Forty Years of Change: How Genetic Technology Altered Gender Roles, Care-giving, Family Structures, and the Artworld

Heather E. Dunn

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FORTY YEARS OF CHANGE: HOW GENETIC TECHNOLOGY ALTERED GENDER ROLES, CARE-GIVING, FAMILY STRUCTURES, AND THE ARTWORLD

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Submitted to the faculty of The Institute for Doctoral Studies in the Visual Arts in partial fulfillment of the requirements for the degree Doctor of Philosophy

April, 2013
Accepted by the faculty of the Institute for Doctoral Studies in the Visual Arts in partial fulfillment of the degree of Doctor of Philosophy.

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The prenatal life of the child is a pure natural association, a flowing toward each other, a bodily reciprocity; and the life horizon of the developing being appears uniquely inscribed, and yet also not inscribed, in that of the being that carries it. – Martin Buber¹

I dedicate this dissertation to my loving husband, Michael Alpiner, our beautiful daughter Emma Grace Alpiner and my father, John J. Dunn.

ACKNOWLEDGMENTS

I would like to thank my husband and daughter, as well as my loving and supportive parents for their help and encouragement in this undertaking. Without my family’s understanding and assistance this dissertation would not have come to fruition. I would also like to thank George Smith for letting me be a part of his vision that has become IDSVA. His guidance and moral support over the last six years has deeply impacted my life and changed it for the better. Additionally, my advisor Michael Stone-Richards has been indispensable. His knowledge and kind-hearted spirit have placed me on a new and hopefully long path of future enlightenment within my life-world, and for that I am forever grateful. I would also like to thank my committee for their suggestions and their time, as well as my fellow classmates, and Amy Curtis, the woman who keeps everything running at IDSVA.
ABSTRACT

HEATHER E. DUNN

FORTY YEARS OF CHANGE: HOW GENETIC TECHNOLOGY ALTERED GENDER ROLES, CARE-GIVING, FAMILY STRUCTURES, AND THE ARTWORLD

In the span of the last forty years, genetic advancements have remapped humans’ understanding of the body, and the interaction between the self and the Other. This has helped to continually alter humans’ understanding of various sociocultural environments. Within this dissertation, four chapters are organized by decade to allow for an in-depth analysis of one genetic advancement per decade, the related changing nuclear family structure, gender roles, and care-giving, as well as reflecting upon how these advancements and changes are found in visual arts. Each chapter is further structured through the use of Edmund Husserl’s concept of the life-world, Michel Foucault’s argument of the increasing presences of biopolitical power, and Günther Anders theories about technological agency. In each chapter, an emphasis is placed on the argument that these methods of analysis should be viewed as interconnected and relevant to the past and the present, as well as, to the future.
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Introduction

From the commencement of this dissertation, the goal was to examine how, over the past forty years, genetic advance-ments have changed the nuclear family structure, gender roles, and care-giving, and how these changes are reflected in visual arts. Various methods of research and organization were utilized to accomplish this; specifically, the dissertation has been divided into four chapters to examine the four sequential decades beginning with the 1970s. Within each chapter, one genetic advancement and one piece of artwork were chosen to discuss various changes that occurred within the decade in relation to the nuclear family structure, gender roles, and care-giving. Furthermore, each chapter followed the same theoretical pattern that was organized by subdividing the chapters into three sections. In part one, Edmund Husserl’s concept of the life-world is examined; in part two Michel Foucault’s theory of biopolitics is analyzed, and in part three, Günther Anders’ argument that tech-nology has its own agency is explored. While there are three distinct sections to each chapter, it was shown how each of these theories is interconnected. In the beginning of the dissertation, it is Husserl’s life-world that knits the theories, technology, and artwork together, specifically, Julia Kristeva’s pre-linguistic argument with Mary Kelly’s Post Partum Document, and the advancements in IVF. Through these components, the argument is made that the family structure, gender roles, and care-giving are situated in a life-world that is continually changing due to shifting sociocultural changes that are often related to technology. The second chapter focuses on the HIV/AIDS epidemic of the nineteen eighties and the AIDS Memorial Quilt in relation to the mapping of the
Human Genome. The question of family structure, gender roles, and care-giving are situated by the question of orientation within the life-world that is juxtaposed within Foucault’s concept of power structures. Thus, in this chapter, there is a shift, related to the control of the body, that is beginning to be explored as the concept of gender performativity is used to investigate how an individual situates him/herself within the life-world. Chapter three highlights a dramatic shift and merger of science and computer technology that was increasingly used to perform scientific experiments and develop scientific theory in the nineteen nineties. Both genetic engineering and Patricia Piccinini’s *The Mutant Genome Project* are used to expand the previous questions of orientation within the life-world, as well as to explore globalization and the growing domination of technological agency. The key questions being considered are: are humans able to control the genetically engineered living things they created, and whether or not scientists are able to obtain their desired results? These questions spill into chapter four, where Eduardo Kac’s *Natural History of the Enigma* is juxtaposed with microarray technology and technological agency. A large part of the chapter is devoted to examining Giorgio Agamben’s concept of the *homo sacer* and Zygmunt Bauman’s argument about wasted humans, which have both been a result of technological agency. Thus, by chapter four, it has been demonstrated how Foucault’s biopolitical power and Anders’ arguments relating to technology have taken a leading role in altering the life-world, as well as how Agamben’s and Bauman’s writing are both used to question humans’ inclusion or exclusion from this technologically driven world.
Throughout this dissertation, a great amount of effort was placed on demonstrating how the role of care-giving has been altered since 1970. This is interwoven with various changing and evolving feminist and theoretical arguments. This has not been meant to undermine the role of women and mothers as caregivers, instead the author’s hope, from the beginning, was to demonstrate how gender roles have been redefined through the widening definition of the care-giver, and how this has affected the nuclear family structure. Thus, within this dissertation, there are two trajectories: (1) with the analysis of technology and the use of Foucault’s and Anders’ arguments, it has been demonstrated how humans have, in the last forty years, lost freedoms due to technological innovations, (2) while at the same time, due to technological advancements, the concept of care-giving has broadened to be more inclusive and less restrictive for women. These two paths diverge and intersect at various points throughout this dissertation, and hopefully leaves the reader with the realization of just how divergent the terms parents, mothers, and fathers are, in 2013. With the ever increasing dominance of technology, specifically in the field of genetic engineering, new questions of care-giving arise. While these are discussed in chapters three and four, by virtue of their depth, they lend themselves to further examination. Questions about caring for the creations of BioArt, the impact of genetic engineering of the human genome, and the impact on the third-world are just a few examples that call for more research beyond the confines of this dissertation. That being said, the hope of the author is, upon finishing this dissertation that the reader will begin to question the role of technology within his/her life-world.
Chapter One – IVF, Mary Kelly, *Post-Partum Document* & the 1970s

**Introduction**

Within this chapter three main themes emerge. First, Edmund Husserl’s concept of life-world, in which a phenomenological investigation of the collective human pre-predicative experiences that form patterns of the cognitive world, is explored in relation to the process of caring for a child; second, Michel Foucault’s concept of (American) neo-liberalism, which brings biopolitics to encompass “the family and the birth rate,”\(^2\) is utilized to examine changes in family structure in the 1970s; and third, Günther Anders’ concept of technological agency is debated, particularly in relation to Assisted Reproductive Technology (ART) and the human gene pool. These accounts of the status of life are brought together through a discussion of the feminist artist, Mary Kelly’s *Post-Partum Document*, 1973-79.

During the decade that Kelly executed *Post-Partum Document*, there was a change in the way Western society viewed family structure, gender roles, and care-giving. However, 1970 was not the revolutionary year that marked the beginning point of this change, rather, 1970 was chosen because it was the start of a decade that saw critical configurations of science, technology, the second-wave of feminism, and the proliferation of feminist art. *Post-Partum Document* has been chosen as the main piece of artwork for this chapter because it has become one of the iconic works from the 1970s, and Kelly specifically addresses the subject of care-giving and gender roles within a scientific register (whether porodic or not).

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Kelly offers her viewers the multiplicity of the care-giving paradigm through her middle-class perspective as she negotiates the relationship of the self and the Other in a world where care-giving, and who implements that care-giving, had begun to undergo radical change. These changes were further tested and brought into public debate through the innovation of In Vitro Fertilization (IVF) during the 1970s.

**Part One – The Relation of Husserl’s Life-World to Kelly’s Post-Partum Document and IVF in the 1970s**

The life-world is not my private world nor your private world, nor yours and mine added together, but rather the world of our common experience.
– Alfred Schutz and Thomas Luckmann³

Edmund Husserl was not the first person to question how one perceives and interacts with the world. Husserl, did, however, developed a new method to investigate consciousness that has become known as phenomenology. This complex system of analysis, which is rooted in Husserl’s training in mathematics, first emphasized what he termed the phenomenological reduction or the bracketing of all epistemological and ontological claims in order to identify a stable and persistent structure, the eidetic essence. In response to criticism, Husserl would come to concentrate not only on *noetic* acts, that is, acts of consciousness, but also upon the context of *noemic* acts, that is, objects of consciousness, the ultimate form of which, as developed in *The Crisis of European Sciences*, would be the

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basis of the *Lebenswelt* or life-world.⁴ This, as David Carr argues, was regarded by Husserl as “merely a necessary preliminary stage on the way to transcendental subjectivity.”⁵ Moreover, Husserl’s theory of the life-world was based on patterns that he felt were universal and self-evident, or given to the self, and based on Galileo’s mathematization of nature and the prescientific everyday sense experience.⁶ As Carr explains, “Galileo’s proposal is that exact and intersubjectively valid knowledge of the real world can be attained by treating everything about this world as an example of a geometrical object or relationship.”⁷

With this understanding of the life-world, in this chapter, it will be argued that Mary Kelly’s *Post-Partum Document* may best be approached as a critical engagement of her perception of a life, one in which care-giving is paramount, and patterns are found in the daily interactions with her son, but also a life-world undergoing transformation and crisis. It will also be explained how the patterns of the life-world, that Kelly depicts in her project, are the fundamental structures of Julia Kristeva’s preoccupation with the pre-linguistic, that is, pre-oedipal stages of development. To fully explain this argument, a brief description of Husserl’s work is first necessary.

In the late 1800s, Husserl was trying to establish a foundation for knowledge. He began to attempt to explain the world through phenomenological reduction. He began with an investigation into mathematical and arithmetical

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⁷ Carr, “Husserl’s Problematic Concept of the Life-World,” 333.
truths, asking what makes a mathematical proposition true? What he was looking for was an understanding of why something can be unquestionable, can be proven true, and can consist of necessary truths, such as the mathematical proposition “Two plus two equals four.” He claimed mathematics and arithmetic confirmed empirical judgment and drew from our experiences of counting. Crucially, Husserl’s theory of arithmetic was based upon the psychology of numbers and the acquisition of counting. However, this line of argument was met with criticism from such as Gottlob Frege who rejected all forms of psychologism as incapable of accounting for the objectivity and universality of mathematical principles, and Husserl would subsequently come to accept this argument and become a fierce opponent of psychologism. Even after this turn in his work, though, his ideas were always connected to the patterns that are seen in mathematical equations; in his later work he was influenced by the intuitive predictions of Galileo’s early work in physics, which stem from observation.

Husserl next argued that arithmetic and knowledge must be defended on a bedrock of necessary truths which could not be reduced to empirical truth. He tried to explain the mind in nature, and our knowledge of nature, by the notion of certainty, forming a foundation upon which to build our sense of causality, the material world, and everything that science and commonsense knowledge has to offer. Husserl’s pursuit of certainty, apodictic knowledge, was not a new philosophical quest. Instead, the pursuit of certainty has a long philosophical lineage, from Plato’s Republic; c. 380 BC, to René Descartes, who attempted to find certainty through a method of doubting everything until, in 1637, he came
upon the claim, that, “I think.” This, itself, could not be doubted, and could in turn be used as a new kind of epistemological basis immune to doubt. Immanuel Kant also followed the pursuit of certainty with his attempt in the *Critique of Pure Reason*, 1781, to find a way of justifying first principles. This was a way of trying to show the rules of the mind, and demonstrate the conditions of possibility for any necessary (a priori) belief to be true. Kant wanted to be able to say what an individual knows for sure, and build from that to show what else an individual might know. Kant did not agree with Descartes’ *cogito ergo sum* (“I think therefore I am”), rather, for Kant, “I” could only be known as it appears to human observation or phenomenon, not as it is in itself. Following this line of reasoning, Kant developed the concept of the transcendental ego, which he argued must be put forward in order for human thoughts to make sense. In *The Critique of Pure Reason*, he writes:

> It must be possible for the ‘I think’ to accompany all my representations; for otherwise something would be represented [...] in me which could not be thought at all. [...] I call it pure apperception, to distinguish it from empirical apperception. [...] The unity of this apperception I likewise entitle the transcendental unity of self-consciousness, in order to indicate the possibility of a priori knowledge arising from it. For the manifold representations, which are given in an intuition, would not be one and all my representations, if they did not all belong to one self-consciousness.

Hence, the transcendental apperception of the thinking subject is used to create a meaningful world of experience, which synthesized sensations according to various categories of the understanding, and is necessary for a unified empirical self-consciousness. Kant used this to find out what was in the ego, what was in the consciousness, much like Descartes’ “I think therefore I am” is the beginning of

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investigation. However, because the thinking subject is essentially a condition of knowledge rather than an object of knowledge, nothing can be known of this self. This is different from Husserl’s concept of pure consciousness, for which everything that exists is an object and is the ground for the foundation and constitution of all meaning. Husserl aimed to develop a method that would enable an individual to engage the cognitive and the self or the ego. As he asks in Ideas, “What can remain over when the whole world is bracketed including ourselves and all our thinking (cogitare)?”\(^9\) Trying to constructed a personal, spiritual, or cultural world in opposition to the scientific or natural world,\(^10\) he argues it is after the world is bracketed away from number series and the arithmetic relative to it,\(^11\) that the individual can proceed by showing up simple and directly what we see; and since the Being to be thus shown up is neither more nor less than that which we refer to on essential grounds as ‘pure experiences (Erlebnisse)’, ‘pure consciousness’ with its pure ‘correlates of consciousness’, and on the other side its ‘pure Ego’, we observe that it is from the Ego, the consciousness, the experience as given to us from the natural standpoint, that we take our start.\(^12\) From this starting point, Husserl argues that the “I, the real human being”\(^13\) is an object among others in the life-world. Both the individual being and the collective beings carry out acts of consciousness as well as engage in experiences. It is from these experiences that a stream of continuous change is brought forward, and allows the Ego to shine

\(^11\) Husserl, Ideas, 112.
\(^12\) Husserl, Ideas, 112.
\(^13\) Husserl, Ideas, 112.
forth, as Husserl beautifully writes, in “so distinctive a way, glide into one another, enter into combinations, and are being incessantly modified. […] we take all these data of psychological reflexion as real world-events, as the experiences (Erlebnisse) of animal beings.”\(^\text{14}\) However, Husserl argues that within this consciousness humans have turned away from these centers of experience (Erlebnisse) themselves toward “new objects in the ontological realms of arithmetic, geometry, and the like, whereby indeed nothing truly new was to be won.”\(^\text{15}\) This, he argues, has created a lack of “a certain general insight into the essence of consciousness in general, and quite specially also of consciousness, so far as in and through its essential Being, the ‘natural’ fact-world comes to be known.”\(^\text{16}\) It is therefore, in this consciousness that, Husserl argues, there is an absolute uniqueness of nature that remains unaffected by as the phenomenological disconnection or bracketing and remains over as a phenomenological residuum that is in principle a unique region of Being, which can become the science of Phenomenology.\(^\text{17}\) This argument was supplemented with the concept of subjectivity, which could refer to awareness, self-awareness or the sense of being a distinct being with a distinct historicity. Subjectivity, therefore, could refer to the individual’s particular biases, prejudices, and or emotional proclivities, which have not yet, or cannot yet be proven, or, indeed, for which the language of proof is not at all appropriate – whence Husserl’s turn to the life-world.

