

The Intelligent Other in Science, Fantasy and Horror Fiction, 1895 to the Present

by

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Abstract

Images of non-human intelligence in popular culture reflect our attitudes about the desirability and feasibility of a liberal democratic society. This study tests for a trend toward more positive depictions of non-human intelligence in popular culture, reflecting the gradual expansion of rights and inclusiveness of American liberal democracy. A second, more pessimistic, hypothesis of growing misanthropy also suggests there will be a positive trend in depictions.

Examples of depictions of non-human intelligence are collected from the best-selling novels 1895-1994, the top grossing films 1947-1997, and the top-rated television shows 1950-1997. Five categories of non-human intelligence are coded: (1) aliens; (2) machine minds; (3) animals modified for intelligence; (4) post-humans; and (5) other intelligent races on Earth. Each instance is coded from very positive portrayals, to very negative portrayals.

Depictions of non-human intelligence have been increasing rapidly, in number and popularity, in fiction, TV and film since the 1970s, and the majority of depictions have been positive. There appears to be no statistically significant linear trend, positive or negative, in the depictions in any media, with the exception of a strong negative trend for film aliens. There is also evidence of a twelve-year cycle, with the periods of most negative portrayal of non-humans during the periods 1968-1973, 1980-1985, and 1992-1997. Thus the hypothesis of a positive linear trend is disconfirmed. I conclude with some discussion of the methodological issues raised by the study, and directions for further research.

Introduction

Since the late 1970s, images of intelligent non-human life have proliferated in American film, television and fiction, as audiences for science fiction, fantasy and horror have expanded. The mid 1990s have seen an explosion of supernatural and alien-themed films and science fictional television, from films such as Independence Day to the X-Files. Along with these recent trends have come much journalistic speculation about the semiotic significance of the images being portrayed. Some have suggested that the resurgence of negative aliens suggests negative trends in American culture, reflecting hostility to minorities and immigrants. Rationalists decry the spread of supernatural beliefs, fostered by this kind of entertainment (Sparks, Nelson, and Campbell 1997). Optimists see the interest in the supernatural reflected in the popularity of shows such as Touched by an Angel as reflecting strong spiritual yearnings. Liberal optimists see the continuing popularity of multi-cultural civilizations in the Star Wars and Star Trek franchises as reflecting popular belief in the desirability and feasibility of a multicultural society.

Similarly, images of other forms of non-human intelligence both reflect and shape popular images of human and animal life, and technology. Only in fantasy, horror and science fiction are our attitudes towards the Other so explicitly portrayed. In these domains our attitudes towards intelligent life in all its guises are explored, and moral worlds are created arguing that we must embrace the Other, or destroy the Other, and every viewpoint in between (Rieder, 1982).

This study aims to explore trends in the depictions of intelligent non-human life in popular literature, television and film. The central hypothesis of this investigation is that there will be a broad positive trend in the depiction of non-human intelligence, reflecting the growing inclusiveness of citizenship in liberal democratic society.

Expanding Citizenship

Faith in the universality of reason, and hence in the fundamental similarity of all intelligent beings, is strongly evident in many accounts of physically exotic aliens... (Stableford 1993: 18)

The principal hypothesis of this study is that liberal democratic culture is embracing wider swathes of humanity, and now animals, as members of the social family, and that this expansion will be reflected in a trend towards positive portrayals of non-human intelligence. Samuel Bowles and Herbert Gintis (Bowles and Gintis 1986) have outlined a model of Western liberal democracy as a dialectical debate between the discourse of "rights in persons" in the "political sphere" and the discourse of "rights in property" in the "economic sphere." According to Bowles and Gintis, each era of American history can be characterized by the, compromise between property rights and human rights, and human rights have gradually been pushing back property rights. From this perspective the victories over slavery, the extensions of suffrage, and the current debates about gender equality, disability rights, animal rights and fetal rights are reflections of the widening circle of liberal democratic rights to include those previously excluded. The growing "respect for difference" is generated by the value placed on the rights of persons in liberal democratic culture.

Science fiction has treated the biological and cognitive Other with both horror and respect, from Mary Shelley's Frankenstein (Shelley 1963(1818)) and H.G. Wells' (Wells 1896) The Island of Dr. Moreau, to the thousands of science fiction novels and films about evil robots, brains-in-tanks, mutants, giant insects and aliens. Yet science fiction since the Sixties has also striven to "humanize" the Other and establish expanded boundaries of civil community (Stableford 1993). For instance, while the Planet of the Apes series projects a future in which humans have been subjugated by simians, it also clearly opposes the human ownership and enslavement of simians by humans, equating it with the enslavement of Africans. Philip K. Dick's (1966) classic Do Androids Dream of Electric Sheep?, made into the 1980s movie Blade Runner, similarly portrays enslaved genetically engineered humans as dangerous to humanity, but only because they have been denied citizenship and rights. While the film Terminator portrays self-aware machines as humanity's enemy, Terminator 2 humanizes the cyborg as humanity's ally.

Undoubtedly the most influential science fiction product has been the Star Trek series and its sequelae, and here again alternative forms of life are both threat and ally. The mission of the star ship Enterprise is to discover new forms of life, in particular intelligent life. The forms discovered are not always friendly, but when they are friendly they are clearly welcome in the galactic civilization as equal citizens in the Federation. The Federation is probably the clearest, best known, and most optimistic contemporary symbol of a secular trend toward liberal democratic values in fantastic entertainment. Originally, in the Vietnam era, the Prime Directive of the Federation was to respect races' natural course of autonomous development, and if the species are space-faring, embrace them into a galactic United Nations. In the post-Gulf War Star Trek universe the Federation has also established a minimum threshold for respect for the rights of individuals, such as excluding members that practice caste-based discrimination. The hypothesis of this paper is that, to some degree or other, this model of respect for the other cultures, races and the individuals among them has been displacing the classic evil, hostile aliens, monsters and robots of earlier decades.

Views of machine-based intelligence in science fiction again show a gradual shift from horror to acceptance. Dangerous automata began to appear in fiction in the early 1800s, and dangerous robots and computers have been a staple of science fiction since the '50s. Usually cybernetic minds were depicted dominating and enslaving humanity. The confrontation of the psychotic computer Hal and the astronauts in Clarke's 2001 (1968) continued this tradition.

