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**The Genetically Engineered Body:
A Cinematic Context**

But I understand, I alone have understood, that
the only watchword that could protect a person
from the claws of the Sphinx is 'man'.

André Gide

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Introduction

Commercial culture is quite pervasive; there seems to be no way to escape its magnitude, its ideological impact; the colonizing effect it has on the minds of the audiences it reaches. Guy Debord declared we live in the society of spectacle, and no one could really argue to the contrary. However, in the face of such assertions what kind of information do we really get from the media? What do we learn about current science, for example, from films?

There seems to be a general consensus on the idea that the “general public” learns much about science and about scientists from the information gathered from films and mainly from science fiction. Conversely, the more sophisticated the scientific advances of our time become, the further and further away the general public becomes from understanding its premises; the disinformation gap is enormous. The once held ideas about the understanding of science, an informal education that would be acquired through visits to a museum on weekends, for example, have slowly been eroded by the realization that it is mass media, indeed cinema and to a great extent television that lead such information. It is important then, to consider in what measure cinema affects the public understanding of science.

Databases such as *PubMed*, sponsored by the *National Library of Medicine* and the *National Institutes of Health*, of the United States, reveal increasing interest on the impact that scientific information presented via mass media has on the public; “[t]he vast majority of the public is utterly dependent on the media for its knowledge of science” (Klotzko 1998: appendix A3). Surveys conducted mainly in English speaking countries such as Australia, England and the United States¹, have found that the public has a generally negative perception of biotechnology; “[t]he ability of scientists to apply cloning technology to humans has provoked public discussion and media coverage” ... “Much of the controversy and debate surrounding human cloning for both therapeutic and reproductive purposes centres on moral and ethical issues” (Shepherd 2007:377). The *Wellcome Trust's* study titled “Public Perspectives of Human Cloning” (Wellcome 1998) was conducted in order to provide the *British Human Genetics Advisory Commission* (HGAC) with information on where the public stands on developments in biotechnology. It probed the often-made assumption that the public gets most of its scientific knowledge from mass media and found that even if it is difficult to ascertain *how much* information on science is gathered from it, the public tends nevertheless to express itself making use of narratives taken from popular culture (Wellcome 1998:38), narratives which give their concerns certain coherence. The survey sought to provide deeper insights on issues that previous surveys had not addressed².

¹ See: “Cloning goes to the movies” *In Historia, Ciencias, Saude*. 13 (2006), Pp. 181-212.

² See: “Towards an Understanding of British Public Attitudes Concerning Human Cloning”, R. Shepherd, Julie Barnett, et al. *In Social Science & Medicine* 65 (2007) 377-392.

Regarding cloning, for example the study found that “[t]he public have fearful perceptions of [it] and were shocked by the implications” (Wellcome 1998:3). When prompted regarding whether or not cloning was an emotionally close or distant issue to those interviewed, or whether it was good or bad science, useful or not, morally acceptable or not, the answers included quite revealing allusions to cinema. The conclusions to the study found that:

Discussions were peppered throughout with negative references to films and books including *The Boys from Brazil*, *Jurassic Park*, *Blade Runner*, *Invasion of the Bodysnatchers*, *Frankenstein*, *Brave New World*, *The Stepford Wives*, *Star Trek* and *Alien Resurrection*. (Wellcome 1998:13).

“Overall the findings [in surveys of this type] demonstrate that public views in this area are far from simple” (Shepherd 2007:391). Even when information that sought to reinforce a positive opinion on the work of science was given to the control groups the study worked with, it was generally rejected, “additional factual information did not modify participants’ primary concerns ... described in the context of popular cultural imagery such as science fiction films” (Wellcome 1998:3).

These essays seek to “flesh out” and to a certain point rationalize the various elements that make up the content of films that in one way or other inform the public about genetics, cloning and genetic engineering. Their purpose is to shed light on how science is presented in film; the consistencies and inconsistencies that inform a public understanding of science and take a look at how films act as depositories of information—but not to argue whether or not films are not legitimate sources of scientific information or validation of scientific work. It does not judge whether or not films should be made under the strict supervision of scientific committees or seek the approval of scientific groups, as was the case with *Gattaca*, or whether or not consultants should be hired to verify the verisimilitude of scientific information.

One issue that must be immediately put forward is concern for the blanket blame that is constantly put on cinema for the public understanding or rather the misunderstanding of science. This position seems to parallel a critique that belittles cultural forms such as religion, folklore and mythology, forms that traditionally served mankind as carriers of important and often—vital—warnings. Today, although we tend to disregard such methods of communication as uninformed, unreliable, undocumented, unscientific, they once were—and to a large extent still are—the backbone of many cultures. They still are in many ways carriers of valid information, even though a consensus on “rationality” has developed that leans towards a tacit censorship of the concerns they heed. How much the public learns from cinema might be not as alarming an issue to consider as is how little the public learns from many, many other sources including a schooling, that is ill-served through outdated methods and information, and which for the majority of the population

is suspended at an early stage of an individual's intellectual life. Therefore, the films in this volume are seen from the perspective that they are cultural carriers of tremendous force and relevance, even if they are deemed to greatly exaggerate the negative part of science for the sake of the dramatic situation (Cormick 2006:181).

Original, innovative, or recycled material coming from literary, popular sources or scripts specially created for films reinforces assumptions about the work of science, touches on ancient social taboos, strengthens true presuppositions and or even suspicions, feeds traditional cultural meanings but might also misinform and alarm the public with respect to the work of science. However, all things considered, cinema keeps it firmly present in the public's mind—and since scientific work affects our lives so dramatically—that is where it should remain.

The films considered for this project had to be able to reach large audiences to make an impact on their treatment of science; as such they had to be the products of major studios with large distribution capabilities. However, strangely enough, even in the midst of an exciting era biotechnological advances, and even though it might seem counterintuitive, not many films have been done on genetics, cloning, and even less on genetic engineering to warrant serious consideration. The films selected for these essays were written based on research conducted utilizing mainly the online *IMDB* (International Movie Data Base) and the survey on cloning in films written by Craig Cormick, manager of *Public Awareness Biotechnology Australia* (Cormick 2006), as well as the films mentioned in the Wellcome survey. The majority of works that initially seem to deal with the subject, either by a title that points in that direction, such as a film titled *The Clones of Bruce Lee* (1977), or by the inclusion of the words clone, gene, even IVF (in-vitro-fertilization) in a dialog, might deal with scientific topics only in passing, without truly engaging in the science or the ethics of the utilization of its various technologies, thus failing miserably at scientific representation or at steering the public in one way or the other, for or against a public understanding of science. Therefore the pieces that have been selected for analysis had to address scientific topics—possibly giving a scientific “mini lesson”—within the coherence of an anecdote, a storyline, and be clearly concerned with an ethical or moral quandary.

A film like *Alien: Resurrection*, directed by Jean-Pierre Jeunet (1997) which engages its heroes for two hours in the killing of highly violent snake-shaped clones engendered from a slimy, sticky, nauseating, outer-space monster is not enough of a situation to warrant consideration—even if the star in the film is Sigourney Weaver, and she was surrogate mother to the creature—a topic which would have been of great interest to this volume had it been addressed consistently; serious consideration of the female role in the cloning era is surprisingly absent.

Nevertheless, having discarded a number films that did not deal with the subject consistently or seriously enough, a group of films emerged that engaged the subject matter

in a thoughtful way; works done by a group of directors who, already having a reputation for creating landmark films, had approached scientific issues and were now tackling biotechnology. In order to adequately consider the issues these films raise as a group, only films that deal with the nature of being human have been selected; films that are about animals, insects and monsters are generally excluded. *The Fly* (1986), by David Cronenberg, is an example of the mixing of insect characteristics and human ones in an experiment that goes wrong. This cinematic piece results in the horrendous transformation of a human life thus presenting us with a thriller that underscores the negative effects of an experiment gone wrong directly back on its doer, however, the treatment itself adds nothing new to the cloning in film discourse.

Films that excuse a strand of their plot with a simplistic explanation that includes mere keywords DNA, for example, are generally not considered. At one point in Steven Spielberg's *ET; The Extra-Terrestrial* (1982) it is determined that the creature has DNA—but such mention functions merely to further elicit the empathy for the strange creature but is of no further consequence. Many films use DNA as a keyword or concept to merely provide the illusion that the film is engaged with contemporary themes, but in reality many of these turn out to be action films or comedies constructed from quite arcane plots. These can be characterized simply as: bad guys kill everything in sight plus engage in spectacular car chase scenes, as is the case with *Natural Born Killers*, (1994), directed by Oliver Stone and written by Quentin Tarantino, a film that has more to do with biker movie *Mad Max* (1979) by George Miller, than with anything remotely connected to science; the same occurs with clones created to substitute for an inferior or unavailable mate, *The Sixth Day* (2000), directed by Roger Spottiswoode, with Arnold Schwarzenegger, or *Multiplicity* (1996), by Harold Ramis, played by Michael Keaton and Andie MacDowell, while the independent film *Teknolust*, (2002) by Lynn Hershmann-Leesom is lamentably about a woman scientist who has an unsatisfactory personal life and is a film full of outdated cinematic clichés.

To sustain the argument that films communicate ideas about science they must contain specific scientific *and* cultural discussion; just as a film requires plot consistency and capacity for transcendence. For example, a film that uses the trope good scientist turns evil doctor, might refer back to the Faustian legend, but might or might not question the ethical dimensions of science. Here it is important to note that the evil scientist can be found in various manifestations and is presently morphing into the evil corporate attorney or success starved CEO, (Chief Executive Officer)—as is the case with *Godsend*, (2004) by Nick Hamm.

The quality of the scientific content has been chosen as it shows relevance to the scientific knowledge of the time when the film was produced, and not the time in which the action takes place. Films about the far future are as relevant in content as those set in the present or in the historical past. Fiction, and in this case science fiction has long been a carrier of social commentary. This tradition goes as far back as Aristophanes, when he

wrote *The Birds*, (414 B.C.E.), a satire in which feathered creatures who were politically discontent with Athenian politics set out to create their own state, and reaches far past our time to the intergalactic anti-capitalistic critique of *Blade Runner* by Ridley Scott, (1982); all instances are considered for their presentation of situations as reflective of social dimension, commentary or metaphorical activities (Nerlich 2001:37). The dates of production for the majority of the films included illustrate a coincidence with wider cultural reactions to the announcement of the cloning of frogs by Gurdon and Uehlinger of 1966, the live birth of the cloned ewe Dolly by scientists at the *Roslyn Institute* in Scotland during 1995, or the proposed legislation to ban the cloning of humans by American President Clinton which also occurred that year. At the same time, while many of the films reflect anxieties directed towards the work of contemporary science, they can also point to historical events. This is doubly the case with *The Boys From Brazil*, which is directly linked to the Gurdon and Uehlinger announcement—a former student of Gurdon’s is the film’s science consultant—while it also comments on the eugenic experiments of the Nazi period.

Because of the different approach to the subject each of the films takes they will be discussed individually as to best highlight their content. Although the literary production on clones of the 1970’s can be seen as a corpus that focuses on attitudes towards the nature of the individual human being, and can be categorized as “the first boom of science fiction novels about cloning” (Brandt 2007:37), the films in this selection span more than four decades, and illustrate long-lasting and widely diverging preoccupations with the subject at times paralleling other social issues as is the case with the multicultural discourse of the United States during the 1980’s and early 1990’s.

Films by well-known directors, who in one way or another are readily recognized as masters of their trade turned out to be the most important part of the mix. These works are complemented by works by younger, emerging creators whose cinematographic production is not yet complete but is nevertheless already significant and which adds specific elements to the mosaic regarding genetics and film this project seeks to illustrate. In some instances the films selected are remakes of previous films which in turn have been novels taken to the screen and adapted as commentaries on modern biotechnology.

What is finally the purpose of looking at these films and hopefully what is conveyed in through their analysis via these essays is the exposure of

the twin faces of our unconscious meditation on the inevitable mutation on the inevitable mutations a now repressed history has in store for us: fear and hope alike, the loathing for the new beings we ourselves are bound to become in the shedding of the skins of all our current values, intimately intertwined, as in some DNA of the collective fantasy, with our quasi-religious longing for social transubstantiation into another flesh and another reality (Jameson 1992:29).

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Children Made to Order



Children
made to order.

HOW FAR WILL YOU GO? HOW FAR WILL YOUR CHILD GO?

There has never been a better way to bring a child into the world. At Gattaca, it is now possible to engineer your offspring. Here's a checklist to help you decide which traits you would like to pass on to your newborn.

INHÉRITABLE DISEASES
What parent would condemn their child to a preventable disease such as Alzheimer's, cancer, or Huntington's? Ask if you're pregnant. It's free. Or if you're about to step here. But it's not free to give your child every advantage available.

GENDER
Do you keep being like scotch when you'd prefer to be like a martini? Sex selection has never been easier.

MYOPIA
It's wonderful to have a child or grandchild who can see. But it's even better to have a child or grandchild who can't see.

STATURE
Small. Medium. Tall. The choice is yours.

EYE COLOR
Blue. Brown. Green. Or for a truly unique child, how about a combi?

PREMATURE BIRTH
It may not seem like a bad thing, but think how much easier it'll be to get a haircut in a two-year preschooler.

SKIN COLOR
If we all chose the same color, would we still have a race problem? Choose the color that fits your preferred pigmentation.

OBESITY
Why burden your child with a weight problem?

ADDICTIVE SUSCEPTIBILITY
Smoking, drugs, alcohol. What's a parent's job? To make the best choice for their child. So why not make the best choice for their child's future?

CRIMINALLY AGGRESSIVE TENDENCIES
"My genes make me do it." It could be you. One your child's genetic make-up that will help him or her to be the straight and narrow.

MUSICAL ABILITY
You see your pet a Mozart or a Beethoven. You see your child's talent for music. You see your child's talent for music.

ATHLETIC PROMISE
We can't guarantee you a Michael Jordan or a Shaquille O'Neal. But we can guarantee your child's talent for sports.