\(^\text{14}\) Husserl, Ideas, 113.
\(^\text{15}\) Husserl, Ideas, 113.
\(^\text{16}\) Husserl, Ideas, 113.
\(^\text{17}\) Husserl, Ideas, 113.
For Husserl, this first-person viewpoint of subjectivity was directly related to the realm of consciousness, and for him, what is in consciousness is the basis for his method of phenomenology. Therefore, rejecting Descartes’ notion of doubt, he proposes that whatever is to be proven must be proven on the basis of things which are evident to us. This claim is the beginning of phenomenology, in which truth becomes part of an ambiguous system that is given to the self through intuition, but since it is given, it is not first a matter of interpretation or fabrication. Instead, consciousness receives or is given truths through an almost passive state of intuition that is opposed to normal experiences, in particular, experiences of facts. Similar to Plato’s concept of intellectual intuitions, for Husserl, this becomes a special kind of intuition. Conversely, influenced by Kant, Husserl also proposes that instead of truth being given to us through intuition, it might be that the world is constituted by consciousness. The self is then not passive, not just seeing what the world is like, rather it is setting up or framing the world, even creating the world out of the self’s experiences.

These two seemingly opposing conceptions, the world as given and the world as constituted, are always in tension for Husserl, as he attempts to explain the concept of the appearance of the world and the phenomena of the world in which the self can reflect upon structures or interactions with objects. Through the description of this unfolding world, he states that when an individual arrests his/her gaze toward an object, the appearance of the object is “in the sphere of the intuitively given, i.e., the sphere of the modes of experience.”\(^\text{18}\) Therefore, the appearance of the object, for example, a vase, is both given as seen (meaning the

\(^{18}\) Husserl, *The Crisis of European Sciences*, 170.
front of the object) and realized through experience (meaning the understanding of the object in its entirety as having a front and a backside). Husserl argues, that while viewing an object from multiple sides, the surface of the object is immediately given, creating an “ontic certainty of this thing [as that] to which all the sides at once belong, and in the mode in which I see it ‘best’.”\(^{19}\) Furthermore, he argues that the individual has a consciousness of the thing even at first glance of the thing. In seeing, the individual always sees it with all sides, which are not given, “not even in the form of intuitive, anticipatory presentifications. Thus every perception has, ‘for consciousness,’ a horizon belonging to its object (i.e., whatever is meant in the perception).”\(^{20}\) The individual presumes this because of experiences it has had with that object or other objects. On the other hand, for Husserl, consciousness is experienced through phenomenological reduction, which is divided into a number of different reductions that have various outcomes. One of the most important is epoché, which Husserl explained in *Ideas: General Introduction to Pure Phenomenology* and later in *The Crisis of European Sciences and Transcendental Phenomenology*. He argues that epoché is a way of bracketing, putting out of action or abstaining “from passing any judgment at all, and that our whole discussion shall respect the limits imposed by this abstention.”\(^{21}\) Husserl, however, does not mean the epoché is not still placed within a certain history, culture, and language. In *The Crisis of European Sciences and Transcendental Phenomenology*, he discusses the epoché in relation to individuals being united through a world-horizon, arguing that the life-world is a universal

\(^{19}\) Husserl, *The Crisis of European Sciences*, 158.

\(^{20}\) Husserl, *The Crisis of European Sciences*, 158.

\(^{21}\) Husserl, *Ideas*, 81.
field comprised of “the spatio-temporal world of things as we experience them in our pre- and extra scientific life and as we know them to be experienceable beyond what is [actually] experienced.”\textsuperscript{22} Here, he is attempting to bring into the concept of the life-world the pre-predicative, (that which is prior to science or theory, not only historically, but also epistemologically), and marry it with Galileo’s argument of the geometrical objects and relationships. This second half of the life-world becomes the world-horizon, which is the possibility of “thing-experience [Dingerfahrung]. Things: that is, stones, animals, plants, even human beings and human products”\textsuperscript{23} explain how these things are experienced in united social groups within community life, which allows the individual to “arrive at ‘secure’ facts.”\textsuperscript{24} These facts, however, are not unmitigated, as Husserl argues, if they “are thrown into an alien social sphere, […] we discover that their truths, the facts that for them are fixed, generally verified or verifiable, are by no means the same as ours.”\textsuperscript{25} Therefore, what is clear is Husserl is arguing that there is a difference between the scientific interpretation of the world according to its methods, and living in a cultural world of which science is a part.\textsuperscript{26} Thus, as Carr argues “Husserl shows that the scientist can just as easily be seen, by a shift in perspective, as a man who himself has a particular sort of picture of the world, and that as such both he and his picture belong within the ‘real’ world, which Husserl calls the life-world.”\textsuperscript{27} The phenomenological life-world therefore contains scientific theories and elements of

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\textsuperscript{22} Husserl, \textit{The Crisis of European Sciences}, 138.
\textsuperscript{23} Husserl, \textit{The Crisis of European Sciences}, 138.
\textsuperscript{24} Husserl, \textit{The Crisis of European Sciences}, 138.
\textsuperscript{25} Husserl, \textit{The Crisis of European Sciences}, 139.
\textsuperscript{26} Carr, “Husserl’s Problematic Concept of the Life-World,” 335.
\textsuperscript{27} Carr, “Husserl’s Problematic Concept of the Life- World,” 336.
\end{flushright}
the cultural world institutions such as the religion, which creates a life-world that contains “things” that “are not given as things are; they are not objects of perception, they are not given in perspective, they are not, strictly, even spatiotemporal.” Furthermore, the cultural world is historically and sociologically based. The life-world is not suggested as an ahistorical, autonomous consciousness, instead, as Andrew W. Lamb suggests, “Husserl simply demands that in science we bracket unlegitimated opinions that we might be entertaining so as to attend, by direct intuition, to the evidence.” This, for Husserl, is the way to achieve objective science. He argues that if “we set up the goal of a truth about the object which is unconditionally valid for all subjects, beginning with […] what makes objects of the life-world, common to all, identifiable for them and for us (even though conceptions of them may differ), such as spatial shape, motion, sense-quality, and the like – then we are on the way to objective science.” This allows a set of hypotheses to be established, which surpass the “pure life-world […] through the first epoché (that which concerns the objective sciences).” Furthermore, for Husserl, perceptions of the objects, people, or situations within a certain history, culture, and language are not static. Instead, they can be viewed through objective investigation, such as “the historians, who must, after all, [according to Husserl] reconstruct the changing, surrounding life-worlds of people and periods with which they deal.”

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30 Husserl, The Crisis of European Sciences, 139.
31 Husserl, The Crisis of European Sciences, 139.
32 Husserl, The Crisis of European Sciences, 147.
For Husserl the life-world should be viewed as “one part at a time and then, at a higher level, one surrounding world, one temporal period, at a time.”\textsuperscript{33} This creates “a current of ever new experiences, judgments, valuations, decisions, [in which] the ego is directed toward objects in its surrounding world, dealing with them in one way or another,”\textsuperscript{34} and forming the universal epoché. In \textit{Ideas} Husserl explains, that if he looks at a writing desk then closes his eyes and opens them, looking once again at the writing desk, the desk is the same, known as identical through the synthetic consciousness which connects the new perception with the recollection. […] But the perception itself is what it is within the steady flow of consciousness, and is itself constantly in flux; the perceptual now is ever passing over into the adjacent consciousness of the just-past, a new now simultaneously gleams forth, and so on.\textsuperscript{35} What the self is able to see then, is a result of its sense organs being bombarded by stimuli, and somehow from the sense impressions the individual infers that there is an object there. This, however, means that the individual uses its inner consciousness to make an inference of what the world outside the individual is like. Husserl argues there is a sense in which the individual sees the object regardless of what is causing it to be there. Even if the individual is hallucinating or dreaming and only thinks it sees an object, there is still the sense that the object is part of the phenomenological field.\textsuperscript{36} Husserl sees no difference between the description of the object and the description of seeing the object, regardless of whether it is an empirical object or one stimulated in

\textsuperscript{33} Husserl, \textit{The Crisis of European Sciences}, 147.
\textsuperscript{34} Husserl, \textit{The Crisis of European Sciences}, 149.
\textsuperscript{35} Husserl, \textit{Ideas}, 130.
\textsuperscript{36} Cf. Husserl, \textit{Ideas}, 125.
consciousness, by God, or in a dream. In both cases, there is a sense in which the individual’s experience of the object is the same. Hence, epoché does not pay attention to the reality of the object, or the sense in which the material object causes the self to have certain experiences; it only pays attention to the experience and the description of the object.

For Husserl the individual consciousness is interwoven with the natural world [...] it is some man’s consciousness [...] particularizations [...] of this world. In respect now of this intimate attachment with the real world, what is meant by saying that consciousness has an essence ‘of its own’, that with other consciousness it constitutes a self-contained connexion determined purely through this, its own essence, the connexion, namely, of the stream of consciousness [...] To what extent [though …] must the material world be fundamentally different in kind, excluded from the experience’s own essential nature? And if it is this, […] which is ‘foreign’ and ‘other’, how can consciousness be interwoven with it, and consequently with the whole world that is alien to consciousness?37

The answer for Husserl is, the individual can ascribe him/herself in the world of bodies through both sensory experiences and sensory perception, becoming the “Thing” that is seen “as representing all other perceptions (of properties, processes, and the like.)”38 To demonstrate this point Husserl uses the example of the man in the street, which he claims to see and grasp as a bodily reality. He does this with empirical thinking, allowing the man to be perceived as real and really given. The man, however, is also perceived through consciousness, apart from bodily organs. The man is therefore both a perceived bodily organ, as well as a given concrete being. However, Husserl connects these two modes of investigation, arguing the perception of the man through consciousness leads to transcendental subjectivity,

37 Husserl, Ideas, 126.
38 Husserl, Ideas, 126.
which is related to all possible experiences in which a type of empirical inquiry is developed. It is here that the patterns of the life-world begin to be developed, through the empirical inquiry of consciousness. Furthermore, the consciousness of these empirical inquiries changes as the individual’s location is altered. Alfred Schutz and Thomas Luckmann argue, this is achieved by compartmentalization by modalities of perception through which the world within reach is presented to me: I cross the bridge and see the wood in front of me becoming ‘larger’ while I hear the noise of the brook diminish, etc. In comparison, my zone of operation proper is more narrowly circumscribed and becomes constituted in the interlacing of kinesthesias and locomotions.\(^{39}\)

Later in Husserl’s writing, he moves away from consciousness and toward the transcendental ego, and develops the notion of eidetic reduction, which deals with the essences of a thing. Unlike the epoché, which involves consciousness and bracketing out common sense understanding, eidetic reduction returns to the experience itself. It goes back to the basic intuition, back to the essential structure of those intuitions through which the individual can understand what knowledge is all about. Husserl wants to look at the experience of an object that is part of the essential experience of the object, as a material object that the individual sees, for example, the object has a backside and mass, as well as being a thing in space. This, he claims, is not just particular to this perception of the object, but essential to any experience of a material object whatsoever. This, then, returns to the mind, to consciousness, and the idea that what we know, what we experience has to be based on certain kinds of rules, structures, or essences which are common to all

experiences. This is the very beginning of his concept of *Lebenswelt*, or the life-world, that he begins to develop in the 1930s. This happened as Husserl becomes increasingly concerned with the phenomenology of perception, and moves further away from his original mathematical question of truth that was seen in the paradigm of “Two plus two equals four.” He begins to focus on the idea that what is given to the self is also given to others, arguing that the world exists in a unified way, and forms a shared experience of intuitive truths. In *The Crisis of European Sciences*, he writes “in whatever way we may be conscious of the world as universal horizon, as coherent universe of existing objects, we, each ‘I-the-man’ and all of us together, belong to the world as living with one another in the world; and the world is our world, valid for our consciousness as existing precisely through this ‘living together’.”

This is the life-world, constituted through both the processes of sense-data and mental material that becomes a world that “constantly exists for us through the flowing alteration of manners of givenness [and] is a universal mental acquisition, having developed as such and at the same time continuing to develop as the unity of a mental configuration, as a meaning-construct [*Sinngebilde*] – as the construct of a universal, ultimately functioning subjectivity.”

Although, this line of inquiry also raises the skeptical questions: how does the self know about others, how does the self know about its experience, and how does the self know the way it constitutes the objects is the way that other people constitute objects? Particularly, in *Cartesian Meditations: An Introduction to Phenomenology*, Husserl addresses the questions: how does an individual know

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41 Husserl, *The Crisis of European Sciences*, 113.
there are other people, and how does an individual know the structure of experiences are in fact going to be shared by other humans? He attempts to answer these questions by arguing that there is a shared background (what is called pre-predicative experience, that is, experience, that is, experience before or presupposed by predicative acts) which humans have that contains presuppositions, which are not rules or structures of consciousness, but enter into the individual’s concept of perceptual knowledge, and are characteristic of embodied consciousness. This becomes what he calls the life-world. In the life-world, Husserl states that knowledge has a type of dimension because in human practices, humans participate in their experience, and participate together in the world. Husserl further develops the life-world in, *The Crisis of European Sciences and Transcendental Phenomenology*. He explains that the lived experience brings together the body with “an animal or a cultural object,” in a way that “the ego’s active functioning of the living body or the bodily organs, belongs in a fundamental, essential way to all experience of bodies.” The life-world then is not only connected between the body and the mind, but also connected to social structures that form social norms. Furthermore, as will be explained in section two of this chapter, these social norms and the human body are governed by, as Michel Foucault claims, disciplinary and biopolitical powers.

It is through human practices, whether implemented through mind and body, the act of speaking, or the regulation of social norms and the body, that patterns of interaction can be found on both the personal and the inter-subjective

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42 Husserl, *The Crisis of European Sciences*, 106.
43 Husserl, *The Crisis of European Sciences*, 106.
levels. However, there is a distinction that should once again be noted, within the life-world, for Husserl, perceptual structures do not change but cultural senses can and do. Therefore, the phenomenology of perception, at least on Husserl’s own account, need not concern itself with [...] perceptual structures [that] do not change. [...] The investigation of the cultural world must [however] appreciate the structuring role of language and the communication based on it, while the world of immediate experience, according to Husserl, is distinguished by being pre-linguistic or pre-predicative in character.44 However, if the cultural world is placed in the same position as that of immediate experience it is then in the same position as the scientifically constructed world of mathematical physics.45 The life-world then can be applied to patterns of daily interaction with the world, and as Schutz and Luckmann argue, can also be applied to a pre-linguistic state in a twofold manner: “First, the founding relations are such that the structure of language presupposes typification but not vice versa. Secondly, empirical-genetic typifying schemata can also be positively demonstrated in children who do not yet talk.”46 Moreover, language or even the pre-linguistic, is placed within a historical and sociocultural setting that comprises the child’s life-world. This sociocultural understanding is pre-given to the child through a transmission of knowledge that Schutz and Luckmann refer to as objectivation, which occurs on the level of sign systems47 and is a fundamental part of the child’s life-world. Schutz and Luckman argue that

44 Carr, “Husserl’s Problematic Concept of the Life-World,” 337.
47 Cf, Schutz and Luckmann, The Structures of the Life-World, 270.
it should be noted that such objectivations’ have a decisive meaning for the early stages of the ‘socialization’ of the child. Before a child has learned a language, explicit and more or less ‘abstract’ (idealized and anonymous) elements of the social stock of knowledge cannot be explicitly transmitted to him. But they can be re-concretized for him on the presymbolic levels of ‘objectivation.’ Apart from that fact, such ‘objectivations’ viz., in the appropriation of language’s quasi-ideal and anonymous matrices of meaning.

Therefore, how a child is cared for and taught the pre-given bodily actions, language, and social skills, not only forms a pre-linguistic disposition, but also orients the child within this life-world. This begins prior to an infant’s ability to speak as patterns are formed between the caregiver and the infant. These patterns are also what comprise Kristeva’s concept of the pre-linguistic or semiotic chora. Both the life-world and the pre-linguistic are formed by universal patterns that can be created as a caregiver or infant participates in an individual experience, as well as when they participate together in the world. Even before the child’s ego is formed, s/he engages in the pre-linguistic and pre-social life-world. As Schutz and Luckmann argue, the pre-social experience involves a “child who is not yet in the earliest we-relations as provided with such a self. [Nevertheless,] what is given are the immediacy of the experience of the Other and the reciprocal attentional advertence. The social relation is in a certain sense already reciprocal for the child before the development of a personal self.”

This is because the patterns of interaction that form the pre-linguistic are analogous to Husserl’s concept of immediate experience that is part of the life-world, as well as the zones of operation that derived from both the past and future experiences. These zones of operation

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are interconnected and are what comprise the patterns of both the life-world and the pre-linguistic. Just as Schutz and Luckmann argue, the structure of the life-world is built on the actual (present) being reliant on the restorable (past) and the actual being reliant on the attainable (future),\(^5\) so too is the pre-linguistic and the sociocultural formed through the interconnection between daily activities that engage the past, present, and future.