In the 1950's, writers such as Lester Del Rey and Clifford Simak began to depict machine intelligences in sympathetic ways, exploring their possible candidacy for citizenship. The full implications of cybernetic minds began to be depicted in the 1960s, as radical science fiction writers extrapolated the human rights struggles of the period into future machine intelligence. Robert Heinlein's (1966) The Moon is a Harsh Mistress makes an artificial intelligence an ally in an anarchist revolt. Isaac Asimov's 1968 short story "Segregationist," equates the effort to deny machine intelligence citizenship with Jim Crow laws. Star Trek: The Next Generation, has also frequently dealt with the rights of machine-based life. In one episode Data successfully defends his claim to "human rights" before a military tribunal. In several episodes, the ship's computer system develops dangerous self-aware personalities, which are nonetheless treated with great respect.

One study closely parallels this one in using optimistic liberal democratic theory to seek trends in popular culture. Rothman (Rothman, Powers, and Rothman 1993) analyzed the content of 146 top-grossing films, 1945 to the present, rating characters as positive, negative, or mixed. Contrary to the mostly anecdotal assertions of the feminist media critics, Rothman found a substantial increase in the representation of women in nontraditional roles and careers, such that the percent of women in these nontraditional roles exceeded the actual number of women in such professions in the society at large. Women characters in such roles are usually and increasingly portrayed sympathetically, while men have become less sympathetic over the same period. Indeed, women characters tend to be more sympathetic than men in general, even when given similar fictional motives.

Demographics of Fantastic Fiction, TV and Film

There are characteristic audiences for different media and genres of fantastic literature, such as affluent young white women for fantasy and affluent young white men for science fiction, especially “hard” SF (Bainbridge 1986). Fantastic film and television has a broader audience than fantastic literature, suggesting that film and television would better reflect mass taste and fantastic literature more reflects subcultural taste. Bainbridge (Bainbridge 1986) found that the late Star Trek series, on television, was providing an entrée to science fiction for women who had previously ignored male-oriented science fiction literature.

The characteristic demographics of these different audiences, media and genre therefore interact with the gender, class and racial issues coded into non-human images. Women may be less attracted to images of the non-human which are keyed to adolescent male psycho-sexual issues, e.g. the “three-breasted queen of Mars,” and may discourage these kinds of products as they become larger parts of the audience for science fiction. There may be characteristic images and issues at play in images of the non-humans consumed by the working-class versus those enjoyed by the educated professional-managerial class. Anxiety about job loss to illegal aliens may be subtext of working-class images of “aliens,” while the comfortable middle class invests aliens with their enthusiasm for cosmopolitan civilization. The Alien Nation movies and television series have placed aliens as despised and exploited immigrant workers in California’s inner cities. In the film Men in Black, the agency charged with monitoring the alien presence on Earth is explicitly an Immigration and Naturalization Service; the film opens with intercepting of an

alien hiding amongst a group of undocumented Mexican immigrants. Apparently only the elite are sufficiently cosmopolitan to handle the psychological and social challenge of interstellar multi-culturalism.

Racial ideology, conflict and anxiety must, of course, also play a large role in the construction of non-human images. From this heuristic the hostile alien, robot or gremlin represents our declining commitment to and tolerance of diversity. As initially theorized, there is certainly an explicit connection between cultural liberalism and optimism about our ability to coexist with other forms of life. In general, science fiction writers and consumers have generally been more optimistic about both human and non-human multi-culturalism than the American public. Bainbridge found that science fiction fans were significantly more politically and culturally liberal than the general public (Bainbridge 1986). Similarly Hughes (1995) found that SF consumers were much more likely to favor animal rights than non-SF consumers, controlling for many co-variates. NBC rejected Gene Roddenberry's initial proposal that the Enterprise crew be half female, with a nonwhite captain, and sizable number of non-human crew (Whitfield and Roddenberry, 1968). Star Trek has made the connection between species-ism and racism explicit repeatedly throughout its history.

The hypothesis here is that the decline of racist ideology, and the broadening commitment to include previously excluded groups as rights-bearing members of the polity, will find a reflection in an increasingly positive portrayal of aliens in fiction.

Posthumanism

A related heuristic is that the moral universe that assigned meaning to many depictions of the Other has been eroding, and being replaced by an ethos open to the possibility that there are better things to be than human. For instance, vampires were once unalloyed symbols of anti-Christian evil and dangerous passion. But the 1970s saw the first comedic portrayals of vampires, and in the 1980s and 1990s Anne Rice's positive depictions of vampires in popular novels and then film, and an explosion of similar sympathetic portrayals, naturalizing and romanticizing of the vampire. These depictions suggest that while life as a vampire, cyborg, android, or whatever may have its drawbacks, the non-human existence can be superior to human existence in some ways (Brand 1998).

There are also signs of emergent misanthropy in contemporary culture, reflected in themes of the weakness of humanity as compared to the post-humanity that we are evolving into (Dery 1996; Halberstam and Livingston 1995; More 1990). Katovich and Kinkade (1993) point to the growing pessimism of modern science fiction films as compared to those of the 1950s, where American institutions are portrayed as malevolent. Similarly Ruppensburg (1987) sees a growing positive trend in the depiction of aliens as reflecting a growing pessimism about the ability of humans to solve our own problems.

Older superheroes were often superior human beings, as with Batman, or if alien, such as Superman, at least they looked human and were adulated by humanity. The new wave of superheroes, however, such as Spiderman or the X-Men, are biologically different from humanity, and feared and despised because of this difference. Humanity is shown as hating those humans who have become physically and intellectually, and often morally, superior. These trends reflect both the counter-cultural alienation of Baby Boom generation and its successor youth cultures, and the more recent rejection of "human" limits such as mortality and the biological body. Thus, we embrace the mutant, android and vampire not only because we want to expand the social boundary of the liberal democratic polity, but because we recognize their superiority to the masses, we hate death and the limitations of the human body, and we want to believe in the transcendence of human limitations (Dery 1996; Regis 1990).

Both the optimistic hypothesis of expanding liberal democratic discourse, and the more critical hypothesis of posthumanist misanthropy, suggest that negative or horrific images of non-human intelligent life should be giving way to more complex, humanized and positive images of non-humanity.

Linear versus Cyclical Trends

Kiser and Drass (1983) found that the production of utopian novels was correlated with cycles of economic depression and "hegemonic decline" in Great Britain and the United States from 1883-1975. They suggest that cyclical crises of legitimacy for the political and economic order cause a craving for alternative visions of society. Similarly many media observers have suggested that the changing fashions in positive or negative aliens reflect larger economic or political cycles. For instance Ruppensburg suggests (Ruppensburg 1987) that the depiction of aliens as saviors of humanity is a reaction to pervasive sense of

powerlessness in the face of social problems that seem to require a deus ex machina. Others suggest that science and horror fiction provide escape from troubled economic times and conditions (Grixti 1989).