INTELLECT
Most measured in a P.S.D. (the N.S.A.). We can give your child a head start with advanced mathematical ability.

SOME OF THE ABOVE
For information on other traits, you may wish to consult our genetic engineering specialists. We are currently accepting applications for our next generation. Please contact us on the human race could use a little engineering.

Unfortunately, there is no gene for the human spirit.

FOR AN APPOINTMENT CALL 1-888-6-BEST-DNA WWW.GATTACA.COM

During the second week of September 1997 various newspapers across the United States contained full-page ads for a genetic enhancement company called *Gattaca* that promised “Children Made to Order”. Below the photograph of a plump baby appeared a list of traits prospective parents could choose or eliminate in a child: characteristics such as obesity, criminally aggressive tendencies, musical abilities, intellect, gender, stature, eye color, skin color and an assortment of inheritable diseases. The add contained a toll free number to call for additional information and had captions that read: “How far will you go? How far will your child go?” and added “[t]here has never been a better way to bring a child into the world. At *Gattaca*, it is now possible to engineer your offspring” (Vogel 1997:1753).

The ad was not about a real company, but rather about a film to be released during the month of October; *Gattaca*, directed by Andrew Niccol, is a film that deals with the manipulation of human genes (Niccol 1997). It tells the story of a man called Vincent who lives in a world where genetic engineering is the norm. Born without the advantages of such technology, he is deemed a degenerate, a social misfit. Vincent dreams of being an astronaut, and applies himself diligently to the study of aeronautics and cosmography, but his expectations are crushed as qualifying examinations for job training and other activities demand biometric screening. He eventually utilizes a genetic broker to procure superior genetic material from a man called Jerome, who once was a star swimmer, and is now confined to a wheelchair because of a broken back. With Jerome’s genetic material—

hair, dandruff, blood, urine—which he carries around in vials, catheters, and other prosthetics—Vincent manages to infiltrate the *Gattaca* space program, and qualify for a tour to Titan, one of Jupiter’s satellites. The film ends in a climax that goes through a few tense scenes because a murder occurs at the program, and the protagonist becomes the prime suspect. Yes, there is a girl in the story too; he falls in love with her, they have sex, he leaves for the stars.

The film was not far fetched in its scientific views as it dealt with issues that genetic researchers were discussing at the time; plausible developments in the field of genetics. At the first *Gene Therapy Policy Conference* sponsored by the *Recombinant DNA Advisory Committee* (RAC) of the *National Institutes of Health* (NIH) scientists predicted that within two years gene-therapy experiments initially aimed at curing disease, could eventually be used to enhance a trait in healthy people (Vogel 1997:1753). Surprisingly and in contrast to other films of the genre, it wasn’t exactly about science fiction, but rather about current science: more science and less fantasy (Marsen 2004:149).

Although considered to be a science fiction film—with a visually attractive and even suave design that is a departure from the gory elements that characterize films of this genre—it does not confront problematic scientific issues but actually endorses them. The gene as cultural icon (Lindee and Nelkin 1995) appears unequivocally throughout the film, and of all the films on genetic engineering to date, it is perhaps the most successful in portraying easily recognizable references to the double helix. Most importantly, completed at the end of the so-called Science Wars, it successfully underwent various screenings aimed at experts in genetic engineering in order to certify that the film depicted the science it portrayed correctly (Science Vol 278 Nov. 1997).

The set design by Jan Roelfs helped set the tone of the movie through a minimalist style where nature has been submitted to totalitarian control; there is also a great deal of flatness in the human characters, their reactions to their futuristic circumstances are akin to that of cyborgs found in other films. With the creation of a *retro* feel the film places itself—with a look composed of aerodynamically designed automobiles, and several views of Frank Lloyd Wright’s *Contra Costa County Municipal Center*—in a transitional space between the fifties and sixties, which corresponds to the beginning of the Cold War—and in a space program that sought to demonstrate American superiority in science. The film was designed with blend of styles that paradoxically utilized retro objects such automobiles from the sixties blended with contemporary scientific iconography. The film received *an Academy Award Nomination for Best Art Direction-Set Decoration* (Imdb 2000). In a twist to the usual ethos of the genre, although the narrative on its surface appears to critique the work of science, it actually reinforces the predominant status genetics has in society—while it perverts the image of the hero, and while it has always been the prime function of mythology and rite to supply the symbols that carry the human spirit forward, this film, in counteraction to constant human yearnings ties the human spirit back (Campbell 1949:11).

In opposition to what a *real* hero would do; save himself to save mankind, here, the main character apparently despises but actually covets belonging to a world ruled by genetic engineering. His mind never cuts radically from the attitudes, attachments and life patterns of the stage left behind; he does not bestow any benefit to mankind, but achieves his own and very narrow American dream (Flury 2004:1356). If it seems otherwise, it is because the film cleverly manipulates signs on the narrative level as opposed to the narrative we hear (Marsen 2004:144).

Hooked on DNA

Genetic imagery is not only a short-cut to the public understanding of science but actually reifies the qualities of the gene as a cultural icon (Lindee and Nelkin 1995). Messages that reinforce the status of genetic engineering in our society are articulated via its most obvious icons; the initial letters for the proteins Guanine, Thymine, Adenine and Cytosine, which make up the DNA molecule, and give the movie its name and the highlighted initials in the movie's credits. Visually, as a model, the DNA molecule appears as part of the set design—the staircase in Jerome's apartment being the most obvious, and the toy the child Vincent plays with in the scene at the eugenics clinic. We also see it reinterpreted in architectural features such as the slits of the incinerator in which Jerome commits suicide. On a metaphoric level the story's script is composed of various pairings, similar to those exemplifying the activity of recombinant DNA; for example, Vincent moves through the story in couplings first with his brother, then Jerome, and later Irene. As parallel metaphor we hear Esperanto, the artificially created international language, broadcasted over a loudspeaker at *Gattaca*—even the melody for the movie's theme *Nuages* composed by minimalist Michael Nyman is made out of four notes.

All of these instances of images/objects reify the auratic quality of the gene as cultural symbol *Gattaca* “black boxes” questionable issues about science and asks us to abandon all knowledge about knowledge (Latour 1987:7) concerning the risks inherent in many of the applications of genetic engineering. While the main character initially resents such practices, he does not truly critique eugenics, but he ultimately adopts it. The film craftily constructs the illusion that an individual can succeed in challenging adverse, even totalitarian circumstances, while he tacitly accepts social determinism; science fiction films like this one provide useful means to framing our relationships to new technologies (Kirby 2004:185).

In *Gattaca* we witness how an individual in a brave new world acts with a brave new mentality. Vincent “wants a better deal in his society, but does not intend to destroy or change that society” (Marsen 2004:156) his story is illustrative of a highly particular and individualistic quest, but not that of a hero. How he deals with the situation, with his identity change, is clearly expressed by Vincent in the scene with the DNA broker:

VINCENT: For all my brave talk, I knew it was just that. No matter how much I trained and how much I studied, the best test score in the world was not going to matter unless I had the blood test to go with it. I made up my mind to resort to more extreme measures.

What Vincent does as a character is “serve as catalyst in the dismantling of outmoded definitions of identity” (Marsen 2004:141). Vincent breaks all sorts of rules to become an accepted member of his society, and in the end, though he accomplishes his dream to travel to space, he is ethically not a better individual than those around him. The sequences in the movie in which he passes off urine and blood prosthetics as those produced by his body in order to cheat the system are potent in their simplicity and resourcefulness, but by the time he reaches his goal he has scrubbed himself clean of himself. “[W]hile Vincent grows stronger ... Eugene is gradually humbled, depleted, degraded” (Jeffreys 2001:147); if we still feel any sympathy for Vincent after all the scraping, scrubbing, peeling, urinating, and essentially feeding off from someone else’s body—a clear example of parasitism—it is because the film succeeds in its manipulation and creation of “semantic contradictions” (Marsen 2004:152). The film takes hold of the viewer’s perceptions as it displays an uncomfortable new reality where even if Vincent could be considered some sort of ethically mutating underdog who ironically bears the name of victory, however, to be sure, he is no Spartacus; he gives nothing in return to society (Flury 2004:1356). The hero pattern evoked by the story has become perverted by a new form of narrative; “*GATTACA* undermines the very basis of genetic discrimination and the boundary between unmodified and modified” (Kirby 2004:190).

Brave New Choices

The film has key scenes that illustrate how medical decisions are made which determine the fate of the film’s players. One such is set in a fancy laboratory office where Marie and Antonio, Vincent’s parents, receive information about genetic selection. Seeking to avoid the mistake they made in naturally conceiving a first child—the protagonist—they have resorted to be on the safe side with a second one. However, whatever wishes they might initially have about the way they wanted their future child to be, once they enter this setting they rely on medicine’s methods and tools. By entering the clinic they have already de facto consented to bow to eugenics, and, during their visit linguistic tools are articulated to gain their consent to genetically engineer their second son. Besides receiving medical advice—a socially trusted source of information on the human body—it is difficult to contradict the conveyor. Initially his data it is designed to deliver answers to specific questions; but beyond answering them, he uses the data *to predict* abstract situations, *to qualify* issues laden with social values.

Genetic tests rely on an “aura of precision and scientific objectivity that enhances their credibility” (Nelkin and Tancredi 1994:23), and such aura has allowed genetic

information to gain substantial social prominence and exaggerated credence. In the film we see how this inflamed information falls onto fertile ground as the first child is considered faulty both physically and symbolically—a disgrace to his father's name. By the time the parents make a second parental choice they are fully dependent on medical tests, tools that “create social categories, negotiate social arrangements, and enhance the control of certain groups over others” (Nelkin and Tancredi 1994:18). The persuasiveness of scientific information, the uneven weight given to other considerations pushes a decision towards the shaky ground of fragile assumptions. In real life medical information is abused constantly even to the point of demonstrating teleological relations between anatomical structure and physiological function (Harcourt cited in Waldby 2000:117).

Although the medical establishment has tried to disassociate itself from old eugenic practices and historical condemnation, in practice there are tensions between understanding its present logic and aims. Even though associations with eugenics, for example, are avoided in the current literature relating to genetic engineering, the logic behind it persists and is refueled by evidence from diagnostic tests justified in terms of health for humanity at large. The acceptance of eugenic measures has been disastrous historically, and might again lead down a dangerous road even though many still contend that the impact of genetic engineering on family planning is still far off in the future it is quite with us now.

The constant framing and reframing of medicine as capable of solving all sorts of human frailties puts it in a unique and unencumbered position among the sciences; it inculcates an idealized mental picture in the public mind of what it can do for society, a favorable imago (Van Dijk 1998) that has been laboriously crafted over centuries, and intensified of late. In the exaggerated bio “euphoria” with which it is represented today, its achievements become attached to a perfectibility ideal which “is a crude and sometimes perverse way of promoting desirable goals” (Sunstein 2005:34).

Rationalizing eugenic medicine we hear Vincent, the protagonist, narrate the circumstances of his birth: he relates how his mother relied on chance or nature, as factor in her pregnancy, and therefore the outcome of the health of her son was compromised. That decision, we are told, and witness, had grave consequences for Vincent, rendering him unacceptable to the society into which he was born. Interwoven in the storyline are all the tools needed to work out an assessment of the feasibility of genetic engineering such as testing, tweaking with the genetic makeup of a second son and the consequent fixing/production of what a human being should be in order to conform to modern expectations that fall into the rank of eugenic practices derived from the negotiation of risk and benefit. The information/propaganda behind the decoding of the human genome project promises all sort of cures to human ailments which are played out in the scene at the *Eighth Day Clinic* whose name implies a possibility that is better than Western religious creation, even when leading scientists recognize that such promise it “ain't necessarily so” (Lewontin 2000).

The Eighth Day Clinic

When the conversation begins, the couple states clearly that all they expect from the procedure is a male child to play with their older son, but when they leave the clinic they have ordered a genetically modified embryo. What happens in the course of the transaction/conversation that brings about such radical changes?

VINCENT (voice-over) Like most other parents of their day, they were determined that their next child would be brought into the world in what has become the natural way ...

CLINICIAN: Your extracted eggs, Marie, have been fertilized with Antonio's sperm. After screening we are left, as you see, with two healthy boys and two very healthy girls. Naturally no critical predispositions to any of the major inheritable diseases ... All that remains is to select the most compatible candidate. First of all, we may as well decide on gender. Have you given it any thought?

MARIE: We would want Vincent to have a brother, you know, to play with ...

CLINICIAN: Of course ... Hello Vincent ... You have specified hazel eyes, brown hair and fair skin ... I have taken the liberty of eradicating any potentially prejudicial conditions, premature baldness, myopia, alcoholism and addictive susceptibilities; a propensity for violence ... obesity ... etc.

MARIE: We didn't want ... diseases yes, but ...

ANTON: Right, were just wondering if it's good to just leave a few things up to chance.

Actuarial thinking was designed for and is primarily used to derive risk and benefit in the insurance industry. It is a cost assessment tool that attempts to lend answers to problems of potential risk, medical procedures and hospitalization—even end of life care. While beneficial to an enormous industry on economic terms, its related tendency however, is to reduce these problems to biological or medical terms (Nelkin and Tancredi 1994:9) masking all other issues and risks. The actuarial mind calculates costs and outcomes in order to determine economic benefits and constraints; the system relies on a set of tools that supply it with information to be processed economically. For example, it calculates from the amount of people who work at offices and sit at a desk over six hours a day, how many will develop back pain, how much money the treatment to remedy the pain will cost, and how much will be covered by insurance. However, as in any human system, while such a tool might be useful in some situations, particularly those needing complex statistical and population assessments, it is a devastating proposition individuals.

When people such as Marie and Anton calculate complex risks they rely on a certain heuristics, rules of thumb, to simplify their inquiry in order to arrive at a decision; through a process of attribute substitution people answer a hard question by substituting it for an easier one (Sunstein 2005:36). The couple's simple quest to conceive a second child gets

complicated immensely as they listen to the attendant who states that he has taken on the liberty to eliminate baldness, myopia, common medical conditions which are immediately followed by more complex issues such as alcoholism. Here, momentarily, the couple manages to voice an objection, but their concern is countered with the objective/precise determinations made by the scientific establishment.