These connections between the life-world and the pre-linguistic can be found in Kristeva’s conception of the pre-linguistic, which, she argues, overlaps with the earliest stage of psychosexual development, the choric stage. The choric stage, according to Kristeva, lasts from birth to about six months of age, while the pre-linguistic occurs around the fourth to eight month. In the pre-linguistic, for the benefit of the ego, in this stage the infant is purely dominated by life and death drives and does not distinguish itself from its caregiver or the world around it.\(^5\)

She argues that “Such a process, while dichotomous (inside/outside, ego/not ego) and repetitive, has nevertheless something centripetal about it: it aims to settle the ego as center of a solar system of objects.”\(^5\) She places the ego at its closest point to pure materiality of existence, or what Lacan terms “the Real.” Developmentally, Kristeva places the pre-linguistic before Sigmund Freud’s Oedipus complex and Lacan’s mirror stage. She argues that there are four stages in the infant’s development, beginning with the choric stage. She writes that this stage is a

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\(^5\) It is as well to acknowledge by Kristeva that the Chora is every bit as much a fiction as the Oedipal complex and its stages.

curious primacy, where what is repressed cannot really be held down, and where what represses always already borrows its strength and authority from what is apparently very secondary: language. Let us therefore not speak of primacy but of the instability of the symbolic function in its most significant aspect – the prohibition placed on the maternal body (as a defense against autoeroticism and incest taboo). Here, drives hold sway and constitute a strange space that I shall name, after Plato (Timeus, 48-53), a *chora*, a receptacle.  

The connection to Plato is significant because as Kristeva argues, Plato was making an attempt to conceal the socialized body from Democritean rhythm in order to remove motility from ontology and amorphousness, and read the rhythmic space through the unconscious, which has no thesis and no position. This, Kristeva argues, becomes for Plato the “receptacle or chora nourishing and maternal, not yet unified in an ordered whole because deity is absent from it.” In the chora and the pre-linguistic, the linguistic sign has not yet been developed to represent the object, nor has a distinction between the real and the symbolic been established. Kristeva argues that this “preverbal functional state […] governs the connections between the body (in the process of constituting itself as a body proper), objects, and the protagonists of family structure.” This is done through both intuition and intersubjective relations of the pre-linguistic, which are both intra and translinguistic in their own right. This concept of intuition can be directly related to Husserl’s argument of the world as given, and the argument of inter-subjective can be seen as what Husserl describes as experience on both the personal or cognitive level (the *Erfahrung*), and the collective or aesthetic experience (the *Erlebnis*) within the life-

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world. Furthermore, as Schutz and Luckmann explain, it is only in explication that my own behavior becomes meaningful for me. But again too, the behavior of my fellow-man becomes ‘intelligible’ to me through the interpretation in my stock of knowledge of his bodily performances, of his expressive movements, and so on, whereby I simply accept as given the possibility of his meaningful behavior. Further, I know that my behavior can correspondingly be explicated by him as meaningful in his acts of interpretation, and ‘I know he knows that I know.’ The everyday life-world is therefore fundamentally intersubjective; it is a social world.\(^{57}\) This also translates to the self/Other understanding between the caregiver and child within the life-world. For example, as the child is placed bodily before the caregiver s/he can apprehend the processes of the child’s consciousness “through observation and interpretation of his movements, his facial expression, his gestures.”\(^{58}\) Like the pre-linguistic, the life-world is experienced through intuition in a spatiotemporal setting comprised of all bodily shapes of an individual life, in accord with his/her bodily, personal way of being. The individual measures this world that is constantly given to him/her as the concrete world. Therefore, the life-world as well as the pre-linguistic is given through intuition, but experienced as concrete occurrences that form patterns of the individual’s life, both on the personal and the inter-subjective levels. These concrete occurrences are derived, as Husserl claims, from the phenomenological presents of the life-world. He argues that the perceived constitution of things is “subject to an illusion or hallucination [...] perception is not ‘genuine’. But if it is, if, that is, we can ‘confirm’ its presence in

\(^{57}\) Schutz and Luckmann, *The Structures of the Life-World*, 16.

the actual context of experience, eventually with the help of correct empirical thinking, then the perceived thing is real and itself really given.”

Within these personal and inter-subjective interactions that are both given and experienced, patterns can be seen when a child experiences hunger, and subsequently cries, or when the child soils him or herself, and lets his/her caregiver know of his/her discomfort. Additionally, as Schutz and Luckmann argue, the life-world has a type of routine knowledge that is derived from an autonomous skill, such as placing one leg in front of the other in order to walk. This type of knowledge inhabits a paradoxical, relevant structure in adults. It is of the greatest relevance in an individual’s daily actions, yet it holds a subordinate relevance because it is taken for granted. It is a determining characteristic of daily routines. While for adults it does not become thematic in the core of experience, within the pre-linguistic it is what comprises the child’s learning experience. Thus, as the pre-linguistic is established, the primary caregiver intuitively interacts with the child, often through the autonomous skills the caregiver learned as a small child, i.e. walking, which they in turn are now helping the child acquire. In these interactions of the life-world, both caregiver and child engage in a learned unspoken language in which the primary caregiver’s predictions infinitely surpass the accomplishment of everyday predictions. The pre-linguistic is, therefore, the life-world that is intuitively understood prior to an experience being given, or one that is no longer given. Any pre-linguistic claim presupposes and is built upon the life-world. Consequently, both the pre-linguistic and the life-world can be seen in the care-

59 Husserl, Ideas, 127.
giver’s actions of providing for the child’s basic needs, such as feeding, dressing, or bathing the child, as well as through teachable moments of what will later be autonomous skills. These concrete experiences that are based on intuition are constantly given, and are not static. They are given in the spatiotemporal setting of culture and history. The acquisition of knowledge in both the pre-linguistic and the life-world is, as Schutz and Luckmann argue, the “sedimentation of experiences, [which] results from situations and is biographically articulated. […] The acquisition of knowledge […] is concerned fundamentally with the conditions of the situation and the flow of experience in the course of the day and in the course of life.”

Sedimentation is, then, for Husserl, the accumulation of successive noematic senses over time that comprise the life-world. They are initially private, mental acts, and while spoken language or even the actions of communication of the pre-linguistic enables a communication of an individual’s private, mental acts, forming a shared cultural environment, this spoken or unspoken language is confined to an act of expressivity. Therefore, objectivity remains expressive, and the sedimentation only exists while the individual is still in the process of constituting or reconstituting the accumulation of noematic senses. It is this mental action that not only comprises the life-world, but helps establish its meaning. The understanding and transferring of this information from one individual to another, or from a caregiver to an infant, can, as stated above, take place through spoken or unspoken language. This could also mean, at the most basic level, that while all good caregivers are required to meet the basic needs of their child, how these needs are met vary from culture to culture. Furthermore, the accumulation of successive

noematic senses over time that comprise the life-world, and form various skills that are thought to be autonomous are, in fact, interpretations of the sedimentation of sociocultural life-world. For instance, Schutz and Luckmann argue that how an individual walks differs from society to society as well as within a society, suggesting “a highly differentiated, intrasocial distribution. [For example] a soldier walks differently than a civilian, a sailor differently from a landlubber, a prostitute differently from a matron.”62 The patterns that are formed through the daily caregiving, bathing, feeding, etc… and the teaching of what will later constitute autonomous skills, engage the caregiver’s consciousness in the operation of the world of meanings and prejudgments (or pre-predicative acts) that are socially, culturally, and historically constituted. The life-world, for Husserl, is not the study of the pure consciousness and meanings of a transcendental ego, instead, it is a consciousness, embodied in, through, and with the world, a dynamic horizon in which both the caregiver and child interact singularly and collectively. This is the lived experience of the life-world and the backdrop of the pre-linguistic.

During the pre-linguistic the infant begins to establish a separation of his/her body and the body of the primary caregiver, developing boundaries between the self and the other, but also engaging in the abject. Through this knowledge, the infant is confronted with the loss of the primary caregiver, and therefore confronts death. Kristeva describes the experience of abjection as follows: “The abject confronts us […] within our personal archeology, with our earliest attempts to release the hold of maternal entity […]. It is a violent, clumsy breaking away, with the constant risk of falling back under the sway of a power as securing as it is

stifling."\textsuperscript{63} The abject is not limited to the pre-linguistic stage, rather, Kristeva argues, it is something humans continue to confront throughout their lives. For example, as language acquisition begins, the abject fear appears as the threat of regressing back to the pre-linguistic stage, and therefore, strikes fear and horror in the infant. This is because the infant does not want to give up the linguistic structures by which the social world of meaning is ordered.

After the pre-linguistic stage, Kristeva argues the child enters into the mirror stage. Originally developed by Lacan, Kristeva places the mirror stage between six and eighteen months. Both Lacan and Kristeva argue that it is during this stage that the child develops his/her ego. This happens as the child recognizes his/her own image in a mirror, however, the coherent image the child sees of itself in the mirror conflicts with the fractured, uncoordinated use the child has of his/her own body. The ego that is formed through the process of objectification as a result of this conflict becomes on Lacan’s account, a necessarily fractured ego in alienation from itself. The final stage is language acquisition, which occurs between eighteen months and four years of age. The development of language further separates the child from the materiality of things, or as Lacan termed it, the Real. Furthermore, as the Swiss linguist Ferdinand de Saussure pointed out, as the child develops a language system, words only make sense in relation to other words, that is, sense is always differential. For example, the word \textit{mother} only makes sense in relation to the word \textit{father}. Therefore, once language acquisition has occurred, it determines the perception of the world by the self, and as argued later in this section, helps to structure the self’s understanding of the life-world.

Presently, however, the focus is on the pre-linguistic stage, which Kristeva argues, “precede[s] the acquisition of language, and organize[d] preverbal semiotic space according to logical categories, which are thereby shown to precede or transcend language. [And as quoted earlier, is a] preverbal functional state that governs the connections between the body (in the process of constituting itself as a body proper), objects, and the protagonists of family structure.”

It is a “language” before any utterance of even the simplest language by the child, occurring prior to spoken language, between the fourth and eighth month. Moreover, according to Kristeva, the pre-linguistic language is understood by the primary caregiver (the mother) and her child as an unspoken dialogue, which, in many ways, functions both like and unlike a language, according to Kristeva, form “a position that represents something for someone (i.e., it is not a sign); nor is it a position that represents someone for another position (i.e., it is not yet a signifier either); it is, however, generated in order to attain to this signifying position.” It could then be more clearly defined as an understanding of figuration or secularization formed through kinetic rhythms. These are “read” by the primary caregiver through her child’s facial expressions and movements. The pre-linguistic also encompasses the child learning through the primary caregiver’s actions of tending to his/her body.

The pre-linguistic language is, therefore, a learned unspoken language that is only

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64 Kristeva, *Revolution in Poetic Language*, 27.
65 Since Kristeva is writing about her own experience with her son, she only uses the term mother. However, as will be argued throughout this dissertation, today, the caregiver should not be assumed to be only the mother. The caregiver could be the father, or even a transgender individual. Therefore, the term primary caregiver is used instead of mother, unless otherwise noted.
comprehended through repeated patterns of interaction between the primary caregiver and the infant.

Let us consider that such an interchange of the pre-linguistic is at work in much of Mary Kelly’s *Post-Partum Document*. The work is comprised of Kelly’s daily interactions with her son, beginning in 1973 when he was an infant, and ending in 1979 after he had acquired an ego, a fundamental understanding of sexual identity and language. *Post-Partum Document* consists of an installation that was created in six consecutive sections comprised of one hundred thirty-five small units that incorporated graphs, charts, and written text in the form of testimonials, observations, and scientific information, as well as sound recordings, drawings, and found objects. The first section, *Documentation I: Analysed Fecal Stains and Feeding Charts*, was recorded over three months, January to March 1974, when her son was between five and seven months of age. However, only the infant’s sixth month was presented in the document, because, according to Kelly, “it represented the interval of most rapid change.”67 This section was created not by using a traditional canvas, but by using her son’s stained and soiled liners or diapers. Kelly carefully printed on each one the date and exact time her son ate or drank, what and how much he ate and drank, and the total amount of liquid and solid waste he excreted in that day. Additional, Kelly created a graph that charted her son’s body weight, total calories in food that was lost in excretion and used for growth, as well as his muscular activity and basal metabolism. Thus, the work displays the daily rituals of Kelly feeding, changing, and caring for her infant son.


Clearly, one cannot argue for a one-to-one correspondence between Kristeva’s developmental theories and Kelly’s work, rather, one aims to deploy the fictions of Kristeva’s developmental structures against the mappings of child development in Kelly’s *Post-Partum* researches.

In, *Documentation I: Analysed Fecal Stains and Feeding Charts*, Kelly documents the patterns of her son’s engagement with the pre-linguistic through the meeting of her son’s needs of his daily food intake and the changing of his diapers to eliminate his waste. This seemingly banal routine forms the foundation of caregiving between the infant and caregiver, in which a process of unspoken signs or signals, such as fussiness, crying, or facial gestures indicate to the caregiver the
infant is hungry or needs changing. Kelly’s son, who was six months of age during the period displayed in *Documentation I: Analysed Fecal Stains and Feeding Charts* would have responded to Kelly with smiles, frowns, rolling over, grabbing, hugging, playing peek-a-boo, and maybe even crawling. As Kelly’s and her son’s actions were repeated, they would have formed the pre-linguistic language understood by Kelly and her son. Additionally, throughout *Post-Partum Document*, Kelly describes subjective moments of the relationship between the primary caregiver and the child. These demonstrate the teachable moments through talking to her son and performing the patterns of her daily activities. For example, in *Documentation V: Classified Specimens, Proportional Diagrams, Statistical Tables, Research and Index* Kelly utilizes various objects she calls “specimens” that were collected by her son between July 1976 and September 1977. Kelly claims they were given as gifts to her by her son and “coincided with his questions about sexuality, [furthermore, according to Kelly] the specimens constituted a set of discursive events.” 68 Each of these events was documented in three sections. In the first, “Mounted Specimens and Labels,” Kelly mounted each specimen on entomological pinning blocks, stamped them with the date and place of collection, and labeled them with taxonomic information: common name and scientific name including species, with author’s name in brackets, genus and family. In the second, “Proportional Diagrams and Research,” Kelly used photocopied reproductions of the specimens as archaeological fragments within the “frame of reference” of a proportional diagram that was to suggest the operation of the child’s unconscious. In the third, “Statistical Tables and Index,” Kelly utilizes photocopied fragments

that were taken from a single diagram of a full-term pregnancy. These can clearly be seen in the example L 3, in which dandelion seeds are displayed, and the following dialog is recorded.

K. What’s that?
M. A breast,
K. Is that where babies drink their milk?
M. Yes.
K. Is there some now?
M. No, only when mummies have tiny babies. You used to drink your milk like that when you were little, but now you’re a big boy and drink your milk from a cup.

These two examples, taken from Documentation I: Analysed Fecal Stains and Feeding Charts and Documentation V: Classified Specimens, Proportional Diagrams, Statistical Tables, Research and Index indicate various degrees of patterns of interchange between caregiver and child. In Post-Partum Document, these begin with the pre-linguistic and move through the various stages of development outlined by Kristeva’s theoretical writing. For example, like Kristeva, Kelly claims that, “feeding or dressing a child depends as much on the interchange of a system of signs as teaching him/her to speak or write. In a sense, even the unconscious discourse of these moments is ‘structured like a language’. ” It is this interchange of a “system of signs,” however, that also engages the life-world, as Kelly participates in the world, which brings her body together with the body of her son, and engages her ego. Furthermore, as Husserl argued, “the ego’s active functioning

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69 Kelly, Mary Kelly Post-Partum Document, 113-114.
70 Kelly, Mary Kelly Post-Partum Document, 124.
71 Mary Kelly, Mary Kelly Imaging Desire (Massachusetts: The MIT Press, 1996), 22.
of the living body or the bodily organs, belongs in a fundamental, essential way to all experience of bodies.”\textsuperscript{72} The patterns of interaction that are exemplified in both the pre-linguistic and the life-world are then enacted through Kelly’s care-giving of her son, and are illustrated in \textit{Post-Partum Document}.  