Kiser and Drass were able to generate a statistically significant result by counting every utopian novel that had been published, regardless of its readership or sales. This study, however, will only address trends in popular fiction, film and television, rather than analyzing all books, films and/or television programs with such depictions. While there have been many tens of thousands of novels, and later films, depicting non-human intelligence for the last hundred and fifty years, these products only gained mass audiences in the 1960s. Almost all the occurrences examined below are from 1960 or later.

By most accounts of political and economic cycles, the period from 1960 to the present has been one of slow erosion in economic prosperity and political legitimacy in the United States. The lack of a broader historical stretch of data will make it difficult to determine if a linear trend in depictions is part of broad secular trend, beginning with the Enlightenment, or only one wing of a 20th century curvilinear pattern, which may reverse itself.

There may also be smaller cycles, determined by shorter periodicities in the economy or in the culture industries. For instance, some observers suggest periods of over-production of particular types of books, films and television, as culture industry gatekeepers attempt to copy successful innovators, followed by periods of rejection of the over-produced genre.

This study will test for both linear and cyclical trends in the data.

Media as Reflection vs. Creator of Culture

Analysts of popular culture have developed many alternative heuristics, viewing cultural products as reflecting (a) the messages inherent in the product itself, (b) the values and intents of their creators, (c) the cultural institutions through which the creators produced the product, (d) the audience that consumed the product, or (e) the world in which the production and consumption takes place (Griswold 1983; Griswold 1987a; Griswold 1987b; Griswold 1990; Griswold 1992; Griswold 1993). A recent study suggests, for instance, that consumption of quasi-documentary television about paranormal events makes the consumers believe that paranormal phenomena are more plausible (Sparks, Nelson and Campbell 1997); the media industry may induce demand for certain types of cultural products, and manufacture

emotional responses to the depictions, rather than cultural products simply being reflections of public prejudices.

Particular cultural products may command more attention because of their inherent artistic quality (a). Artists and the culture industries are also surely driven by more than simple anticipation of consumer demand (b and c), producing images and themes out of dynamics intrinsic to artists' lives, artistic culture and the financial and political imperatives of the captains of the culture industry. But this study assumes that products such as best-sellers, top-grossing films, and popular television largely reflect the appetites and prejudices of the audiences and American society as a whole (d and e). Although the culture industry may lead the public to the trough of entertainment, and particular brands of feed may be very attractive, consumers must still decide to consume one brand versus hundreds of others.

Data Collection and Methods

The goal of this study is to measure the degree to which there are trends in the depictions of the intelligent non-human life. The domain of such depictions is potentially very large, since there is a vast variety of fantastic or supernatural life in fiction, film and television.

This paper, however, will only examine forms of life that have a natural or "scientific" rationale, however implausible that rationale may be. Consequently many forms of fantasy and horror creatures have been excluded. It is possible that the semiotic import of an angel is the same as that of a robot. Not only are the supernatural fantasy and horror genres closely allied with science fiction, but belief in some supernatural phenomena is apparently correlated with belief in aliens. One study factor-analyzed beliefs in paranormal phenomena and found that belief in extraterrestrial life was part of a factor with ghosts, while psychic phenomena formed a separate factor (Sparks, Nelson and Campbell 1997).

This paper will assume, however, that depictions of life with "natural" rationales better reflect trends in liberal democracy and our attitudes towards the transcendence of the limitations of the human body. There is far less symbolic political significance to a depiction of a society in which include corporeal cartoons, talking rabbits, angels or ghosts are equal participants with humanity, than the many explicit and implicit debates in popular culture about the feasibility of a polity that includes robots, aliens

or genetically engineered supermen. Overcoming prejudice against scary aliens, or human mutants, is qualitatively a different challenge than overcoming prejudice against a demon.

Exclusions

The non-humans are not intelligent. The virus in the book and film Andromeda Strain was excluded, since it is not intelligent. A semi-intelligent, or seemingly purposeful non-human, such as the corn-stalk “triffids” in the film The Day of the Triffids, would have been a much more difficult case had they been among the selections to be coded. Many animals in horror fiction display remarkable intelligence in their terrorizing of their victims, but are rarely intelligent enough to communicate with humanity. The re-constituted dinosaurs of Jurassic Park and The Lost World, for instance, display preternatural cunning, but do not cross the threshold of intelligence.

Supernatural beings. The non-humans being addressed here are corporeal, with a natural and scientific explanation for their existence. This generally excludes ghosts, demons, angels, Satan or God, even if they manifest as a physical presence as in Ghost or Ghostbusters. On the other hand, vampires, werewolves, elves, and so on were included; although they usually are shown as having supernatural powers, they are generally corporeal, and usually have a quasi-natural explanation for their existence, if not for some of their abilities and vulnerabilities.

Cartoons. Roger Rabbit and Toy Story were left out, although both posit a corporeal intelligent existence for “toons” and toys respectively. There are many examples of talking, or apparently intelligent, animals in children’s animated films, such as Pinocchio, The Jungle Book, 101 Dalmatians, and The Lion King, but these have also been excluded.

Categories of Non-Human Intelligence Included in the Analysis

Earthlings. Earthlings include all corporeal species of intelligent life on Earth, which originate on Earth, such as Neanderthals, elves, brownies, fairies, taltos, and mermaids. They do not include dwarves, such as in Snow White and the Seven Dwarves, who are presumed to be human.

Aliens. Aliens are any intelligent, corporeal life of extraterrestrial origin. 2001 was included although the alien life is present only by action and by proxy.

Post-Humans. Post-humans are humans who have mutated, evolved, or been modified by natural events, cybernetics or biotechnology. They include both minor adaptations, such as the robotic limbs and eye of the Darth Vader and the Six Million Dollar Man; the regenerated body of the monster of Dr. Frankenstein (Shelley 1963(1818)); and the totally transformed descendants of humanity in Well's Time Machine (Wells 1895) or Stapledon's First and Last Man (Stapledon 1930). Vampires and werewolves usually fit this category since the explanation for their origins is usually quasi-biological, even if their characteristics and powers are supernatural (Flynn 1992). Post-human transformations include accidents that confer extraordinary abilities, as with Batman's enemy Mr. Freeze, and admixtures of human and alien DNA, as in Species and the X-Files.