At this point, Can Vincent's parents properly assess the value of the genetic information passed down through natural conception? Are they really able to or allowed to do so in this situation? Hardly. The doctor reifies their fear of an unfortunate second outcome countering any objection they have by emphasizing the great qualities that the genetically engineered offspring will have. The medical information available is manipulated into a framework that creates equivalences between data, parameters of illness and social deviancy; information that takes advantage of an emotional situation.

Arguments for eugenics are also made in films such as *Godsend* by Nick Hamm, 2004 and *Cloned* Douglass Barr, 1997. Once natural conception is equated to a high probability of abnormal outcomes the data acquires concrete undesirable qualities. In *Gattaca* as the doctor speaks, he gives what is on the surface benign advice while promoting goals that encourage a new order of things, and as he embodies medical aura and utilizes it to tilt the decision towards genetic determinism. Marie and Anton agree with him, and therefore willingly coalesce with eugenic practices.

Taking this further we see that “sometimes a certain risk is said to call for precautions is cognitively available, whereas other risks, including those associated with regulation itself are not” (Sunstein 2005:37). Probability neglect leads people to focus on the worst case scenario put before them even if its occurrence is highly improbable “in the context of genetic modification ... the same phenomenon is at work” (Sunstein 2005:40). As the evocation of potential illness is powerful, reality is relinquished in favor of a decision that allays the disastrous imagery enunciated. Framed by Vincent's own words as he reflected back on his parents' decision, we are told that acting like most parents of their time he was conceived in “the natural way”—a way where “ten fingers ten toes, were all that used to matter”. However what hovers over his parents' mind at the clinic is the disastrous prognosis, read out by the nurse when Vincent was born:

NURSE: Neurological condition 60% probability; manic depression 42% probability, attention deficit disorder 89% probability, heart disorder ... 99% probability, early fatal potential, life expectancy 30.2 years.

As the parents sit in the clinic making “conscious decisions” they refer back to this negative prognosis and make their new choices. The overwhelming dictum that the previous child will only survive to be “30 years” dictates their logic. It is indeed hard to imagine that parents would actually stick to their initial desire to “leave a few things to chance” in view of the latent catastrophe embedded in Vincent's genes; moreover recent

events have a great impact on decision making (Sunstein 2005:37). Dealing with a child that is considered sickly, and the salience of the additional negative social implications plus the vivid imagery enunciated by the doctor in phrases like ... “I have taken the liberty of eradicating any potentially prejudicial condition” bring to fore a mental repertoire constructed socially around conjectures which stunt the ability to make clear judgements. As the worst-case scenario predominates the decision leans towards uncertain territory; objections are brushed aside and sealed with words of emotional blackmail:

CLINICIAN: Believe me, we already have enough built in imperfection already, the child does not need additional burdens.

When distressed, people perceive losses as looming larger than gains (Sunstein 2005:41). Even with tools at their disposal to gauge and monitor a second pregnancy more closely Marie and Anton will not be comfortable with their situation and engage in a “full swing of emotions” (Sunstein 2005:39) that creates panic in their minds and that ultimately pulls them towards an outer edge of the decision-making spectrum. They wind up caught up in a more extreme situation than they initially bargained for since they paid more attention to risk factors than they paid attention to the general well-being of the child. They are discouraged from allowing the randomness in nature to take place, and discard safe ground through a series of steps that begin with natural conception in favor of what they perceive to be favorable alternatives.

The condemnation given by negative data is sealed with the last statement in the scene; uttered by the eager genetic advisor who closes off any possibility of objection by the prospective parents. They then engage in one more point of the actuarial mindset; system neglect. Here, after being reproached by the practitioner, they fail to see that in a system connections can be affected by quick one-shot cure-all choices (Sunstein 2005:45). If this polished conversation initially seemed of little consequence it is clearly and quite compellingly illustrative of a set of choices made when slipping down the slippery slope regarding decisions about genetic engineering. The complexity of dealing with such a variety of genetic possibilities and permutations is enormous; in oversimplifying a decision through availability heuristics Vincent’s parents react emotionally to a situation ignoring how their actions will affect their child as a whole.

There is shortsightedness in the assumption that genetic alterations truly are about a one to one genetic equivalence to diseases. In some cases this still seems to be the case, but aside from Tay Sachs, cystic fibrosis, sickle cell anemia, hemophilia, muscular dystrophy, few other diseases to date have been found to operate based on the malfunctioning/mutation of a single gene. The system operates in a much more complex manner involving a series of genes to make up one single symptom. As the decision is made to give the child certain characteristics, or to phase out others, the assumption is made that the system as a whole will go along with the alterations.

Impeccable ...

When the story begins, we actually join Vincent in the midst of his new identity. What we learn about his—via the autodiegetic narration—that he tried up to a point to do everything possible to succeed as a natural human being, but then moved on to passing himself off as a genetically superior being by acquiring identity materials through an unscrupulous bio-broker or blade runner—someone dealing in the black market of medical equipment. As he does so, his identity is no longer human; he becomes postmodern, a being with an identity as a “multiplicity of disconnected selves joined by a false narrative of biographical unity” (Merleau cited in Marsen 2004:155). Vincent makes decisions based on the very same availability heuristics that his parents adopted in his genetic engineering, and which we are made to assume, are those adopted by the parents of all of those beings that surround him. What he rationalizes in his narrative, as his new persona, his passport into *Gattaca*, is the genetic material of a man of whom the broker states:

GERMAN: His credentials are impeccable, an expiration date you wouldn't believe. The guy's practically going to live forever. He's got an IQ off the register. Better than 20/20 in both eyes; and the heart of an ox. He could run through a wall ... if he could still run. Actually, he was a big time swimming star. Vincent, you can go anywhere with this guy's helix tucked under your arm ... As far as anyone is concerned he is still a walking, talking, fully productive member of society. You just have to get him clean, and fill in the last year of his life ... They don't care where you were born, just how ... blood has no nationality, as long as it's got what you are looking for it's the only passport you need.

In accepting this proposal he buys into the very same system that left him out in the first place—the system his parents chose later on for his brother. In accepting such circumstances Vincent does not “by opposing end” the odious that made him marginal, circumstances that he initially resented, but rather co-opts them. He illustrates how the only way to succeed is to join the wave of the future; eugenics.

As he feels defeated in his pursuit of accomplishing his goals, by “miswanting” what does not promote his welfare; his preferences do not reflect his autonomy (Sunstein 2005:154). Therefore he too makes assumptions and calculations based on the availability heuristic, and goes through with the scheme of utilizing someone else's genetic material as his own. By attaching himself first to opinions of the broker, and then to a relationship to Jerome, Vincent engages in a climate of fear festered by the claims of a third person who also “moves him to a more extreme direction” than what he had originally planned (Sunstein 2005:101). The ensuing emotional contagion with Jerome, and his disabled condition, and the self-confidence bred by the extremism of his decisions are all symptomatic of a decision-making sought by “people who want to be perceived favorably

by other group members, and also to perceive themselves favorably” (Sunstein 2005:100). And so, with the aid of someone else’s genetic materials he “overcomes” his genetic makeup. Is he truly successful? Or humanly better for doing so? Perhaps that is debatable, but one thing is clear; the film is not about protagonists renegotiating their individual position in the existing state of affairs, but rather about the reification of a new way of thinking (Marsen 2004:156). “It is not only that there is no hiding place for the gods from the searching telescope and microscope; there is no such society any more as the gods once supported” (Campbell 1949:317).

Conclusion

Is there anything truly heroic about Vincent? Initially it seems that what makes the movie work out with Vincent traveling to Saturn, as was his dream, is that a man, made out to be the embodiment of imperfection takes on a contrary way of thinking about his body and his supposed/real limitations. Because we are used to a narrative formula where an underdog comes out victorious at the end, his quest appears initially successful. The movie has all the accoutrements of the heroic genre, including a lovely young woman, sex, and a happy and romantic ending. But he never rejects the actuarial mindset prevailing in his society, or for that matter, any of the genetic discrimination tools available to its members in his quest—including his own brother, who turns out to be the detective trying to discover who committed the murder at *Gattaca*. Quite the contrary; he engages a shady dealer, and travels to Saturn utilizing someone else’s identity in a film that reifies a new way of thinking about the body. With this in mind, it is striking that the film has been accepted to be “a common reference point in discussions about human-gene altering technologies” used “by educators in a wide variety of classrooms, from junior high school through graduate school and from biology to English, to help teach about the bioethics of genetic technologies” (Kirby 2004:187). No wonder, it is a film that is favored by people involved with science.

Anti-human art contributes to the way in which the real body, and its real presence, are menaced by various kinds of virtual presence (Virilio 2003:2), one of which is genetic engineering. *Gattaca* makes the public believe Vincent is a hero and is constructed to create the illusion that a crafty individual can succeed in challenging discriminatory, extremely adverse or totalitarian circumstances while setting up the main plot as a simplistic discourse of binary oppositions; good mankind/evil technology. In reality, such oversimplification does not only hide the real ideological direction of the film, but these “discourses about reality, self and identity point to new directions of thought where ontological truth and causality are no longer central” (Marsen 2004:142). The story of the hero is exploited via the use of the stock structures of American cinematic melodrama, and the vision of a director that makes us root for disadvantaged characters “who expose the injustice of the system and are the *most real*” (Krentz 2004:194 my emphasis), while

the main character, Vincent/Victory, realizes his dream with the aid of illegal and even devious methods; identifying with a character as his, prevents an analysis of his real intentions. In the end, what he covets is the acceptance into the world belonging to another class of social beings—one that reminds some of us perhaps of unscrupulous CEO's. It is clear that that class of beings has already done away with ethics, however, "[o]nce gene therapy shows its first success ... broader applications will not be far behind" (Vogel 1997:1754).

Today, as characters renegotiate their boundaries there is no recourse to identification to heroes as members of a class with which to combat the onslaught of new technologies. "*GATTACA* undermines the very basis of genetic discrimination and the boundary between unmodified and modified" (Kirby 2004:190), and misleads the public into thinking that there is hope for individuals in the combat of the intrusion of new technologies into the most intimate parts of their bodies. "Genomes with their networks of interactions and their multiplicity of meanings leave us free to use our imagination as we read them" (Pollack 1994:152-53), however, in this case the creator of the film has constructed and manipulated specific cultural messages where "the science of genetics has become a spectacle, a source of multiple metaphors and provocative visual images" (Anker and Nelkin 2004:1). Perhaps we are about to enter an era where heroes don't matter, and where, even though we might still want to believe we can defeat adverse circumstances we will be engaging with eugenics "by the back door" (Duster 1900:112).

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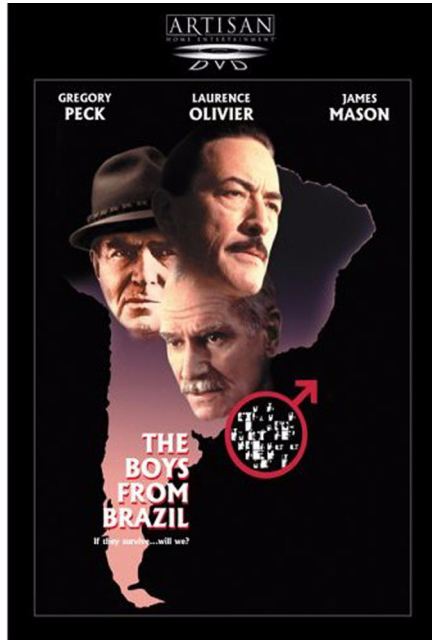
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Blue Eyed Boys



The Boys From Brazil, 1978, was directed by Franklin J. Schaffner, a director well known for films such as *The Planet of the Apes*, 1968, *Patton*, 1970, *Nicholas and Alexandra*, 1972, and *Papillon*, 1973, among others. From a formal standpoint this film in particular is a difficult fit into what we now recognize as science fiction for it does not have any of the fantastical aesthetic resources so common to the genre; sophisticated set designs in intergalactic space, futuristic costumes and gadgets, or even alien creatures to contend with. It does fit, however, into the perspective of the present volume because it fulfills an important—even unique—space in the genetics and science in film continuum, providing us with a key to the void between the unassayable and the unsayable; it works as a place and theme of testimony, erected for future cartographers of new ethical territory to orient themselves (Agamben 2002:13).

The film, is usually described from an overly critical perspective that tends to be harsh; hardly a piece worthy to have been nominated for three *Academy Awards*; best acting, for Laurence Olivier in the leading role, best film editing and best original music score. However, as a film commenting on the work of science, it is full of uncanny surprises. It is based on the novel of the same name by Ira Levin, author of two other stories made into notable films: *The Stepford Wives*, directed by Bryan Forbes, (1975), and *Rosemary's Baby*, by Roman Polanski, (1968), which touch upon issues—albeit quite distinctly posed—that in one way or other consider the transmission of evil. *The Stepford Wives*, is about a suburban community of housewives who lived their lives seemingly inspired by feminist ideals but who eventually succumb to conformity, as if bewitched into becoming perfect

spouses; *Rosemary's Baby*, a cinematic masterpiece, is the story of an urban upper middle class woman who gives birth to the devil's child. *The Boys From Brazil* also deals with evil, and while the plot is entirely different, it engages, just as in *Rosemary's Baby*, heritable characteristics.

The Levin/Schaffner film's plot is as follows: A young Jewish man, idealistic and naive, is tracking down the activities of former Nazis living in Central America. He runs across the preparations of a grand meeting between Doctor Joseph Mengele—until then suspected to have gone underground in Latin America after he fled Germany— other high ranking ex-Nazi officials and a generation of younger zealous followers. Barry Koehler, playing the hero, tries to communicate this information to Ezra Liebermann—whose character is modeled after Simon Wiesenthal, the celebrated real-life Nazi hunter. Liebermann lives in Vienna with his sister. Barry calls Liebermann and relates to him what he overheard during a secret meeting in Paraguay; in the course of two years 94 male civil servants around 65 years old with families and living in countries such as Canada, the United States, Germany and Switzerland are to be murdered by Josef Mengele's followers.