As humans participate in the life-world, according to Husserl, they are engaging a phenomenological experience within sociocultural patterns that are lived experiences, in flux. For Kristeva, the pre-linguistic engages in the psychoanalytical discourse, particularly questioning Lacan’s concept of the phallus as a privileged signifier. In her essay “Motherhood According to Giovanni Bellini,” Kristeva uses the iconography of the Virgin Mary to argue that there is a psychoanalytical structure derived from the maternal body, prior to birth. She argues that this happens “through the maternal body (in a state of virginity and “dormition” before Assumption), it thus establishes a sort of subject at the point where the subject and its speech split apart, fragment, and vanish.”\textsuperscript{73} Her use of the Virgin allows her to claim that this connection is not formed with phallic power, but instead she suggests the act of motherhood reunites “a woman-mother with the body of her mother.”\textsuperscript{74} Furthermore, she suggests, whether the individual is female and able to experience this “homosexual-maternal facet”\textsuperscript{75} or is male, all humans have a connection to their mothers, which goes back to the womb. According to Kristeva, this is the maternal connection that first engages psychoanalytical

\textsuperscript{72} Husserl, \textit{The Crisis of European Sciences}, 106.  
\textsuperscript{74} Kristeva, “Motherhood,” 239.  
\textsuperscript{75} Kristeva, “Motherhood,” 239.
discourse, and forms the first essential relationship. This relationship would then also shape the life-world. This is in opposition to the assumed Lacanian position of language being placed in the social structure in which the primary caregiver and child lives. In Western society, Lacanian psychoanalytic anthropology places language specifically within the paternal function, with the phallus as a privileged signifier of all relationships. This is because Lacan always starts with the phallus as the basis of the power structure. As the feminist psychoanalytical theorist, Juliet Mitchell explains, Lacan “argu[es] that the relation of mother and child cannot be viewed outside the structure established by the position of the father,” meaning male phallic power. The analysis of the very structure of language reveals a power dynamic inherent in language that refers to the social patriarchal system against which Kristeva places the pre-linguistic prior to spoken language. Kristeva’s seemingly conflicting depictions of care-giving, then, help to introduce new developments of the concept of the primary caregiver.

In Post-Partum Document, Kelly, like Kristeva, is attempting to establish a psychoanalytical discourse that thwarts Lacan’s anthropology of phallic power. Kelly not only utilizes the pre-linguistic and the life-world to accomplish this, but she also shows the relationship with her son through empirical analysis, rather than the archetype of the loving mother, and invokes the changing sociocultural attitude towards motherhood in the 1970s that had begun to take shape as women were not only working outside of the household but obtaining college degrees. In other words, her approach seeks to be rigorously materialist. She employs multiple

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examples of patterns of seriality, for example, her use of numbers and letters, which are also used to demonstrate her son’s move into the Lacanian symbolic stage of language acquisition. In this stage, which Lacan places between the eighteenth month and four years of age, is based on the work of Ferdinand de Saussure. Language, Lacan argues, is acquired through a semiotic system of differences found between words. For example, the word mother only makes sense when defined against the words father or me. According to Lacan, after children enter into this differential system of language, they always use it to determine their perception of the world around them. Through the use of the symbolic order, they navigate between the signifier and material object. This reduces the child to “I” within the field of Others that is comprised of language and culture, which is determined by those who came before the child. In this sense, Lacan’s theory is analogous to Husserl’s cultural life-world, but Lacan claims this point of entry is also marked by gender differences that determine the child’s actions, and subsequently, the child’s sexual position within that culture that is based on the linguistic relationship that forms the system of male and female. In Post-Partum Document, this can be seen in Documenta-tion II: Analysed Utterances and Related Speech Events. In this section of the project, Kelly recorded the transition from single-word utterances to patterned speech (syntax). This was accomplished through recording daily, twelve-minute sessions over a period of five months, January 26 to June 29, 1975. However, Kelly only displayed the utterance from the seventeenth and eighteenth months. She claims that the utterances are “to suggest that seeing a single word in a grammatical relation ultimately depends upon

77 Kelly, Mary Kelly Post-Partum Document, 45.
the observer of that relation and that the mother (or mother substitute) is placed within a specific relation of intersubjectivity with the child whereby she sees single words, and apparently ungrammatical, successive utterances, as full sentences conceptually.” For example, the following text comes from March 14th, 1975.

    K. /Ab-ba/ Ab-ba/ Ab-ba/ (referring to A, S’s daughter age 9)
    S. She’s gone to school.
    K. /dare/ e meh/ (see men working on road)
    S. What’s he doing?
    K. /e meh/ dat no-no/
    S. He’s got a no-no, he’s got a very sharp saw, Kel.

Within this reference, both the gendered nouns she and he are used to one, indicate the female subject going to school, and two, the male subject doing construction work. The latter particularly denoting a job that, in 1975, would have been viewed as a strictly male gendered job. Additionally, the letter S and K in this example, the repetition of the placement of the date on each enter, and the parameters of the daily, twelve-minute sessions of recording over a period of five months, all form a serial pattern. The patterns of seriality, in Kelly’s work demonstrate, on yet another level, how humans participate within a cultural and historical setting, and participate together in the world through shared meanings of comprehension. The patterns of seriality, then, are similar to the patterns that are formed through the pre-linguistic, that demonstrate the presupposition of perceptual knowledge that exists in consciousness, and forms the life-world though the unspoken language. Patterns can also be seen throughout the history of art, as artists build on the creations of their predecessors, and Kelly is no exception. Duchamp’s use of

everyday objects, and serial art, as well as art inspired by children’s drawings,\textsuperscript{80}
and the many other artists’ use of images of the caregiver/child relationship were not new when Kelly began her project. However, it is more productive to credit Kelly for her overtly psychoanalytical and semiological approaches, demonstrated in both indexical relationship and metonymic structure that are achieved by her unique strategy of not directly showing the image of herself or her son, a precise attempt to marginalize the dominant visual clichés of the “mother” that was thought to form the female identity.

As already demonstrated, there are many layers to \textit{Post-Partum Document}, for example, within the section entitled \textit{Documentation IV: Transitional Objects, Diary and Diagram}. Kelly employs the Freudian Oedipal phase, and prints Lacanian Algebraic symbols on each entry, such as in the detail found below. These symbols can be translated as follows: the O with the line through it, located in the upper right corner, represents the symbolic phallus [uppercase phi], while the M in the opposite top corner represents the symbolic mother. Below, the I in the lower right corner, and also printed off-center in the middle, represent the ego-ideal (schema R), and the P in the lower left corner represents the symbolic father/Name-of-the-Father. The S printed on the upper right portion of the handprint represents the symbolic order (schema R), and the ‘a’ in the lower portion of the handprint designates indiscriminately the ego and the counterpart/specular image, which belong to the imaginary order. Clearly, Kelly is suggesting various family and gender relationships with the use of these symbols.

Furthermore, the semiotic index is also found in the small, indexical delicate cast of her son’s right hand. In addition to the handprint, the printed confessional diary entries of her interaction with her husband and son are printed on small, frayed, rectangular fragments of her son’s baby blanket, his “transitional object,” as seen below in the complete entry.

The diary text was recorded between January and May of 1976. Kelly explains that

They functioned on the one hand as a confessional, expressing the mother’s ambivalence about ‘working outside the home,’ and on the other, as a polemic, interrogating the familiar theme of ‘separation anxiety’ by placing emphasis on the consequences for the mother rather than the child.\(^{81}\)

In this text, her repeated use of the letter R to refer to her husband Ray, K to refer to her son Kelly, and M to refer to herself, layers the seriality of alphabetic letters with the seriality of the family unit, and depicts patterns of interaction with each other and collective sociocultural fluctuations of the family unit within the life-world. Indeed, the letters are the basis of a kind of algebra. These changes in the

family unit are further demonstrated, in *Documentation II Analysed Utterances and Related Speech Events*.


In this part of *Post-Partum Document*, M does not refer to Mary, but rather to mother. Kelly writes: “Context: M (mother) getting K (son) ready for bed.”

Here, the artist Mary Kelly becomes separate from M - “mother,” placing Kelly in a dual position of the working woman or artist, and mother. This separation of the working woman and the mother are punctuated by Kelly referring to herself in the third person with the use of M – mother to indicate what she said to her son. This demonstrates a displacement by “Mary” Kelly (the working woman/artist) and M – “mother” Kelly.

1.1 M. Is that Kelly the baby? (looking in mirror together)  
K. /ma-ma/ ma-ma/  
M. What, who’s the baby? (pointing to K)

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The passage provides a clever play with Lacan’s mirror stage, as the baby is told by his mother that the image in the mirror is he. However, because Mary Kelly named her son Kelly, there is a double meaning. Whose identity is being formed with the reflection of her and her son? Is it the baby Kelly or the mother Kelly or even the artist Kelly? Kelly utilizes the idea of the misrecognized phallus, the child, and relates it to Lacan’s Mirror Stage, where the ego is formed. Lacan’s term “méconnaissance (misrecognition)” implies a false recognition of the child’s apparently perfect self in the mirror that forms the ego of the child, but here it also forms the ego of Kelly. It is through the méconnaissance of her child as the phallus that she becomes alienated from herself, and is placed within the Symbolic. Hence, Kelly’s “new” ego is formed through symbolic knowledge, in the same way the child, who sees its reflection, but does not have control over its body, forms an ego through the imaginary resolution of the conflict. The only difference here is that Kelly sees the child as a “phallus” which has fragmented from her body. The child, therefore, gives her entry into phallic sexual power, whether it exists as social, sexual or both.

Kelly’s methodologies serve to further challenge both psychoanalytical and semiological connotations of “motherhood” that had/has been created through the sociocultural association of the assumption that the female body is genetically encoded for the role of caregiver. As she explains:

The art object’s ‘dematerialization’ was effected […] by a systematic displacement of its spatial integrity, and […] by a substitution of the body

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as its temporal metaphor. The ephemeral yet emotive presence of a work ‘performed’ subverted phenomenological reduction was well as philosophical ordering by introducing the unpredictable dimension of spectatorial transference. And the body, however rigorously deployed within that representational schema, was signified as feminine. On the part of performance artists [...] it required a persistent effort to subvert those prevailing gender stereotypes.  

Kelly uses psychoanalysis to react to the debates surrounding Lacan’s reading of Freud, which informs her opposition to the interpretation of “the feminine psychology of the mother being sealed in the division of labor and child care.” Furthermore, through Post-Partum Document, Kelly was able to utilize the nonverbal signifying character of the pre-linguistic, which as previously explained is not a sign or a signifier, however it generates a signifying position through gestural and vocal play. It is this signifying position that exemplifies Husserl’s argument of the life-world. The life-world is, for Husserl, comprised of both a constant flow of manners of givenness and a universal mental acquisition, which at the “same time [is] continuing to develop as the unity of a mental configuration, as a meaning-construct [Sinngebilde] – as the construct of a universal, ultimately functioning subjectivity.” Likewise, the pre-linguistic continues to evolve as the child moves toward eventual language acquisition and is formed through both givenness and experiences in the world. The two modes of investigation are connected through consciousness of what is given and what is experienced in the world, and like Husserl’s transcendental subjectivity, the pre-linguistic is related to all possible experiences that the child might have, and in which a type of empirical inquiry is developed. It is here that the patterns of both the pre-linguistic

86 Husserl, *The Crisis of European Sciences*, 113.
disposition and the life-world begin to be developed, through the empirical inquiry of consciousness. Kelly’s *Post-Partum Document* demonstrates this through the sign systems that are established by acquisitions of readymade objects, the documentation and manipulation of bodily experiences, and the never-ending reinterpretation of the world through daily encounters with people and objects.

The use of the readymade, as in *Documentation V: Classified Specimens, Proportional Diagrams, Statistical Tables, Research and Index*, allows Kelly to challenge the concept of what constitutes art.


Hence, her artwork can be viewed as a social protest within feminist theory that utilizes Lacanian theory; specifically, in *Post-Partum Document*, she directly explores the development of gender identity through language. She explains that, “the moment of our entry into language [is when] we take up a feminine or
masculine position in the symbolic structure of our society. The symbolic structures of feminine and masculine positions form shared meanings, and are not static, but a dynamic horizon in which both the individual and the collective society live in the life-world. This can be seen in the feminist and queer argument, to be further discussed in chapter two, that an individual might be born a certain sex, but how that individual chooses to perform a gender can be his/her choice. Genetic innovations, such as IVF, have helped to demonstrate how gender roles are socially constructed and form social patterns that comprise the perception of the life-world.

It is this changing concept of social constructs, at the hands of technology, to which Kelly is reacting. Her scientific approach to the methodology of caregiving, however, is like that of Galileo’s scientific investigations – based heavily in observation and prediction of the life-world. Kelly’s approach simply relates to the child whom she cares for and not to astronomy, as was one of Galileo’s preoccupations. Kelly’s observation and prediction is precisely how the pre-linguistic was formed between her and her son, and her scientific approach forms a rubric of feminist text that is underlined not in red but with the life-world. This underlining forms the basis for her observations and predictions much as Husserl argues the life-world is the “subsoil” that “prelogical[ly] validities act[s] as grounds for the logical ones, for theoretical truths. And perhaps the scientific discipline which this life-world as such, in its universality, requires is a peculiar one, one which is precisely not objective and logical but which, as the ultimately grounding one, is not inferior but superior in value. Just as other scientific innovations

87 Kelly, Mary Kelly Imaging Desire, 3.
88 Husserl, The Crisis of European Sciences, 124.
have helped to change the understanding of the life-world, so too did IVF, and in so
doing it subsequently altered the family structure in the 1970s. This is seen in the
rise in single mothers and older couples having children, as well as the
documentation of LGBT parents. Due to the sensational and inter-national nature
of the success of the first test-tube baby, Louise Joy Brown, born on July 25, 1978
in Great Britain, it is reasonable to assume Kelly knew of this scientific
advancement. Being well-versed in many feminist debates of the 1970s, it is also
reasonable to assume she would have known of the new possibilities in the family
structure that were, in large part, facilitated by IVF. In addition, the social changes
of the family structures, a byproduct of IVF, were being redefined in tandem with
the second-wave of feminism, which Kelly clearly references as an influence.

As IVF became more readily accepted by society in the 1970s, this new
genetic technology physically impacted the human body through the changing
landscape of how female vs. male and the self vs. the Other identities were formed
and defined. The sociocultural concept that developed during the 1970s cannot be
pinned down to one specific thing; rather, there are many elements that were in
operation that can be seen as influences for Kelly. Within *Post-Partum Document*,
she imbues many of these concepts, which can be traced back through the threads
of genetic discourse, phenomenology, psychoanalysis, semiotics, and many of the
arguments from the second wave of feminism. For these reasons, *Post-Partum
Document* can be viewed as demonstrating the cultural shifts of the individual and
collective Western society’s concept of the life-world, which is given as intuition,
but perceived as concrete. It is for these reasons that the project has become so
significant, as there will always be a need for the caring of children in our society, and the conceptual aspect of the work allows it to be reinterpreted as society’s theoretical concepts and the dynamics of the family structure and gender roles continue to be debated. This was the situation when Kelly revisited her project in *Imaging Desire*, 1996, in which she claimed her writing was a mode of “transference of the past onto the present.”\(^8^9\) Consequently, it is the ability to reinterpret *Post-Partum Document* and Kelly’s scholarly writing that provides an opportunity for the viewer/reader to engage in the ongoing discussion of care-giving.

As technology has advanced, the continued dialogue about how care-giving should be administered to a small child, how the family is structured, and how gender role are perceived, have been altered. IVF in the 1970s exemplifies this. It helped to produce new concepts of the body in which society began to see a separation between giving birth and caring for a child, as well as the possibility of reproduction that is executed outside of the body. Likewise, new ideas about the body are demonstrated in Elly Teman’s ethnographic study of Jewish surrogates in Israel. These women share their bodies with the intended mother and “imagined the belly as a type of shared ‘third space’ between their individual bodies, they conceptualized their integration in terms of two halves of one whole.”\(^9^0\) Thus, IVF helped form a new consciousness of the human body, which could happen with an egg or sperm donor, the surrogate who allows the fetus to grow inside of her, or the person who cares for the child after s/he is born. Both the creation and gestation of

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\(^8^9\) Kelly, *Mary Kelly Imaging Desire*, xv.
\(^9^0\) Elly Teman, *Birthing a Mother: the Surrogate Body and the Pregnant Self* (Berkeley: University of California Press, 2010), 159.
the fetus, and the caring for the baby, forms multiple experiences through daily routes, particularly for the gestational mother and the primary caregiver. These experiences are formed through a perception of a “stream of experience (Erlebnis), with all its manifold events (phases of experience, intentionalities) can be grasped and analysed in the light of its own evidence.”\(^9^1\) Husserl argues that this stream of experience becomes a type of experience that is produced through reflection, which is analyzed in a systematic order. Kelly’s display of the pre-linguistic interchange depicted in *Post-Partum Document,* is precisely the systematic ordering of these experiences, which not only form the pre-linguistic, but are also, as explained earlier, the life-world in the form of a subsoil for her observations and predictions. Therefore, as Husserl argues, “every experience is in itself a flow of becoming, it is what it is within an original engendering (Erzeugung) of an essential type that never changes: a constant flow of retentions and protentions mediated by a primordial phase which is itself in flux, in which the living now of the experience comes to consciousness contrasting with its ‘before’ and ‘after’.”\(^9^2\) The caring for the child, therefore, forms the self’s consciousness that is never seen as a fixed point.