Posthumans. do not include humans' extraordinary strength or intelligence, such as Batman. Witches were excluded, unless they are explicitly described as being a different race than humans, as with the witches of Anne Rice's novels. Spiderman would be included, since his powers derive from scientific origins, as would the X-men.

Machine Minds. Machine minds include robots, such as C3PO and R2D2 in Star Wars; cyborgs with machine minds, such as the Terminators; androids, such as Data in Star Trek: Next Generation; and distributed machine minds such as Hal in 2001. I've excluded all supernaturally or fantastically animate machines or objects, such as Stephen King's evil car in Christine or evil factory in Mangler.

Post-Animals. Post-animals are animals that have been bred or modified with biotechnology or cybernetics for intelligence and communication, such as the simians in Planet of the Apes. Animals that are only big, smart or scary, such as the dinosaurs of Jurassic Park, the rats of Ben, or the birds of The Birds, were not included. I've also excluded fantastic or supernatural animals, such as the dog of Cujo, the seagulls of Jonathan Livingston Seagull, the shark of Jaws, or the rabbits of Watership Down.

Data Sources

Top Ten Hardback Bestsellers Each Year

Since 1895, Publishers' Weekly has been surveying publishers for self-reports of sales figures on their best-selling hard covers, and compiling these into a "top ten best sellers of the year" list (Hackett and Burke 1977). In addition, since 1974, Bowkers, the publishing industry's annual review, has printed lists

of both the top ten best-sellers, and the top ten runners-up; in 1980, the list expanded to the top 25 best sellers, and in 1985, to the top 30 best sellers (Bowkers, 1974-1996). I have culled novels only from the top ten lists for this study.

These figures, unfortunately, do not tap the sales of new paperbacks, or of used hardback and paperback novels. Nor do they address the readership relying on libraries. Nonetheless of the 1030 novels on these lists since 1895, 23 novels fit the criteria of the study.

Top Ten Nielsen-Rated Television Shows Each Year

Since 1950 the Nielsen Company has been polling viewers to determine the number of households that have tuned into every prime time television program, and now syndicated, cable and other kinds of programming. These reports have been compiled into an annual ranking of the popularity of television programs, covering a period from September to May. I have used these top ten Nielsen rated shows of each season as my principal data for television.

The Star Trek series illustrates a weakness of the Nielsen methodology for measuring the impact of syndicated television shows. Although the original Star Trek only ran three quiet years in the late 60s, its success in reruns and growing cult following during the 1970s led to its rebirth as Star Trek: Next Generation (ST:NG) in the 1980s. ST:NG ran for seven seasons as the highest-rated syndicated show in TV history, followed by a reasonable success for Star Trek: Deep Space Nine, another top syndicated drama (Zoglin 1994), and Star Trek: Voyager, a less successful continuation of the franchise. The Star Trek films have grossed more than \$500 million, and are among the most popular of all video rentals, often with their own section of the store. More than 63 million Star Trek books are in print, and more than 30 titles are being published each year (Zoglin 1994).

Nonetheless, although ST:NG and ST:DS9 have both reached the Nielsen top ten for all shows in particular weeks, they were not in the Nielsen top ten for all television shows in any year (Monush 1990; Monush 1991; Monush 1992; Monush 1993; Monush 1995; Sackett 1993). However, six television shows including non-humans were among the top ten shows in ten separate years: My Favorite Martian, Six Million Dollar Man, Bionic Woman, Mork and Mindy, Alf, and the X-Files (based on November 1997 sweeps).

Top Thirty Grossing Movies Each Year

Since 1947, Variety magazine has collected systematic data on the box office receipts of the top American films, and since 1954 they have reported the top thirty films of each year. These lists provided 62 films which had been one of the annual top 30 grossing films since 1947 which included depictions in one of the categories.

An entertainment information firm on the Web [<http://lonestar.texas.net/~amt/thrdir/>] makes available a constantly updated listing of the top 100 films by inflation-adjusted gross earnings. This list was used to generate viewership weights for the 6 films that were among the top 30 movies of all time, weighted by a factor of 3, and those 7 films that were among the top 31-100 films of all time, which were weighted by a factor of 2.

Accounting for Slow, Steady Accumulations of Audiences

When Anne Rice finally reached the top ten best-seller list in 1990 it was with the Queen of the Damned (Rice 1990), the third in a trilogy that began in 1979. Stephen Donaldson reaches the top 10 list in 1983 with White Gold Wielder, the sixth story in a series that begins in 1977. Tolkien reaches the top ten list in 1978 with the Silmarillion, a posthumously published compendium of stories and notes for a series published forty years before. Clearly, the readership of these series started small and grew over the years. Their influence is far in excess of their sudden appearance on the best-seller radar.

On these grounds, I have included in the analysis the first novels in the series, or the first films of sequels that were top grossing films; i.e. the preceding IllEarth series by Donaldson; The Cave of the Clan Bear, which precedes Auel's best-selling The Valley of Horses; the preceding Vampire Lestat series by Rice, and the first Terminator film. I have not included the Hobbit or Rings trilogy of Tolkien because of the large gap in years, and because it is unclear whether the publication date is a meaningful point for this series. The expansion of Tolkien's popularity came in the 1960s with his association with the counter-culture. Nor did I retrospectively include the original Star Trek television series on the strength of the Star Trek movies' popularity, although a case could again be made. Clearly the Star Trek franchise on

television, metastasized into four independent series, has had enormous influence, none of which is captured in the television methodology used.

Most troubling is the omission of the movies and books which never made best seller lists or achieved top grossing status, but have accumulated a steady and growing audience. Examples include Frankenstein by Mary Shelley, and the Frankenstein-based films; Brave New World by Aldous Huxley; Dracula by Bram Stoker, Nosferatu, and the hundreds of subsequent vampire films (Flynn 1992); and the work of H.G. Wells and H.P. Lovecraft. All of these works have become household words, and are the ur-texts for cultural understanding of vampires, man-made men and other monsters.

Also excluded is any measure of the cumulative impact of the production and consumption of dozens of B-grade films, niche television shows, and mass-market novels, none of which reach the lists included here but which cumulatively probably have as much or more cultural weight. Although few vampire films reached the top 30 movie of its year, for instance, hundreds of vampire films have been produced. Clearly, there is an opportunity for a more comprehensive set of measures of the influence of cultural products.