If initially Liebermann is not interested in the information given to him, he eventually gets involved with the matter and starts trying to figure out what the men to be murdered might have in common. He begins his investigation by visiting the families to be disastrously struck by the murderous plotters, and he finds that the single male child in one family is similar to that of another one, and then, yet another. Baffled by the children's identical features—specially their piercing blue eyes—he struggles to understand why they are so similar. In confusion and despair, he eventually reaches out to a scientist who explains a state of the art scientific concept: cloning. Liebermann eventually realizes that Mengele's plot entails not only of the creation of Adolf Hitler's biological replicas, but also the re-creation of his life experiences for their development. Being the son of a civil servant who died as he reached 9 years of age, a mother much younger than the father who is overly affectionate and doting towards her son, plus birthdates that coincide with Hitler's, are situations Mengele carefully plotted to reproduce in order to successfully bring up the clones—or at least one of them—as new Führer.

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Walter Benjamin, regarding the discussion photography vs. film, considered that much fruitless ingenuity is spent on the question of whether or not the later is an art. Rather, he clarified, the fundamental question is whether or not cinema had transformed the entire character of artistic perception and fulfilled new social functions. He concluded that as mass media it is most intimately related to the social movements of our day and is their most powerful agent (Benjamin 2002:254-58). Cinema is a spectacle that brings together and explains a wide range of apparently disparate phenomena (Debord 1994:14). To its

functions we can add the importance of overlapping historical material—even if in a work of fiction the information presented is somewhat stretched.

The Boys of Brazil must be given credit for being the only major release film that has become part of the perpetual commentary on testimony (Agamben 2002:13) on the Shoah. The film makes the connection between unethical medicine/genetics and the Nazi era, a link generally missing from the cinematic experience and an item hotly contested in the history of science: that is, the state of the genetic science at the time of the Second World War. Even if it is highly unlikely that someone would attempt to clone Hitler ninety-four times, Mengele did pursue genetic research while at Auschwitz engaging in twin research—he amassed as many samples of human abnormalities as possible—which he hoped would eventually lead to his *habilitation*; German requirement for a university position.

One has to concede that it does however, take a certain amount of creativity to recombine a story from two strands that are initially so disparate, but here credit is due to the novel's author, Ira Levin, who had kept up with enough scientific information to make his story plausible. In the novel, Doctor Josef Mengele is described as a person who also stays up to date with scientific information that is consistent with his scholarly aspirations, even though he never achieved his goal of securing a university post after Auschwitz. However, some of his research is regarded—either by oversight or admiration—well enough by those academicians who have used his work—and that of other Nazi doctors—as worthy of being included—that is academically cited—in contemporary scientific writing (Seidelman 1988:228-30). The Mengele of the novel and the film is someone absolutely determined to succeed in his scientific pursuits; he knows enough about current science to dismiss a bad article on genetics and mentioning cloned frogs instead, something John Gurdon and Verena Uehlinger had accomplished in 1966.

Despite the accidents and excesses the film indulges in, such as a dramatic build-up that leads to Mengele's destruction by a band of ferocious dobermans commanded by one of the Hitler clones—who well, as we all expected, did indeed turn out to be an evil child—mixing facts and fiction is something that gave the science-fiction genre the best of two worlds. Its main purpose, when H.G. Wells wrote about evolutionary theory, or when Jules Verne wrote about travel to the center of the earth, was to take our imagination to places and situations into which we could not otherwise venture, such as back in time, or the far side of the moon, but it was always and foremost an enthralling intellectual exercise. The connections between science and fiction—what is possible and what is not—are not always easy to make. Ira Levin's novel proves to be not only a powerful evocation of the power of understanding and failing to understand, or rather being willing or not to make connections—a willingness and the courage to confront history and stare into the unsayable—just as it was difficult for many to understand what had gone on in concentration camps—the Allies who found a handful of emaciated survivors at the portal of death, or filmmakers in places like México or the German citizenry eventually

confronted with the horrible facts of war—which in horrific irony was the name given by the Nazis to Sector B III from where numerous subjects were then taken to Mengele’s experimental laboratory. What is irrefutable is that in face of the facts the possibility of understanding is voluntary. It is ironic, if not extraordinary, that in the novel and the film, it is the Jew himself, Ezra Lieberman who gets intellectually stuck, and can’t put together the pieces of the puzzle he is given to solve.

Notwithstanding, Lieberman makes an all out effort to understand. He runs around several countries, conducting interviews with recently widowed women who he finds have strangely similar offspring, trying to figure out why or how it is possible that children from different families can be so strikingly alike, or what relationship they would have to Mengele. It is then that he seeks help—in the novel he receives advice from young university students—from a scientist who explains how it is possible for several human beings to share so many common characteristics; and so, Lieberman learns about cloning. The fellow scientist that speaks with him is clear; cloning is no longer something in the realm of science fiction. It is a process being perfected; something that can eventually be done with a well preserved skin specimen from someone who does not necessarily need to be alive. Suddenly, Lieberman understands what he is up against. In an ironical twist that film fans love to talk about, the actor interpreting the scientist is Bruno Ganz, who, a few years later was to perform one of the best roles of his career; Adolf Hitler in *Der Untergang*, (*The Fall*) 2004.

The scene during which cloning is explained is a remarkable example of a *mise en abisme* where the state of genetic science of the seventies and the cinematic concessions made in the name of a fiction film are presented. In a film within a film scientific demonstrations and a craftily put together narrative are advanced by a Doctor Bruchner played by Ganz. This scene’s construction can be attributed to the work of Derek Bromhall who is given scientific advisory credit at the beginning of the film, and who was at one point a student of Gurdon’s. Bromhall, who was the plaintiff in the famous “boy clone hoax” of the early 1980’s¹, crafted an explanation that is sound and whose only scientific “mistake” is nevertheless a culturally consistent explanation of how character traits are transmitted from one generation to another, that is, via bloodlines².

*

Films on the Shoah have paid homage to the millions of individuals victimized at concentration and death camps, and the variation in treatment of the subject is immense.³

¹ Derek Bromhall filed a \$7 million defamation suit against author David. M. Rorvik and his publisher for having cited him and his work in the book titled *In His Image: The Cloning of a Man*.

² I am indebted to Christina Brandt and to Edna Maria Suarez Diaz for a wonderfully insightful conversation on this scene and cloning in the seventies. The discussion about the mistake consists on considering whether or not the blood cells implanted into an egg that has previously had its own nucleus destroyed is a red or white cell, and whether or not that choice was viable.

For example: *Un Spécialiste*, 1999, was composed from footage taken at the Eichmann trial in Jerusalem; Claude Lanzmann's *Shoah*, 1985, is a masterpiece done from survivor's accounts of the events; a montage titled *The Maelstrom; A Family Portrait*, of 1997, was assembled by Péter Forgács from Dutch amateur films of Peereboom family taken during the nineteen forties; *The Himmler Project*, by Romuald Karmakar, produced during 1999-2000 is a literal reading of documents containing Nazi delusions of grandeur. *Nuit et Brouillard*, (Night and Fog) 1955, by Alain Resnais is a touching, even chillingly poetic piece filmed at Auschwitz and complemented with footage of some of its survivors taken by Allied forces. *Les statues meurent aussi*, (The Statues Die This Way) 1953, by Chris Marker and Alain Resnais, indirectly examines the issue of genocide in the context of French colonialism through a cinematic exercise that juxtaposed mass killings to genocide in Africa. *Guernica*, also by Alain Resnais is a poignant piece where a poem by Paul Éluard was superimposed onto the graven black and white Picasso canvas. *Ostnapi Etap* (The Last Stage) 1948, was created by concentration camp survivor turned director Wanda Jakubowska; it began as a jarring account of life in the female barracks of Auschwitz and ended with the promise of communism as the resolution to the story. *La Vita è Bella*, 1998, by Italian writer, actor and director Roberto Benigni, aroused controversy with a comedy treatment of the subject. In turn, Roman Polanski's, *The Pianist*, 2002, paid attention to the disarray amongst Jews themselves that would make them into easy victims.

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Schindler's List, 1993, by Steven Spielberg, the Shoah blockbuster, was filmed during a time of exacerbated American protectionism towards the state of Israel and resulted in a portrayal of events that are nothing less than a reversal of what occurred to the majority of Jews that went to concentration camps. This Zionywood account of the events is a strange counterpart to most films of this genre; it has a happy ending. Shot and metaphorically constructed in black and white, it is a melodrama which oversimplifies its dramatic details and which has an ending that portrays Jewish prisoners as survivors walking from a camp in Czechoslovakia straight onto a brightly colored Israeli soil. It is so bright at the promised land that as the "Schindler Jews" and their descendants advance to pay homage to the man responsible for their having remained alive—some are wearing sunglasses. This forced ending—in full color—relies on a fundamentalist reading of biblical words "[e]ven so then at this present time also there is a remnant according to the election of grace ... and so all Israel shall be saved" (Romans 11: 5-26). To be sure

... as soon as the criterion of authenticity ceases to be applied to artistic production, the whole social function of art is revolutionized. Instead of being founded on ritual, it is based on a different practice: politics (Benjamin 2002:257 emphasis in original).

³ Many thanks to Annette Vogt for the commentaries made on this paper.

In his book titled *Remnants of Auschwitz* Giorgio Agamben wrote that there are things that are initially obscure and things that are purposefully obscured, actively passed over, ignored, or best left unsaid (Agamben 2002:11-14). The Shoah has been treated as a fantasy, a comedy, as an element of political ideology, as documentary, as testimony. However, the connection doctors/killing is perhaps the most amazing cinematographic ellipsis in the treatment of this topic. This gap can be described as *black boxing*, which here is the exaggeration or amelioration of historical testimonies and documents, or the convenient avoidance of crucial, and even highly volatile information (Latour 1987:130-31), for what could be more volatile than making a link between killing and the modern medical establishment? It is astonishing, to find that as medicine, biology, eugenics or genetics, which played a role in the atrocities committed during that time have been generally overlooked in cinema. Although many argue that medicine was not a major player at the camps, to others it is a fundamental component of the massacre: “[a]t the Auschwitz ramp, it was doctors who waited and made decisions” (Klee 1999:9).

In Auschwitz, Nazi doctors presided over the murder of most of the one million victims of that camp. Doctors performed selections—both on the ramp among arriving transports of prisoners and later in the camps and on the medical blocks. Doctors supervised the killing in the gas chambers and decided when the victims were dead. Doctors conducted a murderous epidemiology, sending to the gas chamber groups of people with contagious diseases and sometimes including everyone else who might be on the medical block. Doctors ordered and supervised, and at times carried out, direct killing of debilitated patients on the medical blocks by means of phenol injections into the bloodstream or the heart. In connection with all of these killings, doctors kept up a pretense of medical legitimacy: for deaths of Auschwitz prisoners and of outsiders brought there to be killed, they signed false death certificates listing spurious illnesses. Doctors consulted actively on how best to keep selections running smoothly; on how many people to permit to remain alive to fill the slave labor requirements of the I.G. Farben enterprise at Auschwitz; and on how to burn the enormous numbers of bodies that strained the facilities of the crematoria (Lifton 1986:18).

The relationship eugenics/genetics/medicine in concentration camps is not new to filmmaking; it is in hard to trace but nonetheless exists. Perhaps the film that makes the strongest reference to medicine/killing foreboding the Nazi period is Ingmar Bergman’s *The Serpent’s Egg*, 1977, a film in which the protagonist Abel Rosenberg and his brother’s widow Manuela find themselves unwitting subjects of medical experiments which include gassing with chemicals that induce severe psychotic states in both of them as they stay in living quarters which they later find out have one way viewing mirrors that are disguised laboratories. This film, whose action takes place in Berlin during the nineteen-twenties ominously announces the evils to come by way of its title and an explanation given by a government official in the story: a serpent’s egg has a thin membrane through which one

can see the monstrous creature forming inside. Despite its courage in making such a connection, the film is ill-regarded by Bergman connoisseurs who often ignore its historical boldness in favor of the dramatic masterpieces the recently deceased director produced.

Had films focused on the doctor/killing issue, no doubt would have the Shoah's arch-criminal Josef Mengele emerged in more than one cinematographic form⁴. However, this surprising oversight has given the sorts of Amon Goeth—a *military* character who has perhaps number one billing as the most devious cinematographic criminal of the Second World War—far greater prominence, and a dubious greater-than-life existence in the popular *imago*. Mengele, for example, has not received much of a cinematic treatment even though he has appreciable cinematic characteristics. The general perception of Mengele's persona is that he was evil incarnate; it was he who clad in white—the symbol par excellence of medical garb, and the color he dresses in during various occasions in the film—made life and death decisions at the train ramps wherefrom he earned the nickname “angel of death”. However, those many who knew him closest, the prisoner doctors who were forced to work with him at Auschwitz, had different opinions about him; to Vladimir Hanak he “Had the air of a philanthropist,” to Odette Abadi, “He behaved like a movie star,” to prisoner doctor Gisella Perl “He was always well attired, very proper, perfumed,” while to Regina Kryzanowska “His eyes left a bizarre impression, and we all feared him greatly” (Klee 1999:333-34). This variety in texture—regarding him and other doctors engaged in the uncanny cruelty of the pseudo-scientific experiment—can be found in other prisoners' memoirs.

To be sure, while *Schindler's List* contains a brief scene where it is doctors who perform the work selection; the abuses to the Hippocratic oath are not dealt with in the narrative; trains unloaded their human cargo, the doctors did the sorting, certified the killing, but the medical connection is not made explicit. It seems that portraying doctors as they led millions to their deaths is not cinematographic enough, or not convenient politically. Films twist, bend, obliterate and/or conveniently exaggerate and enhance, but also mask what is real; “[i]n a WORLD THAT really has been turned on its head, truth is a moment of falsehood” (Debord 1994:14, emphasis in original).