If IVF is viewed as having altered Western society by implementing the possibility of reproduction as separated from the body, and the separation of giving birth to and caring for a child, then these forms of separation can be viewed as a crucial part of the restructuring of the nuclear family unit, and the reorganization of society’s perception of gender roles. The primary caregiver, although placed

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\(^{9^1}\) Husserl, *Ideas,* 219.

\(^{9^2}\) Husserl, *Ideas,* 220.
within a social setting, is never a fixed point, as society’s depiction of this role is constantly being modified. The primary caregiver is also always evolving through his/her experiences, and in a state of self-reflectivity as information is returned or led back to the self. The understanding of the self is modified, as well as the understanding of the child and genetic technology within the world in which a couple that uses IVF lives. Furthermore, in *Ideas II* and *The Crisis of European Sciences*, Husserl theorizes that as we “see” the object from multiple points of view, these views do not remain static entities, but rather are combined to form a synthesis in which our perception is composed of all the points of view. He argues that when viewing an object “each side gives me something of the seen thing. In the continuous alteration of seeing, the side just seen ceases being actually still seen, but it is ‘retained’ and ‘taken’ together with those retained from before; and thus I ‘get to know’ the thing.”93 Therefore, the reality of the object depends on the self’s perception of it, and how it is placed in the world. The self’s understanding of reality then depends on external objects, and their shifting relationship to both the self and the surrounding world. These living experiences therefore form the life-world as they inform humans of the world around them as humans interact with various situations, and/or people and objects. It is, therefore, the phenomenological experience and the internalization of social influences that together are what determines the self, whether the social influences are created by IVF or other factors.

With the new technology of IVF, egg and sperm donation, surrogacy and other forms of fertilization, science has unlocked new methods for creating life and

93 Husserl, *The Crisis of European Sciences*, 158.
thereby proposed new conceptions of how life might be formed. By the 1990s, the advancement of pre-implantation genetic diagnosis (PGD) was established, thereby giving humans the ability to pick a desired gender, as well as avoid many genetic abnormalities. Through genetic advancements, the human race certainly has entered a “brave new world,” and within these innovations of the creation of life, how one defines the self, the world around the self, and the people and objects in that world has changed. The way humans perpetuate the species has been transformed, or more precisely humans are genetically altering the gene pool through the selection of certain genetic traits in a more finite way than natural selection. Through this unnatural selection, humans have modified their biological expression, and transformed the self, genetically. This action is not static but always changing, and is unique to the individual self, as the self maneuvers through the world of objects and situations. The outcome of human technology and any consequence of these actions cannot be foreseen, and will be debated in-depth in section three of this chapter. However, it is clear that, in the Western world during the 1970s, the structure of what constituted a family was irrevocably altered. This was due, not only to genetic discoveries such as IVF, but also to social, political, economic, and technological changes within the framework of the Western society. What signified the family structure of mother/father seemed, in some respect, to have been proven varied in nature, and certainly not genetically encoded. This was demonstrated with the onset of wealthy single mothers, and it could be argued single fathers who had used a surrogate and IVF. In both of these cases, the role of the caregiver became a dual role of mother/father. Alternatively, single women
raising children, due to divorces, death of a spouse or having children conceived out of wedlock, have often been placed in this position, but the socioeconomic divide between the wealthy women using IVF and the non-affluent single women raising a child, who did not use IVF, present the “IVF mother” freedoms and choices the single mother never had. Furthermore, as will be explained in the next section, Foucault’s argument that there is an ability to invest in a child’s human capital can also be applied to the dynamics of the family structure. For example, due to money, wealthier women have the ability to invest more in their child’s human capital, which could theoretically begin with buying the most expensive sperm at a sperm bank. Other scenarios of the changing family, during the 1970s, were same sex couples having children through IVF, as well as more women working outside the home. With these developments, the gender of the person caring for the children began to switch from the “traditional” mother role to families with two mothers or fathers, as well as the concept of the shared role of care-giving by both mother and father. Yet other trends included the father taking on the primary role of care-giving, which had once been allocated solely to the mother, or care-giving being provided by the growing number of daycare facilities. Therefore, the performance of the gender role of the caregiver began to become not one gender role, but rather multifaceted gendered roles that formed an interlocutor dialogue, which redefine how the family was perceived. Genetically predetermined roles were demystified, and in so doing, the self and the Other were reevaluated and redefined.
Within these cultural shifts, how the primary caregiver performs his/her gender role and how s/he structures his/her caring was altered. This is due to how the caregiver provides care, and is often based on the caregiver identifying with a cultural group that forms the life-world. As Husserl argued “our experience and in the social groups united with us in the community of life,”⁹⁴ and it is this identification with a certain social or cultural group that helps to form our daily activities, whether they be caring for a child or not. Moreover, within these social and cultural groups, the care-giver is positioned within the culture in relation to other cultural groups, which forms relationships from various cultural positions. According to Sara Ruddick: “The criteria of acceptability consist of the group’s values that the [caregiver] has internalized as well as the values of group’s members whom she [or he] feels she [or he] must please,”⁹⁵ therefore, the caregiving provided by a single parent is different than that by a gay couple or any other scenario of the family structure. One is not better than the other, but there are differences to be found in each group. However, as each caregiver within his/her group attempts to meet his/her group’s criteria there does not “seen to be much dissent from the belief that children cannot ‘naturally’ develop in socially correct ways but must be ‘trained’.”⁹⁶ This act of teaching children cultural and social structures helps to perpetuate the mutability of the given society as it could be argued that different cultural and social structures demand different training. (A child in a small town might be trained to say good morning to everyone s/he meets on the street, but a child in a large city might be trained to never speak to

strangers.) Conversely, the act of teaching a child how to act within a given culture life-world is taught not only by the primary caregiver, but also by schoolteachers, and perhaps even religious leaders such as priests or rabbis. These acts of teaching permit the child to learn and build on previous experiences within the life-world. As Schutz and Luckmann argue, “Each step of my explication and understanding of the world is based at any given time on a stock of previous experience, my own immediate experiences as well as such experiences as are transmitted to me from my fellowmen and above all from my parents, teachers, and so on.”\(^{97}\) It is therefore the collective training that places the child within a given culture life-world, however, the primary caregiver is often the first teacher. The child might also view the primary caregiver as a higher authority in relation to social matters than s/he will a schoolteacher. The primary care-giver is the one who lays the groundwork for the young child’s entry into a given sociocultural structure, and helps to form what the child believes to be true. These truths, Husserl argued, are only truth within the specific sociocultural structure and might not be viewed as such by other sociocultural structures. He writes “when we are thrown into an alien social sphere, […] we discover that their truths, the facts that for them are fixed, generally verified or verifiable, are by no means the same as ours.”\(^{98}\)

With the sociocultural setting, how the primary caregiver cares for the child changes as the child develops. This is due to the child’s understanding of the life-world, as much as the primary caregiver’s new perspective of the interaction of the self and Other that is learned through his/her actions of care-giving. Thus, the

\(^{98}\) Husserl, *The Crisis of European Sciences*, 139.
primary caregiver goes through modifications of the self in tandem with the child’s physical and mental growth, this is often facilitated by placing the self in the Other’s position, not as Husserl’s concept of the transcendental ego suggests, but through non-conscious analogizing apprehension. By first apprehending the Other’s physicality, then grasping the similarities of appearance, expression, and behavior between the Other’s body and the self, and finally, seeing the Other as a conscious being. Hence, Husserl evades solipsism, and forms a type of meditation of the Other. He argues, "we exclude from the thematic field everything now in question: we disregard all constitut-ional effects of intentionality relating immediately or mediately to other subjectivity and delimits first of all the total nexus of that actual and potential intentionality in which the ego constitutes within himself a peculiar owness."99 Hence, the Other here does not emanate from the self, but rather allows for self-reflection. It is within this self-reflection that the self sees itself through a gesture or spoken phrase the child copies, as well as physical attributes the child inherited. It is at this moment of relations, whether consciously or unconsciously, that the self projects their likeness on the Other through comparison and found similarities. Thus, the living consciousness of the life-world is in flux, constantly changing through experiences, and is in a constant state of self-reflectivity as information is returned or led back to the self.

The changing social climate of the caregiver can clearly be seen in Kelly’s Post-Partum Document as it challenges the preconceived notion of the loving, nurturing mother by her scientific and often sterile approach to document her

relationship with her son. Her strategic separation from the depiction of the body of the mother and child further challenges the “traditional” concept of the female nurturer as the loving mother. Not only does Kelly not depict herself and her son, but she does not depict her husband either, although dialogue between the three of them is documented in her text included in *Post-Partum Document*:

Coming back from work this week, I realized that I wasn’t thinking about K so often when I was out, or walking faster as I got near the house. I felt a bit guilty, but when I expressed this to R in the form of … ‘maybe K’s difficult because we leave him with other people a lot’ …. R said ‘on the contrary, it’s because we’re on top of him too much’. ¹⁰⁰

This passage, like many in *Post-Partum Document*, questions the performativity of the societal gender role of the family structure – Kelly returns from working outside the home and realizes she had not thought of her son while she was gone, demonstrating that she has a separate life and identity from the one with her husband and child.

Throughout *Post-Partum Document*, there is a conscious choice by Kelly to demonstrate a separation from the visualization of the bodies, which forms the family triad mother, father, and child. This sublimes the lack of the phallus, the basis of the Oedipal complex. The separation from the body, in *Post-Partum Document* also echoes the separation from the body in the process of IVF, where although the male and female bodies are needed to create an egg and sperm, as well as incubate the fertilized egg, the intervention of science removes the fertilization process from the body and places it in a laboratory. Kelly’s work is analogous to this. She does not claim her child was conceived in any different way than children have been created for thousands of years. However, her distancing from the

“maternal” role via a scientific approach removes the process of care-giving from the female body, just as IVF removes the fertilization process from the female body and places it within a scientific dialogue. The technology of IVF also challenges the concept of who the care-giver of a child can be. It has allowed the concept of the supposed supreme female nurturer to be debunked by allowing the male to perform the role of the primary caregiver. Furthermore, since men have been able to take on the role of the primary caregiver, the social view of children being raised by same sex parents or single parents, whether male or female has changed, and as it becomes more pervasive it becomes more accepted. Recently, there have been legislative movements, publicized by many local and national news stations, to legalize marriage for same sex couples, and in some states, same sex marriage is now legally recognized. The open debates in the media, and the legalization of same sex marriage in some states, demonstrate that there has been a social shift in the views of gay and lesbian couples.

The processes, both Kelly’s work and IVF, help to separate the concepts of sex and gender, as well as do giving birth to and caring for a child, which then helps to redefine the family and care-giving, as well as the self and the Other. It is precisely the separation from the body, in both IVF and Kelly’s work, which challenges the roles of the male and female bodies in the creation of life, and the caring of that life. Gender roles are mutable within the social understanding of what constitutes male and female, and as it will be argued in the next chapter, these roles redefined the family and care-giving on a much broader platform as did the roles of the mother/father/child.
Part Two – The Second-Wave in the Light of Feminism and Mary Kelly’s Post-Partum Document in the 1970s and The Relation of Foucault’s Power Structures

The French philosopher and social theorist Michel Foucault’s conception of how power is structured in a given society has been discussed, utilized, and written about by many writers and theorists. In part two of this chapter, the goal is not to attempt to analyze the works by the prolific Foucault, instead, three structures of power as conceptualized by Foucault are drawn upon to investigate the second-wave of feminism and the artist Mary Kelly’s installation Post-Partum Document. Foucault’s theories that will be employed are juridical power, from his concept of the power over death, as well as disciplinary and biopolitical powers, from his concept of the power over life. Referencing part one of this chapter, Husserl’s concept of the life-world will be used to draw parallels to Foucault’s categories of power structures. Foucault’s and Husserl’s theories will be used to examine the themes of: family structure, gender roles, and care-giving. It will be argued that in each of these themes there is an element of micromanagement that can be related to Foucault’s concept of disciplinary and biopolitical powers. Moreover, resistances against these forms of power were used to alter the family structure, gender roles, and care-giving in the 1970s. To clearly establish these connections, a basic summary of Foucault’s disciplinary and biopolitical powers seems necessary.

Foucault is most known for his work on social institutions, such as psychiatry, human sciences, and prison systems. Many of his theories center on various structures of control by both the individual and the state; one particular
concept that he developed is call biopolitical power. As stated above, according to Foucault, bio-political power, along with disciplinary power, has become the power over life that is found in neo-liberalism. This should not be confused with his writings on juridical power, the power over death found in classical liberalism. While disciplinary power is the power one has over his/her individual body, biopolitical power includes various regulations that are formed through statistical analysis of a population, and administered through social norms, which could include body size or gender presentation.\footnote{In this chapter gender presentation, but not Judith Butler’s concept of gender performitivity, will become of key importance in examining both the second-wave of feminism and Post-Partum Document. However, later in chapter two, when more focus is given to the lesbian, gay, bisexual, and transgender (LBGT) community this line of inquiry is expanded to incorporate Judith Butler’s argument.}

Unlike juridical power, which operates through clear prohibitions and punishments in the “murderous splendor”\footnote{Michel Foucault, The History of Sexuality: Volume 1: An Introduction, trans. Robert Hurley (New York: Vintage Books, 1990), 144.} of official institutions, power over life operates through the more subversive methods of normative social pressures. The task of this power, according to Foucault,

\begin{quote}

is to take charge of life needs continuous regulatory and corrective mechanisms [...] such a power has to quantify, measure, appraise, and hierarchize [...] it does not have to draw the line that separates the enemies of the sovereign from his obedient subjects; it effects distributions around the norm [...] A normalizing society is the historical outcome of a technology of power centered on life.\footnote{Foucault, The History of Sexuality, 144.}

\end{quote}

In theory, the power over life, then, attempts to produce and enable a better life through the micromanagement of the body and the bodies of a given population. It is the “endeavors to administer, optimize, and multiply [life,] subjecting it to
precise controls and comprehensive regulations.”104 This is done, not simply through punishment, but instead through positive and negative reinforcement of social norms or opinions that pervade life in every location, and attempts to micromanage life. This, as Jeremy Bentham first noted in his study on prisons, can be implemented through disciplinary power that normalizes the individual body through a method such as surveillance. This happens whether an individual is being watched or through the knowledge that s/he might be watched. The individual will act a certain way because the individual knows s/he could be watched at any given moment. This internalization of social norms makes sure that the individual follows the norms of a society. Biopolitical power, on the other hand, regulates, not through the individual gaze, but by means of the surveillance or monitoring of statistical analysis and the administering of life along the average of a bell curve in an attempt to optimize a human population’s potential. For example, the health of an infant is determined by measuring the baby’s height and weight against the average of other infants his/her age. If the infant is below or above the average, adjustments in the baby’s diet might be made.105 The supervision of the body becomes, as Foucault claims, “effected through an entire series of interventions and regulatory controls: a biopolitics of the population”106 that tries to optimize the lives of a given population. However, this can come at the cost of saying one group of people is more valuable than another, for example the Nazi claim that the Aryan race was more valuable than those who were Jewish.

104 Foucault, The History of Sexuality, 137.
105 It will later be demonstrated how Kelly utilizes both means of surveillance in Post-Partum Document and how these forms of surveillance help to shape the social understanding of life-world.
106 Foucault, The History of Sexuality, 139.
Within the systems of juridical, disciplinary, and biopolitical powers, a given individual or group can resist the power that is being enforced upon them, which, it will be demonstrated, is what happened in both the second-wave of feminism and Kelly’s *Post-Partum Document*. The ability to resist is perhaps easiest to see in juridical power. For example, juridical power can take the form of resistance against a government as an individual fights to the death; this is the right to death. On the other hand, an individual under the rule of disciplinary power and biopolitical power cannot define resistance through subtraction or prohibition of power, such as in juridical power. Instead, the individual can produce resistance through small infractions of a given norm; however, these actions often feed into the power being resisted. For example, the Sexual Revolution of the 1960s allowed sex and sexuality to be discussed more openly, but it also allowed for more entry points to the regulation of sex. The Sexual Revolution then did not lead to more sexual freedom, but instead, led to more control of sex through both disciplinary and biopolitical power. Therefore, rather than fighting a given power, as in juridical power, disciplinary power and biopolitical power normalize the power through resistance or critique. This begins, as Foucault argues, through the desire to achieve “the art of not being governed quite so much.”