Coding

I have applied five basic codes, from very positive to very negative, to the five forms of non-human intelligence described above. Although these codes correspond to a simple scale, I have attempted to generalize about the kind of depictions that tend to fall across this scale.

+2 Depictions

Generally these very positive depictions embrace a rationalist optimism, that all sentient life can coexist peaceably, given good communication, trust, tolerance and equality. Unfortunately humanity may not be up to the challenge. The non-humans in these depictions are more intelligent and sympathetic than the humans, or at least the human authority figures, as in ET. At the extreme, such as in The Day the Earth Stood Still, the aliens are trying to save humanity from itself, and humanity does its best to crucify our potential saviors. Other variants on very positive depictions are non-humans who are friendly, cute, lovable, humane, and embraced as family members, such as the aliens in ALF, Mork and Mindy, My Favorite Martian, Third Rock from the Sun, and ET. The non-humans may be heroic servants or saviors of

humanity, as with the alien Superman, and the cyborgs of Six Million Dollar Man and Bionic Woman. Or the non-humans may be wondrous and strange, and presumably friendly, as with the aliens of 2001 and Close Encounters of the Third Kind.

+1 Depictions

Often, these stories embrace the basic assumptions of rationalist optimism, but suggest that there is a risk of the non-humans “embracing the Dark Side” and coming into conflict with humanity. Although humans and non-humans can generally establish friendly co-existence, non-humans can be militaristic, acquisitive, and capricious, and either friendly or hostile to humanity. This is the basic attitude towards non-humans in the Star Trek (Atkins 1983) and Star Wars series.

Another variant is that non-human existence can be lonely, tragic, bittersweet, and painful, but is equal to and perhaps even superior to ordinary human existence, and the non-humans are not hostile towards humanity. This is the stance of Anne Rice’s mutant witches, zombies and vampires.

0 Depictions

Creators of complex worlds and universes with many varieties of non-human intelligence tend to make the various races represent various moral traits and postures toward humanity. This is the most common model for fantasy fiction, paradigmatically in Tolkien’s world in which hobbits and elves are good, and trolls and other species are evil. These depictions rarely reflect the optimistic multiculturalism of Star Trek, but more a delicate, feudal balance of power. Hobbits and elves may collaborate to defeat evil, but are not constructing a Middle-Earth Federation. Other variants on null depictions depict non-humans as likely to be hostile as friendly, such as the aliens in Adams’ Hitchhiker series, artificial intelligence in Gibson’s Neuromancer series, and replicants in Blade Runner/Do Androids Dream of Electric Sheep?. Also coded as null depictions are those in which the non-humans are generally a threat, but balanced by some good, sympathetic members, such as the gremlins in Gremlins, cyborgs (artificial intelligence) in Terminator 2, the satyr of Hercules (1997), or the aliens in The Fifth Element. Finally, non-humans whose motivations are completely mysterious, but are as likely to be benevolent as malicious, such as the aliens of Communion, are coded as null.

-1 Depictions

These stories generally portray a Darwinian struggle between humans and non-humans, without special animosity, but irreconcilable differences and needs. For instance, the non-humans may simply be a competitor race, trying to survive, such as the Taltos in Rice's Witching Hour series. As Heinlein's character says in Starship Troopers (Heinlein 1960: 147) "Either we spread and wipe out the Bugs, or they spread and wipe us out - because both races are tough and smart and want the same real estate."

Another form of "bad" but not "very bad" depiction is the tragic mistake of the mad scientist. The fabricated non-human products of science are often dangerous, but are treated somewhat sympathetically, as victims of humanity, such as the sentient animals in The Island of Dr. Moreau, the alien-human of Species, or the computer HAL in 2001.

-2 Depictions

Most often found in horror fiction, these stories generally depict the Other as specifically inimical to humanity, extremely dangerous, with horrific plans for humanity, and all of them must be destroyed. Examples include vampires in Dracula, Salem's Lot, and I Am Legend/Last Man on Earth; artificial intelligence in Terminator 1; and aliens in Alien, Independence Day, Starship Troopers, The X-Files, and Tommyknockers.

Survey Data Collection and Cross-Validation

In order to cross-validate my coding of these instances, and to create a more continuous scale of coding, I administered a survey to an Introductory Sociology class in November 1997, focusing on the film and television depictions. The coding scheme presented above was explained and displayed for the students, while the survey instrument listed all the instances of creatures and the films and television shows that they appeared in. The results of the students' codings are shown in Table 1, arranged from the most positive to the least positive.

TABLE ONE ABOUT HERE

The mean codes given by the students were highly correlated with the codes which I had given to depictions ($r=.85$, $p<.000$). For the analysis of films and television presented below I used the mean scores above to impute scores for depictions for which the students could not provide codes, or for which they provided too few codes. Where necessary I imputed codes by matching characters, plots and kinds of creatures to similar characters and kinds of creatures that the students had generated scores for. The students generated stable means (10 or more coders) for 64 separate depictions, out of 76 unique depictions, requiring 12 imputed scores for television or film depictions. These continuous scores were not applied to the best-selling literature.

Analyses

There are 28 depictions of intelligent Others in top ten best-seller hardback novels from 1895 to the 1996. The first was James Hilton's Lost Horizon in 1935, which was a positive portrayal of post-human immortals, followed by the positive portrayal of the post-human "space baby" in Clarke's 2001. The Earthlings of Stephen Donaldson's III Earth best-sellers account for six of the occurrences.

The majority of depictions in best-seller fiction have been positive. The plurality have been fantasies of alternative races on Earth.

TABLE TWO ABOUT HERE

CHART ONE ABOUT HERE

TABLE THREE ABOUT HERE

Although the numbers are too small to reach significance, there has been a negative trend to depictions. Excluding the seven novels that preceded later top ten novels, the trend is even stronger. The trends in depictions of machine minds has been positive, moving from the negative portrayal of Hal in Clarke's 2001 (1968) to his more positive portrayal of Hal in 2010 (1982), to the positive portrayals of

R2D2 and C3PO in the Star Wars storybook of 1983. The trends in depiction of posthumanity were negative, moving from the positive images of immortals in Lost Horizon, to the more complicated depiction of vampires in Anne Rice's novels, and finally to the very negative images of mutants, vampires and so forth in the X-Files.

Of the 62 films, 6 are among the top 30 grossing films of all time, and 7 are ranked 31 to 100 in an ordering of top grossing films of all time, inflation adjusted¹. I have weighted the count of occurrences in the analyses below by tripling the count of films or depictions in films that ranked in the top 30 of all time, and doubling the count of films and depictions in films that ranked 31-100 of all time. This increases the final count of occurrences to 184.