Perhaps one of the biggest surprises to come out of the Nazi trials both in Germany and Israel, was that the men in charge of the smooth killing operations were common — even banal men; regarding Eichmann, for example, he “was not a ‘monster’” (Arendt 1963:60), when he appeared before his accusers;

... after the first gasp of surprise, the audience began to feel that his very ordinariness was somehow more terrifying. If he had horns on his head, knifelike eyes, and a gash

⁴ The exception is a film titled *Nichts als die Wahrheit* directed by Roland Suso Richter, 1999, which did not gain popularity and is of difficult access. I am thankful to Bernd Gausemeier for his having pointed out the existence of this film to me as well as for information on the Kaiser Wilhelm Society.

of cruelty for a mouth, he would have been true to form (Hausner cited in Cole 1999:70).

The aura—the charmed existence—of objects or even people always remains, but the context varies, thus “[j]ust as the entire mode of existence of human collectives changes over long historical periods, so too does their mode of perception” (Benjamin 2002:255). Regarding the Nazi era—and even though some events or personalities are highly contentious as they were associated with revolting practices—the curiosity they generate is easily witnessed in spaces that exhibit military paraphernalia alongside Jewish camp internee clothing, for example. At the *Simon Wiesenthal Center, Museum of Tolerance*, in Los Angeles, or at the *United States Holocaust Museum* in Washington, D.C., the public—composed greatly of persons who condemn the Shoah—will invariably spend much more time looking at the gleaming golden fasces, helmets, lapel pins, guns, banners and flags of the various military and para-military groups existing during the *Third Reich* than with the modest Jewish objects on display. Emblems from the SS, helmets, guns, shiny black boots, photographs of Hitler, no doubt cast a greater spell on onlookers than at the worn out blue and white striped prison clothing of victims branded with a yellow star. The great appeal of the former is perhaps why their presence is almost avoided altogether at the *Jewish Museum* and at the *Deutsches Historisches Museum* in Berlin.

Films have taken advantage and even trivialized the qualities of some of these troublesome objects to their benefit. What occurs with actors portraying Nazi cinematic villains is worth noting; actor Ralph Fiennes—the Amon Goeth of *Schindler’s List*, goes easily from arch villain to coveted lover in the *English Patient*—a film where notwithstanding his charisma he is accused of being a Nazi spy. Cinema encourages crossovers between reality and fiction, and war films are no different, to the point that “[w]hen Mila Pfefferberg, a surviving “Schindler Jew”, was introduced to [Ralph] Fiennes on the set of the film, she began to shake uncontrollably, as Fiennes looked so like the real Göth” (Corlis 1994).⁵

This character doubling⁶ lover/evil-doer does not deter the following he has by admiring fans, rather, it enhances it, and this enhancement is no doubt what Tom Cruise—who was filming in Berlin as I wrote these pages—is counting on as he prepares for a role in which he portrays Wehrmacht’s Graf von Stauffenberg, who led the failed attempt against Adolf Hitler’s life in July 1944, moreover, why Nazis or their paraphernalia have such an allure is complex. For example a trivial comment I once read rationalizing the allure of German outfits was that “they were better cut”, and yes, that holds true, they have intrinsic qualities that make them appealing to many a viewer; SS uniforms were designed by world famous couturier Hugo Boss. However, less banal

⁵ The Ralph Fiennes—Schindler’s List (autographed) Promo Pack can be purchased online for only 143.00. It is available at (<http://eil.com/shop/moreinfo.asp?catalogid=260639>).

⁶ See Robert Lifton’s volume *The Nazi Doctors*, a study of this psychological phenomenon.

comments discover other levels of meaning; beyond the allure of a well-cut outfit is the fact that Germanic characters are known to have mysterious or magical powers attributed to them⁷. “I did not find the double rune on the uniform repellent ...” writes Günter Grass in his autobiography—*Beim Häuten der Zwiebel* (2006:110).

Certain objects are attractive because of their beauty, others are fascinating because they connect to supernatural powers; yes, one has to admit that this entails something metaphysical, something that goes beyond materialistic understanding. This is why I use the term—auratic—with apologies to Walter Benjamin who used it to describe artworks in the nineteenth century sense, and who died while escaping the Nazis. However, I guess he would agree that it does not matter if objects are beautiful or ugly, contain good or evil—highly volatile categories and contested categories—what matters—and here I am writing not of the horrors of the Shoah, but addressing something about the social use given to objects—some have a special hold on the popular imago, an imago that is *manipulated* in many ways in a society where spectacle has become the norm. It remains successful since “*the desire of the present-day masses [is] to ‘get closer’ to things*” (Benjamin 2002:255 emphasis in original) and here the closest we can get is either the objects themselves or their cinematic representation. Reactions to those objects and their uses is complex, however, watching the reactions of film audiences, or museum visitors one can witness how at some level objects with such qualities are never entirely severed from their original ritual function (Benjamin 2002:105). The incorporation, re-transmission, assimilation of signs and symbols is historically determined:

... if changes in the medium of present-day perception [and production] can be understood as a decay of the aura, it is possible to demonstrate the social determinants of that decay (Benjamin 2002:255).

However, while it is something of the past, and many could argue for the decay of the appeal that institutions of that era had, there is still a historical choice to be made in understanding what went on: “the ignorance I claim could not blind me to the fact that I had been incorporated into a system that had planned, organized, and carried out the extermination of millions of people” (Grass 2006:111). At the camps, every distinction between proper and improper, between the possible and the impossible was blurred, eradicated, disappeared (Agamben 2002:75), even the *German Red Cross* ambulances were hauling *Zyklon B* from one place to another in the camps. So, Why are medical transgressions and genetic experimentation at the camps overlooked?

Cinematic exceptions are *The Grey Zone*, (Blake Nelson, 2005) where there is a small intervention by Miklós Nyiszli, a Jewish prisoner doctor—who wrote his memoirs regarding the experiments conducted on human beings at Auschwitz—saves a young Jewish girl found by prisoners in a gas chamber, and a film made for television, *Out of the*

⁷ The New Oxford English Dictionary, 2nd edition., sv. “rune”.

Ashes, (Sargent, 2003) in which camp survivor Gisella Perl—also a Jew and a doctor—performs abortions in order to save interned women’s lives; *The Boys From Brazil* includes a scene on an island in the Caribbean where he conducts experiments on human beings. Besides those, few films illustrate the medical situation in concentration camps. Sustaining an ellipsis, glossing over an important event, hiding it as is convenient to particular groups, or even more dangerously, attempting to deny it, the Shoah “marks the end and the ruins of every ethics of dignity” (Agamben 2002:69), although to many, it can become a truth that has worn ragged from its being told over and over again. Overlooking flagrant humanitarian, medical and ethical infractions performed in the name of science as those occurred in the camps can be as atrocious as the acts themselves, for even though the camps were military installations they were set up through all sorts of medical protocols, and Josef Mengele its infamous icon a geneticist.

“The inner temporality and the politics of Holocaust memory, however, even when they speak of the past, must be the future” (Young 1992:17). [I]ndeed, the very aporia of historical knowledge: a non-coincidence between facts and truth, between verification and comprehension ... is [t]he *Ethica more Auschwitz demonstrata* (ethics as demonstrated at Auschwitz) (Agamben 2002:12-13) that defines our times. If the medical establishment of the time did not care about pushing mankind into an eschatological abyss and going down in history with such a mark, it is fair, at the very least to maintain the link between genetics and eugenics in our memories. It is not good enough to say that that sort of genetics—now disassociated from current practices because of a slight name mutation—has no relationship to the science of today.

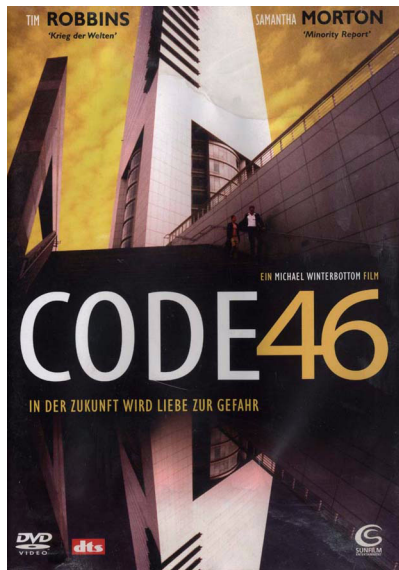
Acknowledging that a state of exception ruled at the camps—that human beings were turned into scientific objects and that genetics led by racism was part of its impulse—we can begin to discern, “bring to light the fiction that governs [the] *Arcanum imperii* (secret of power) par excellence of our time” (Agamben 2002:86). Without doubt “nothing that has ever happened should be regarded as lost to history” (Benjamin 2002:390).

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A new film version of *The Boys of Brazil* is currently in pre-production and is to be released in 2009.

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But surely, I must fear my mother's bed?

Code 46 begins with a long lasting aerial shot of barren desert upon which several text frames appear:

Article 1

Any human being who shares the same nuclear gene set as another human being is deemed to be genetically identical. The relations of one are the relations of all.

Due to IVF, DI embryo splitting and cloning techniques it is necessary to prevent any accidental or deliberate genetically incestuous reproduction.

therefore:

- i. all prospective parents should be genetically screened before conception if they have 100%, 50% or 25% genetic identity, they are not permitted to conceive
- ii. if the pregnancy is unplanned, the foetus must be screened. any pregnancy resulting from 100%, 50% or 25% genetically related parents must be terminated immediately
- iii. if the parents were ignorant of their genetic relationship then medical intervention is authorized to prevent any further breach of *Code 46*
- iv. if the parents knew they were genetically related prior to conception it is a criminal breach of *Code 46*

Set in what is described as “the near future” (*Code-46* 2003:1), a future that looks too familiar and too close for comfort, the story has trappings of a typical unavoidable love story that invokes, almost casually, the incest taboo. *Code 46*, is, according to its director

modeled after “Oedipus”, the great myth of ancient Greece (Code-46 2003:1). Apparently, then, *Code 46* (Winterbottom, 2003) was to be an departure from a plot, where instead of two individuals’ blissful encounter, we would find a situation resolved not with a happy ending certifying the union of—a male and female bodies, but instead, a story doomed to catastrophic failure. Devised as a romance turned on its head, it initially seems to be a situation typical of many dystopia-oriented science fiction films such as *Brazil* (Gilliam, 1985), or *Bladerunner* (Scott, 1982), where the would-be heroes—and their beloveds—will face shame and agony by the time the story ends.

Set in signature architectural spaces, locations that are increasingly recognizable in many major modern cities around the globe and abundantly present in the artworks representing globalization, the film presents us a vision of a world where time and space are collapsed into a confusion of pasts and futures typical of dystopias. Shot in locations in Dubai, Shanghai, London it adopts many of the conventions of the cyberpunk aesthetic such as high/low contrasts between the hotel William stays at while in Shangai and crowded street scenes reminiscent of *Bladerunner*. With the presentation of high-tech instruments—usually in their more spectacular form in the science fiction genre—toned down here to cheap looking contraptions like a photo album, haptic gear turned into aerobics exercise gadget; all of these artifacts manage in *toto* to banalize what dystopias were usually meant to represent; social decomposition. Gadgets and practices in the medical sciences such as cloning, in-vitro fertilization, diagnostic and visualization technologies, positioned throughout the film, constitute a new framework for human relationships; they reinforce false assumptions about science while they reify the corruption of social norms.

The film does not turn the ancient myth into a stand against medical totalitarianism because the theme is treated within a framework that not only undermines one of the oldest injunctions known to the Judeo-Christian world, but quite contrary to what we read and hear from the director and actor interviews, the film engages the ancient taboo in a show of “permissive immorality” that acts more like a pornographic suggestion made to “sate” (Jameson 1992:27) postmodern artifices. It is interesting to understand how trendy elements are put together, how they feed the yearnings for novelty certain specific publics crave, as the film dabbles with incest it feeds into “the concomitant denunciation of our deafness” (Virilio 2003:43).

Oedipus Bureaucraticus

William, a fraud investigator, is sent from his employment headquarters to Shanghai to look into investigate the production of fake passes “papeles”. In this city, as well as in the Seattle that William comes from, English is spoken with a mixture of foreign languages that illustrates the ethnic makeup of the “future”; Arabic, Chinese, Spanish, some French and Italian. When he arrives to the “*Sphinx*” pass production plant where the crimes he is

to solve are occurring, he conducts an investigation on various suspects utilizing a questioning technique that involves the use of an “emphathy” virus that allows him to “listen” to people’s thoughts; he asks, people hesitate to answer; he solves riddles.

At this high-tech setting, he recognizes his main suspect as someone he ran into as he entered the building that morning, realizes that she is the person guilty of the thefts, but suddenly decides not turn her into the proper authorities; he accuses someone else instead. Maria is the female protagonist’s name; a quality supervisor at the printing facility who has been smuggling passes for friends who for reasons only the “*Sphinx*” knows cannot or should not leave the city.

The over-voice relates how every year Maria has had a dream that is a countdown to the day in which the action is taking place. Through it she has learned that on this day, her birthday, she would meet her soul mate. Her life has been moving towards the twenty-four hours we witness. At the end of the workday, she encounters William on the subway back home; he has been following her awhile. They talk, and eventually decide to have dinner together; then they go to a Karaoke bar where she is meeting friends. Once there, while someone sings “come back to daddy”, Maria meets her friend Damian, gives him the pass to India he wanted, and takes pictures of William, Damian, and others. William takes Maria home, they look at her family photo albums and they talk about the restrictions people have on visiting the outside—Maria spent ten years beyond the city’s boundaries, and is sympathetic towards others’ lack of mobility. Later that night William and Maria have sex. He quickly leaves the next morning to go back home, but his travel pass was good only for 24 hours. He gets back on his chauffeur-driven van and heads for the airport, and again goes through a checkpoint overflowing with people trying to move from one area to another. He gives a pass he stole from Maria while she slept to a young man he had previously met at the crossing point.