Foucault uses the example of the authority of the Church in the 15th and 16th century when government was essentially a spiritual art. He explains that through critique of the Scriptures, or through a return and reexamination of the Scriptures there was a seeking out of what was authentic in them. This meant questioning what sort of

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truth the Scriptures told, and posing the question, were the Scriptures true?\textsuperscript{108} What this line of critique did, according to Foucault, was to put forth the question: “What are the limits of the right to govern?”\textsuperscript{109} This line of critique then did not seek to overthrow government, but sought to lessen its control. However, even though individuals might think they have gained more power, what has actually happened is their critique has normalized power. The resistance, that was at the fringe of society, has moved to the center and has been normalized through control that has taken place through micromanagement by means of disciplinary and biopolitical powers.

This form of resistance, critique and normalization of power can be seen in the second-wave of feminism with regards to the family structure. As feminists questioned and challenged their place within the family unit, the family structure and child rearing began to be more strictly regulated by the government. For example, in the United States, Kate Millett published Sexual Politics in 1970, and a year later the magazine Ms. appeared in January as an insert in New York magazine. These two examples of critique stemmed from women’s desire to not be governed quite so much, and also questioning the government’s limits of the right to govern, but in actuality, they helped to normalize laws related to the family structure. For example, the 1970s saw laws passed that relating to divorce, child custody, and child support. The Equal Rights Amendment was also passed into law in 1972, which helped to regulate how women were treated, as well as the use of the Title VII of the 1964 Civil Rights Act, Title IX of the 1972 Education Act, and the

\textsuperscript{108} Foucault, The Politics of Truth, 45 - 46.
\textsuperscript{109} Foucault, The Politics of Truth, 46.
Pregnancy Discrimination Act of 1978. The second-wave of feminism, therefore, did not attempt to eradicate power, but instead, it used disciplinary and biopolitical powers to normalize the power systems through resistance and critique. In the 1970s, similar situations were also occurring in Great Britain, where Kelly was living. For example, in 1970 the first national meeting of the women’s liberation movement took place at Ruskin College, and the same organization marched in London in 1971. Also, Margaret Thatcher became the first female prime minister in 1976. Books, such as Germaine Greer’s *The Female Eunuch* became a key text of the decade, as well as, *Spare Rib*, which was first published in 1972. These social changes, that were regulated and subsequently normalized by disciplinary and biopolitical powers are reflected and recorded in *Post-Partum Document*. Demonstrating that, as was the case in the 1970s, the power was not eliminated, instead the power was initially subverted through small infractions of a given norm as an individual, such as Kelly, repeated various activities in his/her daily routine. This demonstrates Foucault’s following argument. He states:

> I do not think that a society can exist without power relations, if by that one means that strategies by which individuals try to direct and control the conduct of others. The problem, then, is not to try to dissolve them in the utopia of a completely transparent communication but to acquire the rules of law, the management techniques, and also the morality, the ethos, the practice of the self, that will allow us to play these games of power with as little domination as possible.\textsuperscript{110}

Thus, if, as stated earlier, both discipline and biopolitics control, by means of micromanagement of the individual body or bodies of a population, then the individual or groups of individuals can subvert power through small infractions of

the norms. For example, Kelly questioning or critiquing the actions of the primary caregiver becomes her way to subvert power.

Foucault’s analysis of juridical, disciplinary, and biopolitical powers further demonstrates that in American neo-liberalism all three forms of power are at work. Juridical power can be found in the laws and punishments that govern the United States, such as the death penalty, while disciplinary power and biopolitical power can be found in the social norms that regulate the individual, and create both the individual’s and the collective societal life-world. Juridical power then can be viewed as a deductive force that is focused on the macrocosmic, but can also liberate the individual. For example, deductive force can be seen in governmental control over a population. If one breaks a law, deductive force is used, such as in a fine or jail time. However, the resistance against the government and or governmental laws can be viewed as a way to liberate the individual. This type of action can be directly associated with the second-wave of feminists who challenged the legal regulations of the family structures, gender roles, and care-giving, and through their actions provided many individuals with a feeling of liberation. The women associated with the second-wave were not jailed for their actions, like the Suffragettes from the first-wave who, for example, in 1917 were jailed for picketing the White House. This resulted in them going on a hunger strike, and the government subsequently force-feeding them. The second-wave, however, did reform government through the formation of groups such as National Organization for Women (NOW), and it was groups, such as NOW that allowed for a feeling of liberation.
Disciplinary power and biopolitical power, on the other hand, can be viewed as, not deductive, but productive and that which enables through the focus of the micro-management of the body. While this might subvert the individual, it, in theory, offers a better life as the distribution and management of life becomes the focus. As Foucault states, it is “a power that exerts a positive influence on life, that endeavors to administer, optimize, and multiply it, subjecting it to precise controls and comprehensive regulations.” The goal of optimizing the existence of a population by the state can, however, according to Foucault, also lead to a social hierarchy and genocide “because power is situated and exercised at the level of life, the species, the race, and the larger-scale phenomena of population.” This, Foucault argues, starting in the seventeenth century as capital punishment, was replaced by the “right to kill those who represented a kind of biological danger to others.” Today, even more so than in the 1970s, when Kelly created Post-Partum Document and Foucault wrote The History of Sexuality, both, disciplinary power and biopitical power pervade the most mundane, yet necessary parts of life, such as what an individual eats. Since the individual must eat, the disciplinary and biopitical powers cannot be evaded. They can, however, be resisted, for example, through an individual eating only organic food grown by the individual or bought at a local farmer’s market. Through this action, the individual resists the control over his/her body that the large farming companies, driven by capitalism, have. Therefore, through his/her daily actions an individual can, subsequently, often question and resist many social norms and engage in both disciplinary power and

111 Foucault, The History of Sexuality, 137.
112 Foucault, The History of Sexuality, 137.
113 Foucault, The History of Sexuality, 138.
biopolitical power. As John Stuart Mill, who influenced Foucault, rightfully stated: “We have a right, also, in various ways, to act upon an unfavorable opinion of anyone, not to the oppression of his individuality, but in the exercise of ours.”\textsuperscript{114} It is the right of the individual to act upon opinion with opinion. As previously explained, in the second-wave of feminism, women voiced and acted upon their opinions regarding how women should be treated and viewed in society. This had particular resonance with reproduction rights, child custody, and rights relating to women working outside the domestic sphere. It was precisely this issue that directly centered around the opinions of the changing family structure that was recorded in \textit{Post-Partum Document}. Through the daily actions of those involved within the movement, resistance against many social norms were enacted. This resistance did not begin in the 1970s, rather various forms of it can be traced back to the beginning of the first-wave of feminism as many women pushed to change social norms and broaden their choices beyond being viewed simply as property of their father or husband. The following brief history outlines a few basic ideas of how this manifested.

The first-wave of feminism refers to feminist activity during the 19\textsuperscript{th} and early 20\textsuperscript{th} century. Those involved with the first-wave of feminism were concerned with obtaining gender equality for women in the forms of such privileges as voting rights and the right to own property. During this time, the United Kingdom writers Mary Wollstonecraft and Marie Stopes wrote about women’s sexual desires, while in the United States, Margaret Fuller and various members of the Suffrage movement attempt to map a new course for women. These women contested

juridical power through, for example, demonstrating and being jailed in an attempt to obtain the right to vote. They also resisted disciplinary power, for example as stated earlier; they went on hunger strikes while jailed. They also opposed biopolitical power through challenging social norms of how women should be viewed on an individual and group basis. However, in both the United Kingdom and the United States, the women involved with the movement were most often from a privileged and learned upper class background, which was not the case in the second-wave of feminism.

The second-wave of feminism in the United States occurred roughly between the early 1960s and the late 1990s, and has its roots in the growing middle class that was a result of the late 1940s postwar economic growth and baby boom. Early influential writers include the French philosopher - novelist Simone de Beauvoir and the American social critic Betty Friedan. In the second-wave of feminism, the issues that were debated were for the most part simply an expansion of the first-wave’s debate of gender inequality. The thunderous vocalization for change in the 1970s was therefore inspired by a long lineage of female predecessors. Poignantly, beginning in the early 1960s, the second-wave of feminism addressed a plethora of concerns dealing with legal inequalities, sexuality, family and the workplace, but perhaps the most controversial was the legal rights associated with reproductive rights. Later it will be demonstrated how some of these themes are addressed in Kelly’s large-scale installation Post-Partum Document.
The movement for women’s autonomy over their bodies began to gain momentum with the commencement of the adoption of the United Nation General Assembly resolution on Population Growth and Economic Development that stated the size of the family should be the free choice of each individual family.115 Ironically, two years later in 1968, a United Nation’s Inter-national Conference on Human Rights was held in Iran’s capital, Tehran. From this, a subset of reproductive rights began to be developed in earnest, for example it was amended that parents could decide on the number and spacing of children, and be given access to education and information in these matters.116 These changes were implemented to optimize the life experience of the world population through population control. As Foucault claimed, the surveillance of a population through statistical analysis and the micromanagement of the bodies in a given population are derived from biopolitical power. This is the case with the attempt to control the world population. The goal of biopolitical power, as Foucault states, was to focus “on the species body, the body imbued with the mechanics of life and serving as the basis of the biological processes: propagation, births and mortality, the level of health, life expectancy and longevity, with all the conditions that can cause these to vary. Their supervision was effected through an entire series of interventions and regulatory controls: a biopolitics of the population.”117 Subsequently, even though it was not necessarily the goal, women did gain more control over their bodies through biopolitical actions of population control, and it was the commencement of a

117 Foucault, The History of Sexuality, 139.
principle of transformation in the worldview about reproduction that altered the life-world of the human population.

Another element factoring into the social changes in the United States and elsewhere was H. M. Parshley’s 1953 partial English translation of the French existentialist Simone de Beauvoir’s magnum opus, *The Second Sex*. After the original printing of the book in 1949, it took another twenty years for her words to make a lasting impression on the United States. Most likely, in responding to Emmanuel Levinas’ concept of the face-to-face encounter with the Other, in which he cast the position of alterity as always being female, de Beauvoir opposed the lack of power this male/female binary created for women. This concept became pivotal in the feminist movement with her supposition about the “Other,” which she claimed has a long-standing relationship of oppression due to male writers repeatedly taking on the position of the self/subject, and casting the Other/object as female. The self, then, is associated with the transcendent mind, able to be separated from the body or has appeared superior to bodily functions, while the Other is trapped in immanence and always defined by its body. However, the self needs the Other. De Beauvoir demonstrates this using Georg Wilhelm Friedrich Hegel’s argument that the self needs otherness to define itself as a subject. Otherness is therefore necessary in the construction of the self, as the self. The problem for de Beauvoir is that if alterity is always cast as female, women never take the role of the self. This revelation led to her claim, “one is not born,

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but rather becomes, a woman.” Through this statement, she challenged the concept of the Other as always being female, and placed women in the male position of the self, thus, empowering women to become a woman, to become “the self.” Again, perhaps influenced by Levinas, she claimed the Other need not evoke an antagonistic response, but rather a positive one. However, because she never places men in the role of alterity, in essence she transforms the patriarchy of the male/female binary into the self and the Other that are the same gender. She therefore, does not truly resolve the dichotomy of the position of the male/female axis of the self and the Other. Nevertheless, many feminists used de Beauvoir’s claim that, “One is not born, but rather becomes, a woman,” to build the argument that sex and gender are not interchangeable. As feminist author Sara Ruddick wrote in 1989, “it is now widely agreed that becoming a ‘woman’ or a ‘man’ is a social and multiply determined ongoing activity.”

Therefore, it is not the cognition of the world based on biology that forms the life-world, but rather, the structure of gender patterns that the subject participates in that form social norms. These social norms then are controlled by disciplinary and biopolitical powers, and determine the self’s comprehension of its life-world along with the collective comprehension of a given society.

The second-wave of feminism in the United States, although influenced by de Beauvoir’s writing, was more directly a response to the post-World War II era. This was a period of consistent attempts to reestablish pre-war patriarchal social

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trends of idealized domesticity, as depicted in the media culture of *Father Knows Best* and *Leave it to Beaver*. During this time, suburban expansion and a growing middle class were also shaping American culture. These two phenomena led to a new type of housewife who micromanaged the family while, at the same time, was increasingly influenced by media in the form of television and radio. These media outlets formed social norms and, much like disciplinary and biopolitical powers, controlled large groups of the population by influencing what they wore and ate, as well as, influencing their opinions. As Foucault claimed, due to the development of biopolitical power, “the law operates more and more as a norm, and [...] the judicial institution is increasingly incorporated into a continuum of apparatuses [...] whose functions are for the most part regulatory.” The social norms that were depicted in the media, therefore, form a regulatory system by which Americans were to abide. This does not mean that every individual agreed with these norms. Instead, infractions against social norms can always be seen in a society, and during the 1970s, one example of resistance is the feminist movement. However, as Foucault explains, the repetition of these small infractions can replace the social norms with new social norms, which then form a new regulatory system. Therefore, as much as an individual or group might want to dismantle the regulation of disciplinary and biopolitical powers, they are unable. Furthermore, according to Günther Anders, other forms of control were now pervading Western society. Anders’ argument, as will be explained in depth in part three of this chapter, states that modern technology had developed its own agency, and humans

123 Foucault, *The History of Sexuality*, 144.
were and are unable to predict the influence technology will have on society. The social dynamics and influence of media in the 1970s was unfathomable to the inventors of television and radio, and there would not be much opposition to the claim that these forms of media have altered the way the world communicates, comprehends, and forms social norms. As stated above, these norms are what regulate the body. Additionally, they form the background for the life-world.

As American culture was being influenced by television and radio during the 1960s and early 1970s, the assumption that motherhood was a destiny for all women began to be questioned. Feminists “advocated [for] more public child care [and] the second half of the seventies saw feminists engaged in skeptical probings of the social and subjective meaning of motherhood.”124 Changes to the way women were viewed and treated in the United States can be connected to the government reaction to cultural unrest, which forced changes, such as the Presidential Commission on the Status of Women, (created by John F. Kennedy in 1961). This, along with suburban expansion and the changing cultural landscape of the nuclear household, was the impetus for Betty Friedan to hypothesize that there was dissatisfaction with the image of the “Occupation: housewife.” She claimed this image never gave the housewife-mother a chance to be anything else.125 Friedan thought many housewives lost their identity when they were exposed to the cultural belief system that women should find their identity through their husbands and children, such as the media figure June Cleaver. In The Feminine Mystique, 1963, Friedan wrote: “The feminine mystique says they can answer the question

‘Who am I?’ by saying ‘Tom’s wife […] Mary’s mother.’” Friedan challenged women to find their identity, not in their husbands or children, but rather in jobs outside the home, and in higher education. She also argued that women who relied on the role of the housewife to define themselves lost their identity. This phenomenon, she felt, was exacerbated by technological innovations within the idealized image of the suburban household. The supposed myth of the American housewife was “freed by science and laborsaving appliances from the drudgery, the dangers of childbirth and the illnesses of the grandmother.” Friedan disputed this, claiming that the advances in technology, purportedly to make housework more efficient, further devalued the role of the housewife. Friedan is then suggesting, resistance against the social norms are needed, and effectively claims that technology has altered the occupation of the housewife beyond something that women should aspire.