TABLE FOUR ABOUT HERE

TABLE FIVE ABOUT HERE

Most of the film and television depictions were of aliens, followed by post-humans and machine minds. This contrasts with the preponderance of fantasy, and now horror, in popular literature. There was a dramatic explosion of depictions in the late 70s, coinciding with the popularity of the Six Million Dollar Man and Bionic Woman on television, and the Star Wars, Star Trek and E.T. films. The 1990s seems to be producing popular depictions at a slower rate than the 1980s.

TABLE SIX ABOUT HERE

Overall, there is not a significant trend in films, but there is a negative trend in the depictions on television. There is a positive trend in the depiction of film machine minds, and a negative trend in the depiction of film and television aliens, as shown in Chart 1 below. The apparent negative trend for post-humans is created by comparing the immensely popular and positive images of cyborgs in the Six-Million Dollar Man and Bionic Woman, to the more negative depiction of mutant and enhanced post-humans in the X-Files. This trend would have been stronger if I had included the positive image the post-human

space baby in 2001, but Stanley Kubrick's film adaptation of the novel leaves this figure mysterious, and not clearly post-human or salvific. The positive trend in post-animals is created by the gradually improving image of post-apes in the Planet of the Apes films, jumping to the very positive image of post-turtles in Teenage Mutant Ninja Turtles.

CHART TWO ABOUT HERE

Although there is no significant linear trend across all film and television depictions, Charts 2 and 3 suggest that there is a twelve-year cycle to the overall positivity of the film and television depictions. The mean code for 47 unweighted depictions before 1968, 1974-79, and 1986-91 is 0.53, while the mean of the 69 unweighted depictions from 1968-1973, 1980-1985, and 1992-1997 was 0.04; this difference was significant (in t-test) at $p=.007$. Weighted, the mean code for 168 depictions before 1968, 1974-79, and 1986-91 is 0.47, while the mean of the 116 unweighted depictions from 1968-1973, 1980-1985, and 1992-1997 was 0.05; this difference was significant (in t-test) at $p=.006$. There was no significant difference between novels in these six periods.

CHART THREE ABOUT HERE

This latest period has seen a more negative set of depictions than the previous two negative periods, creating a significant negative trend since 1974.

Methodological Issues

Minor Characters versus Central Characters This study attempts to measure the balance of major and minor characters indirectly by summarizing the depictions' overall impression of the form of life. For instance, in the film Gremlins, the centrality of the cute gremlin protagonist is taken to balance the vicious, but secondary, roles of the other gremlins. Nonetheless, across films this study codes minor

appearances as of equal weight with depictions who are central characters. Some form of weighting of the centrality of the character, or the percent of time the character is on screen, could be used in future studies.

Overt Themes versus Covert Themes Many depictions portray lovable, strong and talented non-humans, who nonetheless long to be human. The android Data in Star Trek: Next Generation is a classic example; although he is superior to humanity in intelligence, longevity and strength, he is haunted by his desire to possess human emotions. These characters validate humanness by ignoring their inherent advantages, and are thus self-hating non-humans. Yet, they are coded as positive examples of non-humans because they do not threaten their human associates, or viewers.

Plot Twists and Plot Drift Occasionally, the image of the non-human changes in mid-plot, mid-series, or in a sequel. The android Terminator goes from representing a fundamentally hostile race (-2) to being a redeemed member of this race, ultimately good and loved, although his race must still be exterminated (-1). In Anne Rice's Witching series, the character Lasher is a ghost in the first book, and thus is not coded in this study, but becomes an extreme threat to the human race in the second book (-2). In 1996 the X-Files suddenly suggested that there were good aliens as well as malevolent ones, and then in 1997 began to suggest that there were no aliens at all. I have tried to reflect these changes if they occur between movies or books, but the problem is more acute for television. For instance, the general moral universe of the Star Trek series is relatively constant, but specific films, episodes or plot arcs represent aliens as more or less threatening. These fluctuations have necessarily been ignored.

Comedic Portrayals and Humanizing Portrayals Comedic villains have not been given much advantage for the fact that their villainy is comedic. Flash Gordon's Ming the Magnificent is coded as almost as evil an alien as the gut-wrenching, relentless, acid-blooded lizard of Alien. The comedic vampirism of Love at First Bite is coded as almost as evil as that of Interview with a Vampire. Presumably a comedic portrayal of evil is a much more positive depiction than a humorless depiction.

All of these caveats suggest that these instruments and measurements can be much refined.

Discussion

The initial hypothesis of the study was that there would be a broadly positive trend in the depictions of the intelligent Other, and this was not supported in any of the three media, or for any of the categories of the Other. There is, in fact, a strong negative trend in the depiction of aliens in film, and aliens are the plurality of all depictions. These trends appear to coincide with the supplanting of the fantasy genre (IllEarth, Sylmarillion, Jean Auel) by the horror genre (Stephen King and Anne Rice).

On the other hand, there was an explosion in the numbers of depictions in the 70s, and the majority of these depictions have been positive. Although there is a strong negative trend in the depictions on television, that is because depictions in popular television have been positive until recently (My Favorite Martian, Six Million Dollar Man, Alf). The growing popularity of horrific TV (the X-Files, in particular) in the 1990s would appear to be balanced by the expansion of complex, dedicatedly multicultural universes, such as the expanding Star Trek and Babylon 5 series, and of comedic aliens, such as Third Rock from the Sun. Nonetheless the data do not support a trend toward positive portrayals on television, but rather the reverse.

Finally there is evidence of a twelve-year cycle to negative depictions in film and television, roughly corresponding to the first terms of the Nixon, Reagan and Clinton Presidencies. The positive periods of depictions correspond to the Democratic Presidencies of the 1960s and 1970s, and the Bush Presidency. Although Bush was a Republican and Clinton is a Democrat, one could characterize the political culture from 1986 to 1991 as a period of waning conservative hegemony in politics in the wake of the decline of the Reagan Revolution and the Iran-Contra scandal. Similarly, 1994 on may be more importantly seen as characterized by the Republican ascendance in Congress and the defensiveness of the Clinton Presidency in response to numerous scandals, and the roiling debates over immigration, welfare and affirmative, all three charged with racial and xenophobic tension. Although every social period exhibits both conservative and liberal trends to the diligent observer, it could be argued that the twelve-year cycles observed in negative depictions of non-humans in this data correspond to conservative ascendance in the American political culture.