Back home, William has a wife, a child, a nice home and all the trappings of a comfortable American middle class existence. He tries to contact Maria, but all he gets is a voice mail recording on her phone. At the office William is reprimanded by a nasty boss for more illegal uses of passes have been reported; even further, someone who used one of them died of a massive haemorrhage caused by a rare genetic predisposition to an infection carried by bats—the *Sphinx*, it seems did know best. In a parallel sequence the person we see being zipped into a body bag turns out to be Maria’s friend Damian. William is ordered back to Shanghai. He is again issued a 24-hour pass. He once more enters the city through the high tech airport, goes through the controls at the border crossing and encounters people who look like they come from some Arab speaking country who are desperate to get a pass to go in/go out of the city.

Immediately upon his return to the printing plant William has to concede that he made a mistake in the selection of suspects—hides his own involvement in the theft of a pass—and demands an interview with Maria, only to be told she has been relocated. We

learn she was whisked away because of a *body issue*. He is perplexed; gets into her apartment and finds that previous to her disappearance she had an appointment at a clinic. Following this trail, he meets with resistance regarding the disclosure of her whereabouts—however, using his mind reading method, he finds out that she has been banished from the city for a body condition described as *Code 46*.

William tries to find her; he finally tracks her down in a clinic outside Shanghai, but instead of reacting positively to his presence, she does not recognize him. As he talks to her, he realizes something is wrong. He is initially lied to by the clinic's staff, but subsequently told that she cannot remember the relationship that led to a forced abortion; her memory of the man, the sex act and the foetus she was carrying all have been removed from her mind and body. He demands that she, as suspect in the crime he is investigating, is released to his custody. He “rescues” her from these circumstances and takes her home; she, however, does not remember their first encounter, but is nevertheless attracted to him. As they travel from one city to another, she has vague recollections of him that emanate from those recurrent dreams she used to have. They go to her apartment, she is dazed and quite tired, and goes to sleep; he takes a cutting of her hair and goes to a laboratory to have the specimen examined. Since *Code 46* was mentioned at the clinic he grows increasingly concerned about the reasons for her forced abortion.

We next encounter him at a genetic clinic where he requests an analysis of both his and her genetic material—he has his mouth swabbed. The clinician runs some tests. His suspicions are corroborated when a clinician informs William that they are indeed genetically linked; Maria comes from the same batch of clones as his mother. He is told at the laboratory that he cannot liaise with the woman to whom the hair belongs as that would be a violation of *Code 46*. He now realizes that he has committed incest.

*

Beyond the attempt to update a centuries old drama, Is it possible to sidestep the authority that texts considered classics are given, texts that have enjoyed a special cultural category for centuries (Benjamin 1999:577-578)? Clearly, the film evokes elements from Sophocles' Oedipus Tyrannus; William's ability to solve riddles, the 24-hour structure, the allusions to fate and destiny made throughout the story, the neon “Sphynx” that decorates Maria's workplace, the sexual injunction, but, it does not echo their meaning. The story is not one of a heroic figure being trapped by fate, someone who gouges out his eyes in despair because of rage and guilt, but rather a melodrama contrived around an ancient myth that merely serves to embellish a one night stand and which becomes incest as a “matter of fact”. By placing the cloning issue in the midst of this situation there is a tacit acceptance and manipulation of the idea that cloning is evil as incest is one of its byproducts.

When William realizes that he committed incest, he hardly shows the despair worthy of a tragic hero, and as soon as he is given that information leaves for the airport in order

to return home only to find that his pass has expired; caught not by fate, but by circumstances that pertain to a totalitarian society which is taken much as a matter of fact throughout the story, he suddenly needs to return to Maria in order to secure a pass for his exit. She—ignorant of the whole situation—procures papers for him via what she believes is a clever swallowing piece of paper technique and meets William back at the airport; once he is given the paper, instead of going straight home, they elope.

This sequence begins with aerial shots of what seems to be a settlement in the Middle East. The couple has traveled by air to Abou-Djali, Cameroon, which acts as a tolerance zone; they need no passes to get there. They settle into a somewhat run down hotel. Now that they are in a situation to be intimate, it turns out that she has been given an anti-empathy virus, an anti-William virus, something that makes her body reject his sexual advances. The lovers recognize the unnatural situation and plan a strategy that will allow them to be together although her body—not her mind—rejects him. He then proceeds to bind her to the bed with his belt and tie—a scene has been described by various film critics as sado-masochistic.

When they wake up, it is Maria who has a strange urge to get out of the room—she is in a trancelike state. She makes a phone call makes an accusation against William alleging a *Code 46 violation*. William realizes what is going on, secures a car, and whisks her away. They are on the run; she finally remembers where she knows William from—her dreams—she tells him so, they have an intense moment of recognition. They crash. There is a brusque cut in the film to a scene where we see Maria walking aimlessly on barren territory. The voice over that has guided us through the film in Maria's voice makes a comment on the ill-fated love affair. The film cuts to a very short interlude where William is subjected to a trial and is sentenced for having committed a criminal violation of *Code 46*. We see a quite short brain-washing sequence, common to many science fiction films such as *Blade Runner* or *The Manchurian Candidate*, and then we suddenly see William waking up in a hospital in Seattle; his wife and child are there to take him home. He does not remember Maria or his affair with her, as the woman, the relationship and the accident have been removed from his memory. Maria has been barred from the city, and lives in squalor outside its boundaries, and the film cuts to show how William is happily engaged in an intimate relationship with his wife.

*

The title of the movie itself is constructed from the fact that the human karyotype contains 46 chromosomes, thus seeking to imply that that incest *per se* is responsible for birth mutations. Does *Code 46* contribute to our understanding of contemporary culture in any rich or imaginative manner? In Winterbottom's adaptation to Sophocles' play, the question that naggingly lingers in its interpretation of the incest taboo is whether or not the film is capable of pointing to something else, of current value instead of merely turning

the Oedipus myth into a trivial pursuit where “soul mates” are separated by circumstances that are much more bureaucratic—even to the point of pitiful—than desperate. *Code 46* purportedly draws from quite a strong moral and perhaps even biologically based set of prohibitions that are key to Western Civilization regarding sexual intercourse with consanguine members of a family that appears in the Leviticus book of the Bible. Instead, what the film does is reify the notion that genetic engineering will inevitably lead human beings into desperate or even absurd situations.

Regarding the stage adaptation of ancient myths, Walter Benjamin wrote, “such an approach must be the product of very precise artistic reflection if it is to be anything more than a snobbish joke” (Benjamin 1999:577). If we consider Oedipus as myth that has some value, a value to be derived from the capacity of a lesson to be taught, then we can say with certainty that the film fails the public. It does not truly engage the tragedy, it conveniently uses it; the realization of incest, an action that meant “unparalleled darkness, horror, incest, parricide, doom and guilt” (Benjamin 1999:578-579) to Oedipus, becomes instead, after a momentaneous show of concern, a realization that leads to sexual excess.

Incest is not the *de facto* reason for genetic malformation—some of which are incidentally mentioned in the film (Damian’s medical condition, the tone deafness Maria and William share)—it is the increased risk of the appearance of a recessive mutation lurking in two individual’s genetic constitution that might produce a birth defect. That is the biological reason that might lie behind the taboo. Not incest in itself. So the film is actually misleading by presenting a situation—ostensibly presented as the introduction to the film—where a code endorsed by a totalitarian state forbids liaisons between people who are genetically related, hence *Code 46*.

Challenging the idea of the reproduced, the adaptation, as being something devalued, which usually winds up giving the *de facto* advantage—the higher cultural status—to that which is perhaps outdated on modern terms. What does this film contribute to a view on the human condition? There are different intentions involved in the modernization of ancient works, one of which is the desire to make a genuine test of the eternal character of art, which is to say, test its constantly self-renewing relevance (Benjamin 1999:578). Here, amidst the dystopian situation, the limits marked by a society that utterly controls its subjects and that hints at an Orwellian worldview, the writer and the director have created a “cinematic exercise that is utterly [un]believable” (Slavov 2004:1 my emphasis) and which is set within the confines of creating a setting for ignorance and fear; a fear constructed from an exploitation of ignorance on genetics and a desire to be “trendy”. Is it possible indeed to modernize pieces such as Oedipus or Hamlet since these are already too modern to be modernized (Benjamin 1999:577)? “[W]hat happened to Oedipus in [the] twenty-three centuries—from the time Sophocles first put him on the Greek stage to the present day”? Judging from William’s character—or lack of it—the answer is that he became an at once coolly imperious and impersonal and strangely neighborly being (Slavov 2004:1); he is an individual unworthy of teaching us any lessons.

“[P]ost-generic genre films are allegories of each other, and of the impossible representation of the social totality itself” (Jameson 1992:5); the film as a simultaneous allegory of the past and the future engages the impossibility of representing today’s realities and its different levels of complexity; it is content with showing us the ugly reality of a world where all sorts of boundaries are erased. The film trivializes the Oedipal myth, recombines it into a complacent worldview in a *mise-en-scène* that accepts unchecked stereotypes, unexpected social adaptations, and bad biology, eventually destroying the myth with its nihilistic—and obviously non heroic, but quite corporate—outlook.

Here, even though the film is a long way far from being a *critique* on Oedipus, it does not even address Maria’s plight seriously, leaving women in a far worse condition than one would expect from a modern treatment of their place in society. The female protagonist, who suffers the consequences of something she is completely unaware of—also becomes the victim of the director’s complacency, a complacency coated in romance that has become fashionable. Why the female character in the film is treated so is intriguing; she is a woman raped, a woman without control of her body, a woman who has no memory of herself and who at the end of the film is punished for being accused of incest—an incest due to new medical technologies ... Film dystopias used to warn their viewers about imminent disaster; they used to be a tool of the soothsayers, the modern mouth of Tyressias. An “independent film” shot “guerilla style” on locations in “alternative” parts of the world—such as the *Reagan National Airport* in Washington, D.C. or the *Grand Hyatt* hotel in Shanghai—pays lip service to nothing less than incest.

Actress Samantha Norton relates in the film’s special features that she cried as she finished reading the script she was presented. Maria, the character she plays is banished, paralyzed, sold out to cheap melodrama, and makes an actress who has played quite sophisticated science fiction roles cry in the name of impossible love. Maria, the character who takes a name which is the most significant of all female names in Western culture, is deemed a criminal, denied her job, subjected to a forced abortion, abducted by a stranger, tied to a bed post, raped in a scene that ostensibly involves sado-masochism—but because “she wanted it” it becomes alright, is made into a martyr rendered completely incompetent by a man and a system—“The Sphynx”—that turns her into an outcast as are many women in a class stratified world. Turned out to a world worse than many a nightmare, that is not the end. She is also veiled.

All of the orientalizing *niceties* that are so obviously patent in intellectual debates today are contained in the film; they would make Gabriel Said, turn in his grave. The Afghani hats borne by the young men at the border crossing—obviously alluding to Winterbottom’s previous film *In This World*, (2002)—the one about the boys looking for passports to get out of Afghanistan, background music with melismatic melodies appearing in thriller after thriller since 09/11. The Near East once more made into the space of porno, of snuff, of infamy, of the obscure, incomprehensible sites of cultural misunderstandings and self-righteous judgements.

The *peripeteiai*—the actions and obstacles the actors will have to resolve immediately following the otherwise devastating news—would certainly have a different look, a different feel if the reference were indeed in some manner a serious take on Oedipus. What we see instead, what we are in some way forced to witness—via an overused formula handed down to us from the realm of the fairy tale—is a love story in which the characters, the actions, and the world around the protagonists is familiar and recognizable, with a plot that is banal, and which has proven to be “ideological window dressing” (Jameson 1992:14). “Incest, after all, is not much of a dramatic event, particularly when both partners are consenting adults and don’t know of their secret genetic relationship. The act itself is not remarkable and to ascribe to it major plot meaning is somehow anti-dramatic” (Hunter 2004:C01). Invoking Oedypus in such mediocre way was a hypocritical move. It would have been important that the modern meaning gained a distance from the old, and that distance from the old interpretation would have brought a new closeness to the myth itself, from which the modern meaning would have offered itself up for renewed discovery (Benjamin 1999:578).

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Evolution in Lucifer's Laboratory

Imaginary islands have served many writers as laboratories where social experiments are played out, where retrograde peoples are contrasted to advanced ones, where traditional and modern societies are compared. As games, or literary exercises or models of culture, it is there that ideas have been presented, tested, tensed and relaxed, exaggerated or finely polished; where the unthinkable is made into reality.

Making the unreal, real, is something novels have been doing for centuries; mixing possibility and impossibility. Islands, the preferred site for utopian modeling are pliable and effervescent spaces where social experiments are played out. It is in them, the utopian location par excellence, that many a social experiment or critique takes place. In the case of science fiction, that most modern of the genres utilizing this locale, those tropical spaces full of biological and imaginary potential, harbor many an alienated man, a maddened scientist, a solitary and often dark recluse who is in search of truth. There he seeks knowledge while performing the uncanny, the impossible, and often, the highly unethical scientific project. This is the case with the main character in *The Island of Doctor Moreau* by H.G. Wells, our current subject.

The metaphoric relationship that links lonesome beings with social experiments can be traced back to antiquity, but it is not until the seventeenth century that such narratives take the form that we recognize today. Thomas More has the merit not only of coining the term from a combination of words meaning place/no place with his famous *Utopia*, 1516, but also for setting the parameters of the modern genre; a dialectical proposition that challenges specific political structures. After him, in 1619, Johann Valentin Andreae published *Christianopolis*, a tale that despite its religious name incorporated scientific work into its imaginary space. The author gave his story a modern feel by including in it laboratories for the natural and theoretical sciences as well as for mathematics, plus public galleries that, in mixing art and science sought to inspire young generations with ideas on

nature and aesthetics. His innovative and fantastic institutions included sections dedicated to quite specific scientific activities such as dissection and vivisection; “for there is nothing so close to a miracle as the workings of the bodies of living creatures, and above all the body of man” (Andreae 1999:211).