The words of de Beauvoir and Friedan, the formation of the National Organization for Women (NOW) in 1966, and the work of other feminists, lit the spark of the cultural movement of the 1970s that saw sweeping changes in the legal system controlled by juridical power systems in the United States. As these legal and social changes were implemented into the fabric of the American household, the debate over whether the loving, nurturing mother was inherent in women, or a social construct, grew louder. As women came to the realization that the housewife and motherhood where indeed social constructs, and the gender of these roles was not fixed, a new concept of the structure of the nuclear family and care-giving

126 Friedan, The Feminine Mystique, 71.
127 Friedan, The Feminine Mystique, 18.
began to emerge. This “new family” was also influenced by technological innovations in how one could make a family, as the acceptance of in vitro fertilization (IVF) expanded during the 1970s. This “new family” did not, however, dismantle the social norms, instead, it replaced them with new ones. The social and cultural changes in the decade, along with scientific advancements in IVF and sperm and egg donation, allowed women the possibility of being single mothers and or delaying childbirth while they pursued careers in the male dominated workforce. Subsequently, their identity became a modification of what women were “thought” to be: loving mothers, good wives, and good homemakers. Along with the definition of mother, wife, and homemaker, a new understanding of what they were capable of becoming emerged: CEOs, computer engineers, and surgeons, to name a few opportunities.\footnote{This shifting of identity had, of course, happened before, such as when women entered the workforce in large numbers during World War II, creating the iconic Rosie the Riveter, and shifting how women were defined. However, while the women took factory and other jobs to support the war, they did, in many ways, lay the groundwork for cultural change; many of these women returned to their former life after the war was over. For this reason, the female factory workers of World War II, and the women from the second-wave of feminism, are dissimilar.}

This changing landscape of the nuclear family was, perhaps, represented most strikingly in the growing middle class of the West depicted in Kelly’s \textit{Post-Partum Document}. As it will shortly be demonstrated, the work provides an ideal backdrop to discuss Foucault’s concepts of power systems that were implemented in the middle class nuclear family in the 1970s. To better illustrate this, a more detailed explanation of \textit{Post-Partum Document} is warranted. In the conceptual project \textit{Post-Partum Document} Kelly chronicles her daily interactions with her son. She analyzes the caregiver/child relationship from a scientific and feminist
approach drawing on both psychoanalysis and semiotics. Kelly’s project consists of six sections that transform the often-mundane activities of caring for a small child, for example, daily feeding and changing of diapers, into a large-scale installation. This maintenance work becomes a type of micromanagement of her son’s body displayed as artwork. For example, in *Documentation I: Analysed Fecal Stains and Feeding Charts*, from 1974, the food intake, weight gain, and the consistency of her son’s bowel movements are charted and turned into artwork.

![Image](image.png)


Furthermore, each of the sections incorporates personal items or dialogue between Kelly and her son to represent Kelly’s interaction with her son. The relation of drawings to the icon, graphs and charts to the index, and sound recordings to the symbolic, demonstrates Kelly’s clever use of semiotic theory, while her willingness
to display her actions for public scrutiny alludes to a parody of surveillance of her actions. For example, the dialogue between Kelly and her son in *Documentation III: Analysed Markings and Diary-perspective Schema* was recorded and situated in the gallery so viewers could listen to the conversations through headphones, thus, giving the viewer the ability to observe private “conversations between mother and child during [what Kelly argues was] the crucial moment of the child’s entry into an extrafamilial process of socialization, i.e. nursery school.”129 Accompanying the sound recordings of this section were printed dialogues which where scribbled over. While her son’s scribbles might indicate her son’s entry into written text that would have been taught in nursery school, it also makes the text hard to read. This gives the viewer a feeling that s/he is witnessing moments that were meant to be private, but have been put on public display.


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Furthermore, in *Documentation II: Analysed Utterances and Related Speech Events*, conversations between Kelly and her son were printed on index cards, many of which related to Kelly giving her son food or something to drink. Today, with the growing presence of biopolitical power, where caregivers are increasingly told to restrict their children’s sugar intake, the following conversation might lead some to scrutinize Kelly’s parenting.

K. /nana/ (crying)
M. There isn’t any more, you ate it.
K. /gah/ nana/
M. Banana’s gone. Would you like some sugar in your milk?
K. /e weh ka/ e weh ka/
M. Where’s your red car? (no toy car in sight)
K. /nana/ (looking in bowl)
M. No, that’s sugar.\(^{130}\)

Both this sense of surveillance, and her micromanagement of the her son’s body, clearly falls in line with Foucault’s biopolitical power, which according to Foucault, is based on maintaining the average of the statistical bell curve. This is perhaps most clearly demonstrated in *Documentation I: Analysed Fecal Stains and Feeding Charts*, in which Kelly, as previously explained, monitored the amount of food and liquid consumed by her son, the amount of waste exceeded, his body weight, the amount of food and liquid used for growth, muscular activity, and basal metabolism, all of which were recorded on a chart and in the daily entries that were placed on display. Conversely, because there are no pictures of Kelly or her son included in the project, there is a separation from the bodies of both herself and her son. Instead of documenting the growth of and interaction with her son through photographs, personal items, printed text, and sound recordings, she demonstrates

the relationship in a seemingly scientific manner. This mode of documentation leads to a schism between the actions of care-giving and the feelings of care-giving. Furthermore, Kelly often does not indicate her son by name, but instead, simply refers to him as K. This seemingly benign epithet enacts another layer of detachment from the traditional connection between the mother and child. It is therefore the sterile approach juxtaposed against the “traditional” view of the loving, caring mother that affords Kelly the leeway to break with the stereotypes of the social norms of motherhood, and propose new ideas that were reflective of the changing nature of the middle class nuclear family in the 1970s.

The written statements, recorded sound, drawings, graphs and charts bestow the project, published as a book in 1983, with sequential time and temporality, as well as documents the project “as the heterogeneity of the sign, and the notion of ‘writing’ as aesthetic device.”

Moreover, this work was turned into a large scale installation in which Kelly analyzes the primary caregiver, and addresses issues of the cultural concepts of motherhood, questioning, not only “the naturalization of the woman’s role in child care,” but also, the maintenance work related to the child and other domestic duties. This depiction by Kelly, then, reflects Friedan’s resistance against social norms that were formed through biopolitical power.

The depiction of feminist ideologies of the 1970s was not limited to Post-Partum Document. Instead, the themes of care-giving and maintenance can also be seen in the progression of Kelly’s large body of work that spans more than thirty years, for example, her early film Antepartum, 1974, which was originally shown

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as two 8 mm projections “placed side by side and in the same space as the spectators.”

In the film, Kelly grappled with the subject matter of labor and maintenance, and later used one of the 8 mm projections, a cropped view of her pregnant torso, in a multi-media installation entitled Women and Work. Other films with similar themes which Kelly worked on in the 1970s were: Women of the Rhondda, 1973 and Nightcleaners 1970-73. However, the origins of Kelly’s subject matter, the themes of pregnancy, labor and maintenance, were most likely inspired by the film Nightcleaners. Kelly worked on the film for a number of years as a sound recordist and a feminist activist for the rights to unionize a group of immigrant and working-class women who worked at night cleaning offices. She explains, Post-Partum Document,

overlapped with and was informed by […] the film Nightcleaners (1970-73) and the installation Women & Work (1973-75) – both of which were concerned with the social/sexual division of labor – [but] it was the ICA show of the Document in structure of that division.

Through her work, she questions the male-dominated theoretical tradition, particularly psychoanalysis, stating, in the introduction of Imaging Desire, that when dealing with the object, Freud’s and Lacan’s readings of the laws of primary process that was regulated in the unconscious were utilized.

She claims to have initially discovered these theories in the Marxist writer Louis Pierre Althusser, and wrote they were useful, “to change our lives and what we saw as the iniquitous conditions of ‘all’ women’s lives.”

134 Kelly, Mary Kelly Imaging Desire, xviii.
135 Cf. Kelly, Mary Kelly Imaging Desire, xviii.
136 Kelly, Mary Kelly Imaging Desire, xviii.
Kelly’s interest in Marxism can be traced to the two feminist study groups in which she participated, the History Group and the Lacan Women’s Study Group. She was also perhaps inspired by her “involve-ment with feminist debates about sexual difference and production [which] was further informed by the international feminist movement, ‘Wages for House-work’.”\(^\text{137}\) According to the feminist writer Siona Wilson, this movement was an “effort to politicize women’s work within an expanded Marxist framework.”\(^\text{138}\) Kelly’s involvement with the film *Women of the Rhondda*, which depicted women in the reproduction of Marxist commodity labor power whose job is to nourish and care for society,\(^\text{139}\) most likely also influenced Kelly’s use of Marxism. Due to the way Marx typecast women, it is clear that Kelly’s early films, and her use of feminist Marxism lead to the revelation of a “necessary relationship between capitalist production and the social and genetic dimensions of reproduction.”\(^\text{140}\) (The genetic dimension of reproduction was, of course being rewritten by the advancement of IVF in the 1970s.) The two areas Kelly focused on were then, workplace and the domestic setting, or precisely, women’s role in childcare. Employing Althusser’s theories, Kelly builds upon both Freud’s and Lacan’s arguments about the unconscious and mirror-phase, respectively, as well as analyzes the structures and systems that enable the concept of the self. Throughout both her artwork and writing, she demonstrates how these structures can be agents of repression. Additionally, Kelly also claimed that *Post-Partum Document* highlighted “the question of ‘women’s practice in art,’ which

\(^{137}\) Wilson, “From Women’s Work to the Umbilical Lens,” 82.
\(^{138}\) Wilson, “From Women’s Work to the Umbilical Lens,” 82.
\(^{139}\) Wilson, “From Women’s Work to the Umbilical Lens,” 84.
\(^{140}\) Wilson, “From Women’s Work to the Umbilical Lens,” 86.
had been anticipated in the aftermath of conceptualism with the return of ‘synthetic propositions’ and the imposition of ‘social purpose’.”

One sees in Kelly’s work the life-altering experience of becoming a primary caregiver to a child. Kelly spent five years devoting herself to her son, and translating that devotion into her artwork. She ultimately demonstrates that as she, or any primary caregiver sufficiently cares for her/his child, where the child’s needs are met and the primary caregiver engages in play and other forms of bonding, the primary caregiver validates her/him as a loving primary caregiver. The psychoanalyst, Melanie Klein, while formulating her theory of child development wrote, “the mother’s first concern will be for the baby’s good, and her own gratification will become bound up with his welfare.” Klein’s groundbreaking work in child development in the last century makes an important point, which is comparable to Kelly’s analysis of and devotion to her relationship with her son. However, through Kelly’s questioning of her role of mother, she subverts the actions of the predetermined gender and genetic role of motherhood, and demonstrates how an individual takes care of a child is not genetic but rather learned.

To better understand the cultural relevance Kelly’s project still holds today, the structure of both the family and the act of care-giving she depicts can be viewed through Foucault’s analysis of human capital within neo-liberalism. Specifically, Foucault claims, how much time, effort, and money a caregiver invests in the child s/he cares for determines the return of value the child will have as an adult within a

141 Kelly, Mary Kelly Imaging Desire, xviii – xix.
given society. The human capital is also determined by the parent’s education. In theory, the more educated the parent(s) the higher the cultural stimuli the child will receive, which according to Foucault, will directly “contribute to the formation of those elements that can make up a human capital.”

This is the stage on which Kelly performs *Post-Partum Document*. She is the product of the second-wave of feminism, highly educated, and aware of a wide range of cultural stimuli. Due to her middle class standing, however, she is torn between fully investing her time in her son’s potential of his human capital, and her need for money to expose him to the cultural stimuli and retain her class standing, which as Foucault suggests, is also needed for the investment of human capital. This dilemma is poignantly demonstrated in Kelly’s text that is included in *Post-Partum Document*, in which she refers to her son as K. She writes:

> K’s aggressiveness has resurfaced and made me feel anxious about going to work. I can’t count the number of ‘small wounds’ I’ve got as the result of his throwing, kicking, biting etc….. I’m not the only object of his wrath but I’m probably the source. Maybe I should stay at home…but we need the money.

The investment in human capital is not limited to only the time and effort the primary caregiver invests in the child. As Foucault claims, the genetic creation of the child can also play a role in the child’s human capital. He writes: “the formation of human capital only has interest and only becomes relevant for the economists inasmuch as this capital is formed thanks to the use of scarce

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With the advancements of assisted reproductive technology (ART), the concept of what “scarce” means takes on new relevance. Which genes will or will not give an individual a better probability of a healthy and long life in which s/he can excel in various categories, such as looks or intelligence? If genetic markers for diseases are mapped and the offspring of these individuals are carriers of these genetic markers, then individuals with good genetic make-ups will, Foucault claims, become scarce. This scarcity could lead to “economic circuits or calculations, that is to say, alternative choices.” These choices can be understood in terms of human capital. Foucault explains that, if you want a child whose human capital, understood simply in terms of innate and hereditary elements, is high, you can see that you will have to make an investment, that is to say, you will have to have worked enough, to have sufficient income, and to have a social status such that it will enable you to take for a spouse or co-producer of this future human capital, someone who has significant human capital themselves.

In the case of IVF, this has meant the buying and selling of eggs and sperm based on an individual’s IQ, class, and ethnic background, and it is foreseeable that genetic profiles could included DNA analysis for an array of diseases. Hypothetically, this could lead to a scenario similar that in the 1997 movie *Gattaca*, where an individual’s life is determined at birth based upon the probability of developing diseases and pre-implantation diagnosis (PGD), which both become the social norm. The value of human capital denoted by genes is clearly documented by the current practice, that writers Daphna Birenbaum-Carmeli and Marcia C.

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Inhorn highlight. They state that eggs are being purchased from poor white women in the post-Soviet societies solely because of their complexion,\(^{148}\) this desire for a certain ethnic background demonstrates a formation of a genetic human capital. Kelly’s lack of photographic images, on the other hand, superficially subverts the question of ethnicity and places the investment of human capital in the temporal spatial setting of the middle class family of the 1970s.

Kelly’s questioning of the genetic role of motherhood, her micromanagement of her son’s body, the public display of statistics that become a parody of surveillance of her care-giving, and the investment in the human capital of her son, all demonstrate how in \textit{Post-Partum Document}, second-wave of feminism maybe illuminated by biopolitical considerations. In the next and final, section of this chapter Kelly’s use of feminist theory, Foucault’s concepts of power, along with Husserl’s theory of the life-world, are analyzed using philosopher Günther Anders’ concept of technological agency.

\textbf{Part Three} – Günther Anders, Social Changes & Genetic Discourse of the 1970s

“I shall begin at the beginning,” said the D.H.C. and the more zealous students recorded his intention in their notebook: Begin at the beginning. “These,” he waved his hand, “are the incubators.” And opening an insulated door he showed them racks upon racks of numbered test-tubes. “The week’s supply of ova. Kept,” he explained, “at blood heat; whereas the male gametes,” and here he opened another door, “they have to be kept at thirty-five instead of thirty-seven. Full blood heat sterilizes.” Rams wrapped in theremogene beget no lambs.

- Aldous Huxley\(^{149}\)


Human progress, whether in the form of medical, scientific or technological advancements have always influenced one’s understanding of the world; however, the current technological revolution is eclipsing previous alterations in human perception that were developed during the industrial revolution. The philosopher and journalist Günther Anders even claimed that as humans created machines that far exceed humans’ imagination, emotion, and responsibility, they have produced a discord among what humans are able to produce, and imagine, as well as control. Even though he was specifically reacting to the atrocities of the Nazi death camps and the bombings of Hiroshima and Nagasaki, many of his claims can be applied to today’s genetic advancements. Parallels can be drawn between Anders’ theories and questions about the ability of humans to control gene manipulation, in relation to assisted reproductive technology (ART). At different points in this dissertation, there are various forms of ART that are discussed in relation to Anders’ writings. In this section, however, the focus will be between Anders’ theories and in vitro fertilization (IVF), the first form of ART. IVF became viable for the human population with the birth of Louise Brown (the first test tube baby) in 1978. Historically, the advancements in IVF fall between both the second-wave of feminism and Mary Kelly’s creation of Post-Partum Document. Therefore, in addition to demonstrating connections between Anders’ theories and gene manipulation, in the form of IVF, another goal within this section is to demonstrate how the interconnection between IVF, the second-wave of feminism, and Post-Partum Document are related to the sociocultural shift of the

1970s. In the first two sections of this chapter, it has already been argued that this sociocultural shift was due in large part to the technological innovations that were part of the post-war boom that began in the late 1940s. Here, what is posed is simply an extension of that existing argument. It is, however, related more specifically to the technology of IVF, and the arguments set forth by Anders. Therefore, an examination of Anders’ arguments is first needed to better understand this point, and other queries related to technology.

Anders used the example of the atomic bomb to argue that while humans invented the bomb, they were unable to truly imagine the outcome of detonating the bomb. For example, no one understood the sheer number of immediate deaths, deaths from radiation poisoning, cancers caused by radiation exposure, birth defects, environmental consequences, radiation clouds, and radiation fallout. Humans also could not foresee how the invention of the bomb meant having to live with the knowledge that life on Earth could be annihilated. According to Anders, the unknown consequences of the bomb could not and cannot be controlled by humans, and therefore technology has taken on its own autonomous agency. One of Anders’ main points is that technological agency has eclipsed human agency:

“Through the triumph of technology, [Anders argues,] ‘our’ world has become so impenetrable that, even though we ourselves have conceived and created it, it has ceased to be ‘our’ world in a psychologically verifiable sense.”  