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Table 1: Student Coding of the Depictions from Film and TV*

	Film/Series		Creatures	Mean	St Dev	N
+2						
	E.T. (Film)	1982	E.T., the alien	1.75	.44	56
	Splash (Film)	1984	The mermaid	1.73	.45	45
	Superman (Film)	1978	Superman	1.72	.59	43
	Superman II (Film)	1981	Superman	1.72	.63	43
	Mork & Mindy (TV)	1978	Mork, the alien	1.71	.57	38
	ALF (TV)	1987	Alf the alien	1.67	.51	58
	Contact (Film)	1997	Aliens Jodie Foster visits	1.58	.69	19
	Little Mermaid (Film)	1989	The mermaids	1.57	.74	56
	Cocoon (Film)	1985	Old people after rejuvenated	1.44	.67	32
	Star Wars 1 (Film)	1977	Robots, e.g. R2D2 and C3PO	1.36	.71	45
	Star Wars 3: Empire Strikes Back (Film)	1980	Robots, e.g. R2D2 and C3PO	1.34	.73	35
	Bionic Woman (TV)	1975	The cyborg heroine	1.31	1.01	16
	Star Wars 2: Return of the Jedi (Film)	1983	Robots, e.g. R2D2 and C3PO	1.30	.72	40
	Beauty and the Beast (Film)	1991	The beast	1.22	.74	54
	Teenage Mutant Ninja Turtles (Film)	1990	The mutant ninja turtles	1.22	.92	46
	Cocoon (Film)	1985	The aliens	1.12	.77	26
	Star Trek 5: Final Frontier (Film)	1989	Data, the android	1.00	1.14	18
+1						
	Waterworld (Film)	1995	(Costner) Fish-man w/ gills	.95	.74	21
	Addams Family (Film)	1991	Addams family, and relatives	.91	.71	57
	Willow (Film)	1988	Dwarves and magical species	.86	.99	22
	Close Encounters of a 3rd Kind (Film)	1977	The alien visitors at the end	.75	.62	12
	Star Trek 4: Voyage Home (Film)	1986	All races, e.g. pro-whale cube	.75	.75	12
	Star Trek 6: First Contact (Film)	1996	Data, the android	.75	1.00	16
	Abyss (Film)	1989	The aliens at bottom of sea	.72	1.45	18
	Star Trek 2: Wrath of Khan	1982	All other races	.53	.52	15
	Star Trek 3: Search for Spock (Film)	1984	All other races	.53	.52	15
	Battle for the Planet of the Apes (Film)	1973	The apes who are fighting slavery	.50	1.14	22
	Star Trek 5: Final Frontier (Film)	1989	All other races	.50	.52	14
	Young Frankenstein (Film)	1975	The monster of Frankenstein	.29	1.07	14
	Star Trek 1 (Film)	1979	Other races, e.g. Vulcans & Klingons	.27	.80	15

	Dark Crystal (Film)	1983	The two types of creatures	.21	1.23	19
	Terminator 2 (Film)	1991	The two Terminators, and future computer minds	.18	1.03	34
	Star Wars 3: Empire Strikes Back (Film)	1980	All alien species	.13	.55	32
	Star Wars 2: Return of the Jedi (Film)	1983	All alien species	.12	.54	34
+0						
	Aliens (Film)	1987	The android	.00	1.37	18
	Star Trek 6: First Contact (Film)	1996	All other races, e.g. Borg and Vulcans	.00	.65	15
	Total Recall (Film)	1990	The mutant workers of Mars	.00	1.10	21
	Star Wars 1 (Film)	1977	All alien species	-.08	.66	39
	The Fly (Film)	1958	The fly-man	-.12	.70	17
	Alien (Film)	1979	The android	-.21	1.32	19
	Love at First Bite (Film)	1979	Vampires	-.25	.75	12
	Men in Black	1997	All alien species	-.26	.94	39
	Andy Warhol's Frankenstein (Film)	1974	The monster of Frankenstein	-.30	1.03	20
	Planet of the Apes (Film)	1968	Apes (in power in the future)	-.45	1.04	11
	X-Files (TV)	1997	Aliens	-.60	.86	30
	Gremlins (Film)	1984	Gremlins, including cute one	-.61	.93	46
	X-Files (TV)	1997	Human mutants	-.78	.85	27
	Jurassic Park (Film)	1993	The dinosaurs	-.79	.91	53
	WarGames (Film)	1983	Computer controlling nukes	-.86	.77	14
	Interview with a Vampire (Film)	1994	Vampires	-.87	.99	47
	Terminator 1 (Film)	1984	The Terminator and future computer minds	-.97	1.03	34
-1						
	Star Trek 2: Wrath of Khan	1982	Genetic supermen, e.g. Khan	-1.00	.71	13
	Starship Troopers (Film)	1997	The alien attackers	-1.00	1.41	12
	Star Wars 3: Empire Strikes Back (Film)	1980	Darth Vader	-1.06	.95	36
	X-Files (TV)	1997	Vampires, werewolves, etc.	-1.07	.84	29
	Star Wars 2: Return of the Jedi (Film)	1983	Darth Vader	-1.11	.83	38
	Star Wars 1 (Film)	1977	Darth Vader	-1.20	.81	45
	Clash of the Titans (Film)	1981	The cyclops	-1.29	.91	14
	Species (Film)	1995	The human-alien woman	-1.35	.83	23
	Superman II (Film)	1981	Exiled criminals from Krypton	-1.41	.87	29
	Aliens (Film)	1987	Alien life forms & Queen	-1.45	.96	22
	Alien (Film)	1979	The Alien	-1.52	.89	27
	Predator (Film)	1987	The alien hunter "Predator"	-1.57	.81	21
	Independence Day (Film)	1996	The alien attackers	-1.64	.65	53
+2						

* Excluding the mean scores for depictions for which 10 or fewer students provided codes.

