of Nietzsche, who commented that the state “the coldest of all cold monsters [...], lies in all languages of good and evil; and whatever its says, it lies - and whatever it has, it has stolen [...] only there, where the state ceases, does the man who is not superfluous begin” (75), a warning that unless the state is restrained, it may result in highly dystopic circumstances, except perhaps for a chosen few who may further manipulate the state in order to retain power.

While “criticising the excesses, inefficiencies and injustices of the extended State”, these stories indicate that “only beyond the State, it appears, can a life worthy of free human individuals begin” (Rose and Miller 172), a difficult conundrum that inevitably raises the perennial Huxleyan query: “How then must we live?” (Murray 169).

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