Francis Bacon’s *New Atlantis*, 1626, elaborated on these innovations with a stunning list of scientific settings whose end was the procurement of the “knowledge of Causes, and Secret Motions of things” and the “enlarging of the Bounds of Humane Empire, to the effecting of all things possible” [sic] (Bacon 1670:23). Bacon named this place of knowledge Salomon’s House. It had laboratories, experimental and viewing stations, natural conservatories, and vivisection laboratories with caves adapted for the most advanced scientific research. In the last, “Coagulations, Indurations, Refrigerations, and Conservations of bodies” [sic] (Bacon 1670:23) could be carried out. What is most astonishing of all of the institutions previously mentioned is that they have crystallized into spaces and practices that are part of the modern scientific establishment: the laboratory, the anatomical theater, the science museum, the science center and even the modern art gallery which now exhibit many an anatomically inspired work of art.

Fast forwarding to the last two centuries, we find that giving islands a scientific dimension is still current. Thus we find various works that follow in the utopian tradition: H.G. Wells’s *The Island of Doctor Moreau*, *Mosquito Coast*, by Paul Theroux, *Morel’s Invention* by Bioy Cáceres, Ira Levine’s *The Boys From Brazil*, *One Hundred Years of Solitude*, by Gabriel Garcia Márquez; Michael Chrichton’s *Jurassic Park*, etc.

The Island of Doctor Moreau, a novel from which many writers have taken inspiration, was written by H.G. Wells, a trained biologist and a most prolific science writer in his own right. In this novel he mixed fact and fiction in order to produce some of the most visionary literary creations of all times. Throughout his work, be they theoretical or literary exercises, he added social variables calibrated in different measure to situations taking place in various sites as he toyed with scientific interests be they theoretical or literary exercises. Without favoring one or the other, but always willing to play out the possibilities that lie between the possible and the impossible, even if stretched—while taking advantage of the mysterious symbiosis that exists between science and fiction—he proposed situations that at times fused the fantastic and the logical. For example, while Thomas More gave no precise location for his famed island, Wells, in his mimetic game gives the coordinates for Moreau’s mysterious hideaway as 2° S, 93° W, which in fact corresponds to those visited by Charles Darwin on his voyage on the *Beagle*: the Galapagos.

Keen to the preoccupations of his time, our author constantly added elements from the social sphere—politics, history, revolution, government—to discussions concerning scientific discovery and technological development. For example, in *A Modern Utopia*, a political treatise, he declared scientists fit to govern the world as he considered them

custodians of sound thinking principles, people who, because of their rational qualities, would no doubt clearly consider the social implications of their labor. However, this quality is something he reversed in his novel *The Invisible Man*, where a scientist—who suffers a calamity due to an experiment gone wrong—expresses extreme hatred towards his fellow man and eventually engages in revenge and murder. In *A Modern Utopia* he wrote about the possibility that humans acquire the sufficient social consciousness as to be able to govern themselves without requiring leadership. However, for *Dr. Moreau*, one of his most famous novels, he tipped the balance completely towards a situation where, as man is unable to rule himself he foreshadows the appearance of the ruthless ruler of the modern scientific state (Haynes 1980:83).

The societies he constructs, be they utopias or dystopias, maintain science at their core even though they vary in their presentation or outcome. He swings the pendulum back and forth between the thrill of better things to come to man with the advent of technology—conveyed via innovations such as his famed time machine—or comments on the downside of some of its technological applications. However, while some of the artifacts of science fiction have come into being and have been fundamental to social development, others have been neither quite as abstract nor beneficial to mankind. These variations illustrate how Wells played back and forth with models and situations, and how overall, utopian writers have utilized the genre as an opportunity to experiment, embody and display knowledge (de Chadarevian 2004:3) while giving diverse form to the diverse rhetorical devices built into them (Jordanova 2004:450).

Eugenics

In one of his multiple combinations, concerned with the issue of population explosion, Wells argued for the use of eugenics as a solution. Francis Galton's theories had challenged overprotective social policies that favored the survival of the weak in order to prevent what he saw as an unwanted social reversion towards mediocrity; these ideas were of use to the novelist whilst modeling *A Modern Utopia*:

The men of the New Republic will not be squeamish either, in facing or inflicting death, because they will have a fuller sense of the possibilities of life than we possess. They will have an ideal that will make killing worth the while; like Abraham... (Wells 1902:270).

He wrote elsewhere:

Once the eugenic phase is reached, humanity may increase very rapidly in skill, mental power, will and general vigour (Wells cited in Haynes 1980:106).

When Wells included such concepts into his work, eugenics was regarded as an acceptable science. It was a proposition that had many adherents and quickly gained prominence; it became a regular part of the scientific discourse and became quite powerful both in the United States and Germany—popularized via a strong propaganda machine that furthered its ideals in both countries. *Doctor Moreau* is situated precisely at the junction between biology and the social applications of science; here Wells considers the crossroads between ethical boundaries and eugenics. *Moreau* was not the first time he experimented with that variable, nor the last; in *A Modern Utopia*, 1905, he proposed “wise marriage laws”. In his political treatise *Anticipations*, 1902, he discussed the consequences of sudden transitions from static social organizations to violently progressive ones made up of poor, parasitic individuals (Wells 1902:76). What to do with these misfits is core to the *Moreau* story.

Iconography and Revolution

The narrative for both the novel and its various remakes as film versions is quite simple. A biology student, Edward Prendick survives a naval accident; he is saved by a passing ship and taken to an island where a notorious vivisectionist turned fugitive, lives. Once there he has a glimpse of Moreau’s endeavors, and believing the doctor is experimenting on humans confronts him; the scientist explains that what he does is to improve animals in the same way that crops are improved through cross-fertilization, and in the 1996 film version, genetics. As the novel develops Moreau’s creatures—the Beast Men—become increasingly conscious of their limitations, and horrid nature. They rise in rebellion. Prendick discovers that Moreau’s creatures are reverting to their animal state. The Beast People confront Moreau and eventually slay him. Chaos ensues and anarchy sets in. Prendick eventually manages to get off the island, returns to England, and writes his memoirs, which will eventually find printed form thanks to the labors of his nephew, our literary guide.

Frankenheimer’s Island

When John Frankenheimer took over the making of the film, as its initial director had dropped the project, he had to make adjustments to the script in order to suit his own preoccupations and conform to the movie studio’s deadlines. Frankenheimer had been responsible for films such as: *The Turn of the Screw*, 1959; *The Young Savages*, 1961; *The Manchurian Candidate*, 1962; *Seven Days in May*, 1964; *The Fixer*, 1968; *Black Sunday* 1977; *Prophecy*, 1979; *The Holcroft Covenant*, 1985; *The Fourth War*, 1990, Andersonville, 1995; films that made stark commentaries on government, abuses of power, détente and revolution. As a man well known for his treatment of political topics in cinema it is clear that he would in some way affect his this film in likewise manner. He read the film’s initial script, found it to be messy, and particularly, its genre not well defined. After reviewing it

he eventually decided the film was a fable where animals could serve to teach a moral lesson (Frankenheimer and Pratley 1998:266). He was correct in this assessment; Wells had also experimented with lessons taught through fables in the style of Rudyard Kipling's *The Jungle Book*, 1894, a work he was well acquainted with.

Wells' novel had been previously released as *The Island of Lost Souls*, 1932, where the Beast People rise in rebellion taking Moreau to what seems to be the *Bastille* and a 1977 production of the same title that was treated with revolutionary and apocalyptic overtones (Showalter 1992:79). If Frankenheimer's version follows suit it is not only because its cinematic history already contained elements of such a treatment, but because that was a dimension that would be obviously given to the film by someone who made some of the most important political films of his time. Beyond the iconographic statements that the previous adaptations to the film had advanced, e.g. treatments of "class revolution" (Showalter 1992:79) with clearly identifiable situations such as revolt of the masses, the 1996 film makes its own—if whimsical—contributions on revolutionary references. There is an encounter between the Beast People and Moreau where, as they make demands, he offers them appeasement via milk and biscuits, parodying the phrase "let them eat cakes" purportedly uttered by Marie Antoinette at the onset of the French Revolution. Later on, when Moreau and Montgomery—Moreau's assistant—are murdered by the insurrecting beasts, both men's corpses are shown through a close-ups of their limbs reminiscent of the *Death of Marat* painted by Jacques-Louis David of 1793.

The allusions to cut-off body parts that appear throughout the novel and the film are iconographically significant as such items are one of the most important aesthetic innovations brought forward by the French Revolution (Nochlin 1994). In art they were Theodore Géricault's distinct contribution; he used arms, legs, heads and hacked torsos in his work not only for compositional purposes, but also as objects of aesthetic interest in themselves. When we look back at the artistic treatment of the human body of that period, we find all sorts of variations on the severed limb. This motif occurs simultaneous to new modes of scientific experimentation and understanding. Cut-off, eyes, fingers, hands, hearts were initially objects of scientific curiosity and they would eventually become part of the modern anatomical museum and many teaching collections. However, those objects plus the plastinated embryos, cut-up women displaying their bowels, tissue samples exemplifying contagious diseases, casts of severed hands, legs, eyes, etc. that we find in artworks contemporary exhibits and cinema remit not only to strands of medical history, but also to modes of display that signified the triumph of the class struggle of the eighteenth century, and which were considered a sacrifice made to the nation, to progress;

[I]t is Géricault who most violently exploits the message of castration implicit in the representation of the fragmented or wounded male body. Such imagery would be unthinkable without the memory of Revolutionary violence, the nightmare of the guillotine (Nochlin 1994:16).

Géricault's presence is clear in *The Island of Doctor Moreau*; he is mentioned directly and indirectly in both the novel and the film via one of his most important works; *The Raft of the Medusa*, 1818-19. This canvas is the portrayal of a shipwreck that occurred in 1816 on a voyage to Senegal; a work executed as a dazzling display of bodies painted from studies of severed body parts, and which is an image that resonates throughout the narrative. It is present in both the film and the novel as metaphor and as fact beginning with a reference in the first scene in both; a wreckage. In the film version, perhaps as a gesture to American art heritage Frankenheimer added a shark to the account; the creature is an element present in John Singleton Copley's famed painting *Watson and The Shark*, 1778, executed two years after the consolidation of the American Revolution, in it, a young man, Brook Watson, loses one of his limbs to such a beast. These references constitute in great part the texture of a film that has the issue of revolution and body parts at its core, while at the same time it was an opportunity to cast a better looking shark than Stephen Spielberg had done for *Jaws* in 1975 for the part.

The Aesthetic Post-Mortem

Some films denounce practices that are cruel, perverse, inhuman, while others glorify the status quo, pave the road for new ways of thinking, or legitimize practices that push the limits of humanness into a dystopian vortex. Fads—particularly fads that reach a great number of people via mass media and advertising—normalize perceptions about the way the world works. It is no accident, for example, that artists considered trendy go further in their extremes year after year, and that the exhibition of body parts has gone from the unusually cruel to the phantasmagoric. Negative references to the work of science are often used to punctuate lay discussions about topics on cloning; the general public derives its information in great manner from cinema (King and Muchamore 1998).

In the realm of art that imitates science, Damien Hirst, one of contemporary art's Wunderkind, who by the way, created a stir when he exhibited a cut-up shark in a tank of formaldehyde in 1992, is nowadays incorporating laboratories set-up as stages and human anatomical models into his *oeuvre*. In exhibition spaces we seem to now inhabit the post-mortem era of the exhibition of the human body. The grotesque has become the norm when a medical doctor turned corpse exhibitor—Gunter von Hagen—drains bodies of their liquids as he plastinates them and turns them into museum objects. Exhibiting anatomy has become more pernicious than humanistic, more about spectacle and business than about science;

The epitome of the commodity is thus the cult of fashion, in which the familiar returns with some slight variation. The very old and the very new caught up together in some oxymoronic logic of identity-in-difference (Eagleton 1990:317).

The aesthetic of the *modern* in science fiction film falls into two main categories: the minimalist, suave, highly manipulated environment: *Gattaca*, Niccols, 1997; *THX 1138*, Lucas, 1971; *2001*; *A Space Odyssey*, Kubrick, 1968; *Solyaris*, Tarkowski, 1972 or the corrupted, filthy, destroyed or nauseating world of *Blade Runner*, Scott, 1982; *12 Monkeys*, Gilliam, 1995; *Planet of the Apes*, Schaffner, 1968; or *The Matrix*, by Wachowski, 1999. However, these scenarios are not opposed, but rather, intimately related; if read as being divergent we make the mistake of choosing one over the other falling into the trap of characterizing one as false utopia the other as beautiful dystopia—inversions clearly manipulated in many of these films. Both worlds—the beautiful and the scatological are joined at the hip just as Siamese twins are—showing us that when one aspect of civilization dies the other one goes soon after. Often, if the aesthetic of a film is pleasing, something dangerous lurks beneath its pleasant face. These Janus like contrasts are what Wells used throughout the writing of his works. Such citations appeal to writers and contemporary directors who attempt to elucidate what art and fear are truly contemporary to (Virilio 2006).

As this film retakes the body fragment, the vivisection, the transplant and the genetic experiment, it does not play into the fad that exhibits body parts as part of a new horrid sublime—as occurs with hundreds of plastinated corpses. Rather, it retakes an aesthetic that belongs to the discourse of equality, liberty and fraternity in opposition to a world in which corruption, oligarchy and totalitarianism reign. Frankenheimer responds to Géricault's blunt realism with eloquent reference to the collective trauma of a society that lamentably has lost its way during the twentieth century. If the film has been seen as not exactly as a science fiction film, it no doubt has suffered from misreading, just as has occurred with the painter's works when deemed as acts outside his time (Athanasoglou 1992:602). Even further, the director links his iconography to a particular scientific revolution: the announcement of the sheep cloned by Dr. Ian Wilmut and the Roslin team which occurred on the same year of the film's release—a date which is to many a confirmation of the “world historical necromancy” (Marx 1979) of the turn of the millenium.