Table 2: Depictions in Best-Sellers by Period and Positivity

	-2,-1	0	1,2	Mean1	Mean2	Total
Before 1983	0	7 (2)	8 (5)	0.93	1.13	15 (7)
After 1983	3	3	7	0.15	0.15	13
Sig. of t-test				p=.08	p=.06	
Total	3	10	15	(28)	(21)	28

Table 3: Depictions in Best-Sellers by Era and Type

	Aliens	Earthlings	Post-Humans	Machine Minds	Total
Before 1983	3	7	3	2	15
After 1983	3	4	5	1	13
Total	6	11	8	3	28

Table 4: Weighting of Film Depictions

	Films	TV Shows	Depictions x Years	Depictions Weighted by Top 100 Films of All Time
Top 30 Films of All Time	6	--	28	84
31-100 Top Films of All Time	7	--	12	24
Not in Top 100 Films of All Time	53	6	76	80
Total	66	6	116	188

Table 5: Depictions in TV and Film by Decade and Category, Weighted

	Machine Minds	Aliens	Elings	Post-Animals	Post-Humans	Totals
1950-1959			1		1	2
1960-1969	1	2	1	1	1	6
1970-1979	7	13	1	3	12	36
1980-1989	10	18	8		6	42
1990-1998	4	11	2	1	12	30
Total	22	44	13	5	32	116

Table 6: Trends in Depictions in TV and Film by Year

	Correlation of Year with Coding of					
	Machine Minds	Aliens	Earthlings	Post-Animals	Post-Humans	All Categories
Top films and TV, with films weighted	.52*** (43)	-.41*** (72)	.00 (14)	.93* (5)	-.20 (50)	-.10 (184)
Top films, weighted	.53*** (43)	-.40*** (65)	.14 (13)	.93* (5)	-.01 (44)	-.04 (170)
Top films, unweighted	.52** (23)	-.33* (37)	.18 (12)	.93* (5)	.04 (26)	.00 (103)
Top TV, unweighted	--	-.46 (6)	--	--	-.99*** (6)	-.72** (13)

* p < .05 ** p < .01 *** p < .001

Chart 1: Depictions in Best-Sellers by Year and Positivity



Chart 2: Trends in Depictions of Aliens in TV and Film

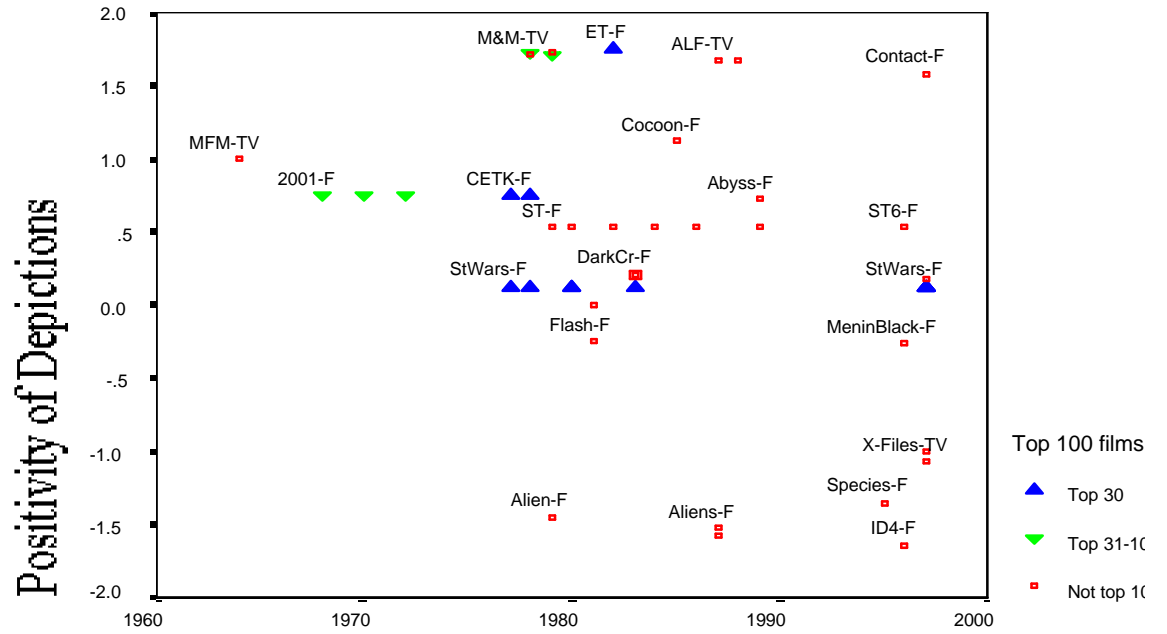
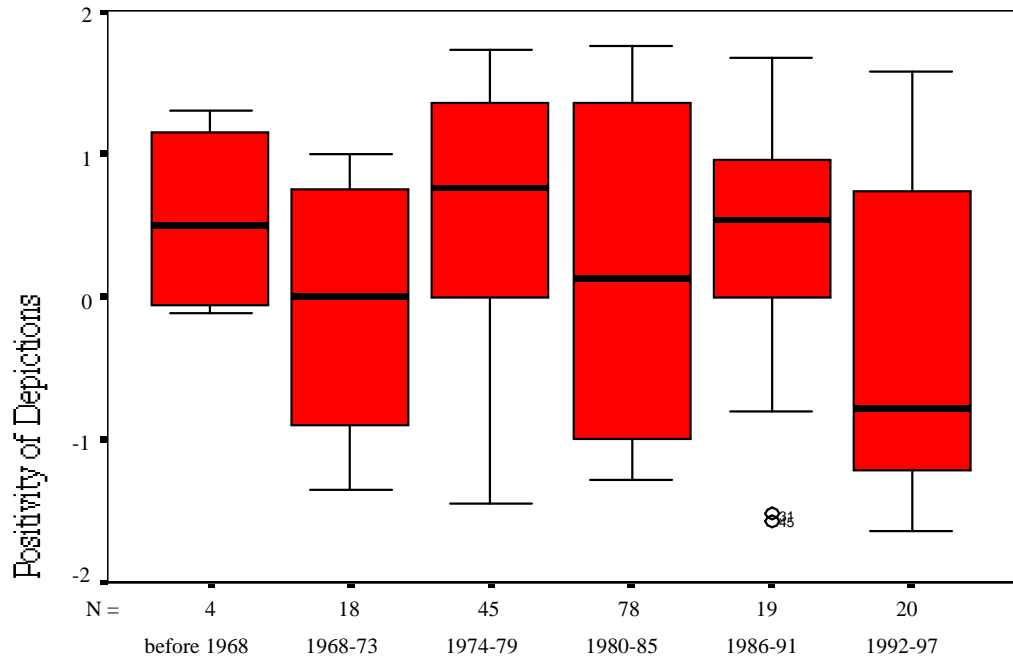


Chart 3: Trends in Depictions in TV and Film, Weighted



¹ <http://lonestar.texas.net/~amt/thrsdir/top10everad.html>