Of Islands and Utopias

The island has been used in literature as the imaginary space where either idealized functional or dysfunctional societies reside; where uncanny experiments take place. In *The Island of Doctor Moreau*, Wells' imagination departs from the space where one of the most important scientific theories of the nineteenth century, Darwin's work on evolution, was inspired and where in Wells' experimental model, uncommon medical abuse takes place. It is here that the phantasmagoric laboratory, where the maddened scientist of the nineteenth century turned into the unscrupulous medical researcher of the twentieth works, where in the future a pharmaceutical company clones beings for body spare parts,

as occurs in *The Island*, directed by Michael Bay, 2005. That locale suffers a metamorphosis that goes from a space deemed the “wasteland” of science fiction narratives, a space where the fantasy of civilization is reduced to a simpler level (Wolfe 1979:147) to one with new dimensions where strange or supply life-forms are manufactured.

Vivisection and dissection have been both lauded and reviled throughout history; though they might have provided researchers of the past with fruitful insight into the body, but at a certain level the practice is hard to conciliate with the knowledge derived from it, for “anatomy involves the sacrifice of one body as a model technology in order to place its workings at the disposal of others” (Waldby 2000:55). To William Hogarth, the famed eighteenth century satirical engraver it was clear there was excess in the practice. In his *Four Stages of Cruelty*, he portrays four men who act upon a corpse: one carves an eye out of its socket, another yields a knife and cuts interior organs, a third pulls a long and winding intestine onto a bucket, while a fourth carves at the feet of the dead subject.

If Mary Shelley and H.G. Wells are cited as responsible for the creation of the mad scientist stereotype, Shelley’s scientist is a kind man of Victorian upbringing baffled by the consequences of his creation who later, obsessed by remorse, falls to the story’s background while the monster he created emerges as the most important character in her novel. Doctor Moreau, who we encounter amidst a large entourage of disfigured creatures remains the most important character in the narrative, and is prominently as *dark black* in his practices, something his name eerily announces. However, even if it might at first appear that Moreau is the embodiment of absolute evil, there was still be someone worse for Wells; in *The Invisible Man*, 1897, a story about a vengeful scientist gone mad, we clearly see a man that embodies the Wellsian progression of evil, exemplifying “the inevitable course of our times” (Haynes 1980:88).

Moreau in comparison to other evil scientists drawn up in literature is not as dark black as one would suspect; he is not a simple melodramatic character. While some of his actions might be judged repugnant this is not a characteristic of his overall persona. Moreau is a complex character; he is true to living and historical human beings, and is therefore tragic. He is clever, enthusiastic, kind, educated, dedicated to his work, while at the same time obscure, condescending, and ruthless. He fluctuates between scenes of incredible brutality towards the Beast People and great kindness to those whom he recognizes as his children—they in turn treat him as their father, and participate with him in the most amusing, touching and subtle parts of the adventure. This complexity allows the reader/viewer to identify with and reject Moreau on various levels—something that also happens to Prendick/Douglas—when he discusses with the Nobel laureate the nature of his work. A multifaceted personality becomes even more apparent in the treatment received in Frankheimer’s film, personified by Marlon Brando, an actor of great talent and charisma. Moreau appears as a scientist not only intensely preoccupied about the

improvement of mankind but also capable of great kindnesses, features that are also part of Dr. Faust's imago:

You are conscious of only one impulse.

Oh, never learn to know the other!

Two souls, alas, dwell in my breast,

The one would fain separate itself from the other (Goethe 1935:35).

Prendick/Douglas is never sure whether or not what he experiences is true, or whether or not what others including Moreau, tell him occurs, or whether or not Moreau is involved with vivisection, dissection, grafting, cloning or all of the above. However, it is clear that Prendick is immersed in a nightmarish experience tinted with blood and hints of cannibalism. The suspicion that the narrator might have murdered and even eaten his companions aboard the raft where we first encountered him makes him perhaps just as complicit in homicide as anyone else on the island; he is not an innocent bystander. Besides this, in Frankenheimer's version, he is made into a United Nations observer traveling with American military personnel; the film then seems to point a finger at more than one institution complicit in massacres overseas. So, when Moreau defends himself from the outsider's critique with the words: "Judge not, that ye be not judged" the film is evoking many who might be complicit in genocide.

The reality/fiction divide is explored throughout the film as is the inversion of the "hero in the story" who slowly turns into as guilty a person of crimes against humanity as Moreau. It is never clear whether Prendick himself is part of Moreau's scientific experiments, as his facial features, which are increasingly distorted throughout the film—via tight close-ups—slowly begin to appear animal-like. Prendick's begins to suspect that Moreau had him rescued in order to experiment on him, a situation reminiscent of Ingmar Bergman's *The Serpent's Egg*, 1977, where a Jewish performer, living in Berlin during the twenties, realizes he was turned into a pre-Nazi scientific probe. Frankenheimer's inclusion of pain inducing implants are an update of the mind control methods he explored in *The Manchurian Candidate*, 1962, thought to relate to the CIA's mind control project named MKULTRA.

Echoing historical events and the human body, Frankenheimer also comments on colonialism. Moreau's children exhibit table manners, speech patterns—British accents—and outfits—Tuxedos—that remind us of the discourse of the colonial enterprise that justified *empire* building during the nineteenth and twentieth centuries. The central scenes of the film in fact, show Moreau parading through the island with white make-up and clothing that emphasize and mock *white man's burden* to rule the world. The film is also inspired by *Apocalypse Now*, Coppola, 1979, with settings featuring crashed American warplanes of World War II Pacific campaign, a devastated tropical landscape, prostitutes

offering themselves to men, a luxurious villa in the middle of the wasteland compete with French wines and live entertainment; thus both films refer back to *Heart of Darkness* by Joseph Conrad, an author with whom Wells exchanged extensive correspondence. Conversely, Moreau's discourse on the infliction of pain, butchered bodies, and the elimination of the devil from their soul, seems to have influenced Conrad as he wrote *Heart of Darkness*, adapted by Coppola for *Apocalypse Now*. This film's antagonist, Colonel Kurtz, ends up hacked to pieces—in a parallel sequence to the brutal sacrifice of a bull—by Benjamin L. Willard who fulfills military orders to annihilate Kurtz “with extreme prejudice” (Coppola 1976). Kurtz dies after a speech that is strangely similar to Moreau's credo and which expresses the same prejudices/understandings about human nature that justify Moreau in his experiments, and which are feelings similar to Harry Lime's tirade on mankind and the pharmaceutical business—blade running—from Carol Reed's *The Third Man*, 1950. In a twist of scientific crimes, convolutions and nightmares, Willard—*Apocalypse Now*'s protagonist eventually suspects he might have been sent up to kill Kurtz as some sort of sordid military experiment. Closing a circularity in coincidences Brando was cast as the brutal Colonel Kurtz.

What goes on in Doctor Moreau's island/laboratory fluctuates between suspicions and clues of disturbing medical activity, framed by the stock imagery of the utopian lab, and the vivisection facility of the Utopian genre; vats with vapor emanations, high tech equipment made of shiny aluminum, jars with deformed brains, lungs and fetuses soaking in formaldehyde ... Whatever activity might be taking place in such laboratories, it becomes unimportant as the men, beasts or hybrids are subjected to insurmountable pain and rendered powerless once their bodies fall into the hands of science. When Prendick/Douglas arrives on the island he is immediately told by Montgomery, Moreau's assistant, he is not a doctor, but “more like a vet” (Frankenheimer 1996) and that the island is “is a biological station—of a sort” (Wells 1896:51). Prendick will not only hear chilling cries of pain as experiments are conducted, but will accidentally run into a bloody surgical intervention; the birth of a monster to an artificially inseminated Beast Person made up of other creature's body parts.

Unethical interventions are minimized by Moreau as he justifies research for research's sake. Stabbing himself in the leg he explains:

[a]nd I tell you, pleasure and pain have nothing to do with heaven or hell. Pleasure and pain—bah! ... Was this possible or that possible? You cannot imagine what this means to an investigator, what an intellectual passion grows upon him! You cannot imagine the strange, colourless delight of these intellectual desires! (Wells 1896:137).

Vivisection, dissection, and now reproductive technologies have been tools of the medical sciences for centuries and are constantly being updated in fact and in fiction. We can

quickly go to the history of science to find problematic references to criminal, misguided or even erratic methods. René Descartes studied the circulatory system directly:

If you slice off the pointed end of the heart of a live dog and insert a finger into one of the cavities, you will feel unmistakably that every time the heart gets shorter it presses the finger, and every time it gets longer it stops pressing it (Descartes 1985:317).

Leonardo Da Vinci, stole cadavers and dissected them to produce some of the most important anatomical drawings of all times; Rembrandt van Rijn immortalized *Doctor Tulp's Anatomy Lesson*—a testament to a proud moment of patronage, class membership and science at Leiden, with a painting where society members stand besides a dissected corpse, while Andreas Vesalius is portrayed next to a dissected woman on the frontispiece of his *De Humani Corporis Fabrica Libri Septum*, a book of paramount importance in the history of anatomy.

Even though Moreau performs experiments in order to “improve mankind”, his creatures eventually regress to their animal state; “they show the unmistakable mark of the beast” (Wells 1896:76), becoming “horrible caricatures of [the] Maker’s image” (Wells 1896:180). To Moreau this regression is a scientific disaster, and to the Beast People a source of despair and eventually indignation and revolt. The elixir that keeps them from reverting back to a primitive state is destroyed during the uprising; the novel/film is not only a metaphor about science but about humanity at large, a humanity who has experimented with revolutions, nonsensical wars, constructed totalitarian regimes, and democracies, and ultimately failed. Thus Frankenheimer blurs the line between fiction and fantasy that was too thin to maintain in historical practice.

Whatever pain, suffering, or maiming of a body occurs during the scientific process, the excuse is usually given both in fact and in fiction as something that is done in the name of knowledge. In fiction, the famed scientist/Nobel laureate, Moreau experiments with the body’s “individual plasticity” (Wells 1896:137) and claims: “I was the first man to take up this question armed with antiseptic surgery and with a *really scientific knowledge* of the laws of growth” (Wells 1896:137, my emphasis). Moreau gets away with murder because he is a doctor cloaked in an aura of humanity, kindness, class, education, and in Frankenheimer’s eyes a Nobel prize winner. The beasts chant;

His is the House of pain.

His is the Hand that makes.

His is the Hand that wounds.

His is the Hand that heals (Wells 1896:108).

Be it in science fiction, or in reality, scientific research is often treated in literature and in cinema as something that advances mightily and without regard to ethics. To Wells and then to Frankenheimer scientific activity goes from vivisection, butchering, and extermination, and all the way up to using cloning and reproductive technologies to turn beasts into men. It doesn't really matter which is which. Moreau explains;

The thing before you is no longer an animal, a fellow-creature, but a problem! ... To this day I have never troubled about the ethics of the matter ... The study of Nature makes a man at last as remorseless as Nature (Wells 1896:137).

In fiction, Moreau justifies the cruelty of his experiments as necessary, reducing the idea of suffering and human sympathy to cosmic irrelevance (McConnell 1981:91). In the horrid historical experiences of the last century many learned that “[t]he doctor, ... if not living in a moral situation ... where limits are very clear, ... is very dangerous” (Auschwitz survivor quoted in Lifton 1986:430). In fact, at one of the peak moments of the trial in Jerusalem, Eichmann's lawyer astonished the court with the statement: “It was indeed a medical matter, since it was prepared by physicians; *it was a matter of killing, and killing, too is a medical matter*” (Arendt 1963:64).

Literary characters like Moreau, Lecter, Lime, or real-life characters like Mengele or Eichmann are best understood if seen as complex characters that exhibit the kindness-cruelty, healing-killing paradox exemplified by the medical doctors running killing camps—concentration gulags, islands, or clandestine scientific research stations. Those practitioners brought to their killing the mana of a shaman, priest, magician, plus that of science; they were individuals who found no cleavage between the domain of fantasy and the world of affairs where they acted loaded with power (Langer cited in Lifton 1986:431). The 1996 interpretation of Moreau updates the technology of death with advances of genetic engineering which is merely *scientific progress* fine-tuned to the micromanagement of torture, a torture perfected in very real laboratories created for the contemporary *reality* of pain. Comments on the Shoah are made directly with a scene that occurs after the rebellion; one of the Beast People finds his companions' remnants as ashes in an oven. Frankenheimer's film is brutal in its reference to contemporary genocide using a direct reference, with documentary footage, to massacres on the Island of Timor, clearly mentioned in the film's closing sequence. The presence of Lucifer—angel/demon—in everyone's genes—which Moreau argues he was trying to extricate—surfaces in us as we see images—of man praying upon man—flash on the screen.

Conclusion

Stories told once and again, be they utopias and dystopias, re-iterations of a narrative trope reflect constant or re-emerging preoccupations about problems left unsolved, hidden, and ignored. For long, art and science have merged body parts and pain in strange

and unexpected ways; Géricault's sketches were a necessary part of the study of the body, as well as part of the iconography of revolt against a regime that was asphyxiating while the twentieth-century's body parts were the byproduct of the era of mechanical reproduction of corpses and the search for new knowledge at times turned into genocide. An aesthetic justification made during the early twentieth century asserted that war—that grand factory of corpses and severed body parts—is the world's only hygiene (Marinetti 1909).

Moreau's island is as much a stage, a model and a metaphor on which different situations/theoretical positions are played out, performed. However, such ideas have been also made real. Modeling situations out of the scientific knowledge of his time, be they population issues, evolutionary theory, or eugenics, Wells set up and gave life to correspondences between natural and social orders (Knorr-Cetina 1999:26). Moreau's plunge into the abyss of indifference reminds us of the "unstable phenomena" in man's makeup (Frankenheimer 1996) turned into the performance of the unthinkable in the name of the search for scientific knowledge. It has been said of Auschwitz: "[e]thics aside, and apart from a few other inconveniences, it would have been hard to find so ideal a surgical laboratory" (Lifton 1986:295). As the rebellion on the island ends surviving beast people state "no more science, no more laboratories, no more experiments" (Frankenheimer 1996).

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