This has happened, not only because of human lack of foresight, but because as machines have become more precise than humans, humans have made themselves

"superfluous, by which [Anders writes] we eliminate and 'liquidate' ourselves."\textsuperscript{152}

As Paul van Dijk explains, for Anders, it therefore is the very triumphs of human innovations that cause them to self-destruct and makes humans unessential, or as Zygmunt Bauman argues, modern technology has produced the wasted human. Those humans who do not conform to the ideology of modernity, that is derived from technology, become waste, such as the “refugees, the displaced, asylum seekers, migrants, the \textit{sans papiers}, they are the waste of globalization.”\textsuperscript{153}

Likewise, Bauman argues, the third-world has become modernity’s preferred place to dispose of industrial waste, producing yet other form of wasted lives, such as the people of the slums who expose themselves to toxic waste by eking out a meager existence by picking through disregarded technological garbage of the industrial world. For Anders, writing before the mountains of electronic waste that now dwarfs the human form, argues this could be at the hands of the atomic bomb or by technical equipment, which, although it apparently sets humans free from the drudgery of work, it also makes them superfluous.\textsuperscript{154}

\begin{flushright}
\textsuperscript{154} Cf. van Dijk, \textit{Anthropology in the Age of Technology}, 35.
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Anders’ argument is also extended to the use of the human body as raw material for machines. Anders uses the examples of American soldiers extracting gold teeth from Japanese corpses and Nazi’s not only extracting gold teeth from Jews, but also using human fat to make soap and human hair to stuff mattresses. According to van Dijk, “the logical consequence of modern times, in the view of Anders, can be a world without human beings, a world in which the person, before disappearing from the stage, stops being an end in itself and descends to become resource for an all-encompassing industry, raw material for a production machinery that has become self-sufficient.”¹⁵⁵ How did humans arrive at such a crossroad? Anders claims that as humans improved technology, they realized that machines were superior, and became ashamed of their own inaccuracy. This he refers to as Promethean shame.¹⁵⁶ It was this shame that devalued the human body.

Anders, unlike many of his predecessors, writes about the modern technological world’s effects on humans. Although influenced by both Edmund Husserl and Martin Heidegger, Anders claims they both lacked an observation of the modern machine age. As van Dijk explains, Anders uses Husserl’s approach to phenomenology (where each object one encounters it carefully described), and applies this mythology to “technical machinery that drastically conditions human life: to hearing aids, slot machines, television sets, and especially, after 1945, after Auschwitz and Hiroshima, to the atomic bomb that can destroy all life.”\(^{157}\) Anders wants to understand both the essence and the potential of these machines, and claims “the historical state of affairs is derived from individual objects […] because, in a totally integrated world, each individual fact has just as much social context as the totality of things.”\(^{158}\) The experiences with these technological objects become, for Anders, “a philosophy of tech-nology, or better called an ‘anthropology in the age of technology’.”\(^{159}\)

Anders’ close observation of technological objects and the object’s relationship to the world, was also influenced by Heidegger, who moved beyond Husserl’s pure consciousness. For Heidegger, an analysis of each object is made. He attributes human existence to being-in-the-world, as well as, zeug (the tools and material that humans use to run the world), and sorge (the caring-for or concern-for-and-with the world). However, according to van Dijk, Anders feels Heidegger did not take into consideration the age of technology in which humans have lived.

\(^{157}\) Cf. van Dijk, *Anthropology in the Age of Technology*, 95.
\(^{158}\) van Dijk, *Anthropology in the Age of Technology*, 95.
\(^{159}\) van Dijk, *Anthropology in the Age of Technology*, 95.
since the beginning of the Industrial Revolution. Instead, Anders claims that Heidegger focuses on austere tools, such as a hammer. These tools do not possess agency, but are instead, as Heidegger rightfully claims, tools that are used in such a way to reveal themselves as *zeug*. Anders, however, finds a discrepancy between the uses of such things as a hammer and the modern machine age in which Heidegger was writing. This is clearly seen in Heidegger’s *Sein und Zeit* (Being and Time), written in Germany, in 1927, during the devastating economic aftermath of World War I. According to van Dijk, Heidegger, argues only some objects, for example writing gears, sewing gears, and working tools can be *zeug*, Heidegger never discusses machines or assembly lines, nor does he address the atomic bombs or Zyklon-B gas in his later texts. Van Dijk argues, that this “demonstrates that Heidegger’s *Zeug* world, which he refers to as the ‘working world of the manual work-er,’ belongs to an obsolete age, in spite of its ‘fundamentally ontological pretence.’” Likewise, Anders argues, that Heidegger does not address machines or assembly lines because of the “non-synchronization of Heidegger with his own age.” Instead, Heidegger is writing about the village artisan in a pre-capitalist, non-Marxist world, thus, Heidegger’s analysis of objects does not come into alignment with the machines that determine modern civilization. Van Dijk argues, this is because

a hammer may allow insight into its essence before its concept is perceived, but that does not apply to the atomic bomb, the Zyklon-B gas container in

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161 van Dijk, *Anthropology in the Age of Technology*, 100.
162 van Dijk, *Anthropology in the Age of Technology*, 100.
the concentration camp, and the nuclear plant, to name a few objects that Anders tries to understand. What they are intended for is not directly apparent and is also not discovered by simply taking hold of them and using them. The common characteristic of these objects, which characterizes them as technical equipment, is that they do not betray their ‘essence,’ their purpose, and the dangers that they hide. In their apparent innocence, they are not ‘phenomena’ in the sense that Heidegger uses the term: ‘that which shows itself,’ ‘that which is revealed.’

Instead, for Anders, it is just the opposite. The atomic bomb and Zyklon-B do not truly reveal themselves, and only after their use can humans begin to comprehend their destruction. Anders, though, argues that, humans are unable to fully grasp the outcome of these things made by human hands because these things have been endowed with their own agency. Humans, Anders argues, are but a mere cog in the industrial age as depicted in Alain Resnais’ Nuit et brouillard (Night and Fog), the 1955 documentary of many of the gruesome atrocities of Nazi concentration camps. Additionally, Anders’ argument is depicted by the iconic Little Tramp of Charlie Chaplin’s Modern Times. Two famous scenes are clearly applicable, the more poignant being when the Little Tramp gets swallowed up into the machine, and the other is when he is unable to stop the repetitive movement of his arms once his work on the assembly line has ceased. In all these examples, humans become an extension of the machine, not the other way around, as Heidegger suggests.

The question for Anders is not what humans make of technology, but what technology makes of humans. According to van Dijk, he “is of the opinion that ‘the everyday world that human beings have to deal with is firstly a world of things and machines, in which human beings happen to exist, and not a human world in

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165 van Dijk, Anthropology in the Age of Technology, 101.
which things and machines happen to occur’.\textsuperscript{166} This is seen today in human’s lack of ability to fully understand the objects in their life-world. Much like Anders’ theory of technological agency, Schutz and Luckman argue that the divide between layman and expert continues to increase and “the ‘applications’ and ‘consequences’ of special knowledge take hold more and more deeply in the daily life of layman.”\textsuperscript{167} They use the examples of the layman’s inability to fix a defective light-switch or repair a car engine, even though the layman relies on electricity and driving a car. This, Schutz and Luckmann argue, demonstrates “the growing gap between expertness and the lack of it, and the growing, almost continuous dependence of the layman on the expert.”\textsuperscript{168} The term expert could easily be replaced with machines or today; technology, meaning technological agency is not only found in the life-world, it creates the life-world. The individual’s access to technology and understanding of technology, then, could determine the individual’s social structure, forming a technological class system. Furthermore, in the current development of computer technology in scientific advancements, technological agency becomes even more pronounced. For Anders, sciences that “are not already technical by their essence, […] have joined up with the supremacy of technology […] which only allows as being what can be manipulated and used. Being is raw material.”\textsuperscript{169} Science has become concerned with the knowledge of an object’s or human body’s usefulness, which can be expressed in a number of ways. A relevant example is the separation of what is currently viewed as good verses bad genetic

\textsuperscript{166} van Dijk, \textit{Anthropology in the Age of Technology}, 103.
\textsuperscript{167} Schutz and Luckmann, \textit{The Structures of the Life-World}, 330.
\textsuperscript{168} Schutz and Luckmann, \textit{The Structures of the Life-World}, 330.
\textsuperscript{169} van Dijk, \textit{Anthropology in the Age of Technology}, 123.
material in the embryonic stage. Today, it is common practice to use the
technology of pre-implantation genetic diagnosis (PGD) which allows genetic
markers for diseases to be located in embryos prior to implantation. Embryos with
undesirable markers, or even sex chromosomes, can be discarded, while embryos
free of these undesirable markers and or comprised of the wanted sex chromosomes
can be given an opportunity to develop into a fetus. Therefore, as humans
manipulate genes through IVF, PGD or other forms of ART the genetic material
that is selected becomes the raw material of the future stock of the human race, and
using Anders argument, “only allows as being what can be manipulated and
used.”170 Thus, human bodies are used to design the sociocultural “idealized”
body, which as explained in the last section, can then be regulated by dominant
discursive regimes.

The eradication of certain diseases, such as fragile x syndrome or tay sachs
disease, often seems humane and progres-sive in the field of science; however,
Anders’ argument that technology has its own agency can be expanded to the
question: can humans truly control gene manipulation? Or do genes have their own
agency? The British ethologist and evolutionary biologist Richard Dawkins uses
Charles Darwin’s theory of evolution to argue that humans are comprised of mere
replicators, identical copies with occasional random mutations of DNA molecules.
These molecules have, according to Dawkins, ganged “together into large
communal survival machines or ‘vehicles’,”171 most famously known as humans.
The “selfish gene,” he posits, is the gene that, “work[s] to force a succession of

170 Günther Anders, Die Antiquiertheit des Menschen (Amsterdam: Editions Rodopi B. V., 2000),
32, quoted in van Dijk, Anthropology in the Age of Technology, 123.
organisms to propagate them.”

If this is true, then the use of IVF and other forms of ART might eliminate current unwanted genes, but it also might give other genes the opportunity to become dominant, or cause mutations in the genetic material of the human race. The concept that genes do possess their own agency was also argued by scientist Barbara McClintock, who discovered transposition of maize plants. Through her analysis and mapping of maize genetics, she suggested that regulation in mutations occurred as cells formed in maize through controlled breakage (or dissociation) in the chromosome. This process forms a mutation due to a chromosomal segment crossing-over from a parent cell to its offspring during meiosis, and being positioned into a new location on the chromosome. Thus, through transposition McClintock was able to show how genes are responsible for turning physical characteristics on or off, and how the process of repression or expression of genetic information happens from one generation of maize plants to the next. Furthermore, the writer Evelyn Fox Keller argues, the application of McClintock’s findings suggests an understanding that requires “rethinking the internal relation of the genome, exploring ways in which internal feedback can generate programmatic change.” If genes do have their own agency, as Dawkins and McClintock propose, then has IVF opened up the door to gene mutations beyond our control that might alter the structure of human DNA? The possibility of this seemingly doomsday prediction is exactly what Anders is alerting us to. However, the question of possible gene mutation through the use of ART is most

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likely the furthest thing from potential parents’ minds. They simply desire a child who shares their DNA. ART is merely viewed as a tool to help this happen.

Today, some form of ART is often used in the production of human life, and most people do not think about whether or not humans are or are not controlling which genes are allowed to succeed, are routinely omitted, or are altering themselves or other genes. For those who choose to use ART, their goal is usually to have a child that has a biological connection to him or herself. The availability of ART and the widespread use of it by the Western world is something that has steadily gained momentum, and as will be demonstrated in the subsequent chapters, genetic technology is rapidly altering the individual and the collective society’s interaction in the life-world. This includes, but is not limited to: the food humans eat, the medicine they ingest, and how they perpetuate the human race. It can be argued that all of these change the patterns of the life-world on the genetic level, which could influence the cognition of the world. This change has not happened overnight, but instead can be traced back to examples, such as the beginning of the development of IVF in the 1890s when Walter Heape reported the first known case of embryo transplantation in rabbits. While today, those who successfully use IVF or other forms of ART must marvel at this technology as they look into their childrens’ eyes, others have predicted a paradoxical outcome. Not so distant from Anders’ claim of technological agency, in 1932, Aldous Huxley eerily wrote about a society where technology had gone awry, foreshadowing the technological misuse of IVF in his novel *Brave New World*. Thankfully, this extreme scenario has not been the outcome of IVF, but as it will be discussed in
depth in chapter three, IVF and other forms of ART, can today, be viewed as misused, particularly in relation to the non-Western body. However, as stated above, today, ART is commonly practiced in the West, where the public knowledge of IVF dates back more than forty years.

Most people learned about IVF on July 25, 1978, when the first “test tube” baby, Louise Joy Brown, was born in Oldham, England. The birth was the result of the collaboration and the arduous work of Patrick Steptoe and Robert Edwards, and was published in *The Lancet* in 1978. Edwards would later deservedly be awarded the 2010 Nobel Prize in Physiology or Medicine for his innovations in IVF. This technology has enabled thousands of people who could not have produced healthy offspring without scientific intervention, to have biological children of their own. Thus, there seems to be two opposing sides to IVF. One, IVF can help create children that are free from certain diseases, and are often born to parents who could not have had biological children without the help of science; two, as humans manipulate genes, there is an element of unpredictability to how genes, through their own agency, will develop and propagate in the future. The connection between these two opposing points is that genetic material is used as raw material to create human life in both scenarios. Neither of these arguments is free from criticism. On the one hand, it would not be difficult to find scientists to debate Dawkins’ theories, while, on the other hand, scientists today are still discovering new methods to attempt to control genes. For example, in genetically modified food, scientists are currently developing methods to stabilize which genes

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are turned on or off, not only in first generation seeds, but also in subsequent offspring.\textsuperscript{175} Additionally, many feminist and religious groups, such as Right to Life, find fault with the process of IVF. The various Right to Life groups are morally opposed to the practice of IVF, one reason being the potential use of embryos for stem-cell research.

Many feminists have also found IVF problematic, claiming it to be a form of patriarchal exploitation of women’s bodies due to the argument that the technology of IVF “is controlled by the male-dominated medical establishment.”\textsuperscript{176} At issue is also the ethical implication of selling women’s eggs, because it is thought that “poor women will be vulnerable to exploitation, [and] undergoing invasive procedures”\textsuperscript{177} for money. Other problems are that infertile wealthy women are at risk of societal pressure to reproduce, and “the male-dominated medical establishment and any middleman, including lawyers, will financially profit from the arrangement.”\textsuperscript{178} “Feminists might [also] argue that egg donation requires women to use other women to perpetuate a sex stereotype that only values women in the context of reproductive capacities. Thus, egg donation in any context may result in the exploitation of women.”\textsuperscript{179} Besides various religious groups, Right to Life advocates, and some feminists, other obstacles exist in the development and use of IVF, or any form of ART. For example, today, PGD is outlawed in Germany for fear of it being used for eugenics, is controlled in the UK

\textsuperscript{175} This will be further discussed in chapter three.
\textsuperscript{177} Rothenberg, “Feminism, Law, and Bioethics,” 72.
\textsuperscript{178} Rothenberg, “Feminism, Law, and Bioethics,” 72.
\textsuperscript{179} Rothenberg, “Feminism, Law, and Bioethics,” 72.
by the government organization HFEA (the Human Fertilisation and Embryology Authority), and likewise controlled in the USA by CLIA (Clinical Laboratory Improvement Amend-ment), as well as managed by each state. Still, other issues include the exclusivity of ART to the wealthy, and the invasive nature of these procedures to the female body of the women paying for the procedure, the women donating their eggs, or the surrogate’s body. The hope is that with further medical advancements, perhaps these options will become accessible to a larger demographic, and less invasive. (Yet, another important part of the equation that needs to be discussed are the problems involved with the use or misuse of the female body by the wealthy West and the medical community. At this point though, this would convolute the argument that is being made. It is therefore not dismissed, but instead examined in a more fitting discussion in chapter three.)

Even with the opposition from various groups, one thing is clear. Today, with the advancement in IVF and other forms of ART, how a child is created, or, with surrogacy even, who gives birth to a child, has changed. Yet, how a child is born has not changed. The female body is still necessary to have the fetus grow into a baby. Her pregnant body is necessary though, monitored and regulated through the medical industry’s agency that controls her and her unborn child through disciplinary and biopolitical powers. For example, sonograms are used to monitor the child’s health. A child that is viewed at risk for not maintaining the biopolitical bell curve, can be monitored more closely, given drugs, have in utero surgery performed upon it, or have its life ended. However, IVF and other forms of ART also allow older, infertile women, or women with genetic mutations the
chance to conceive healthy children. Therefore, it could be argued that the significance of women (specifically middle class and wealth, Western women) is not diminished with IVF and other forms of ART, but rather women are seemingly given many more options, from, how they choose to or not to reproduce, to whether or not they are the ones who become the primary caregiver. Like the development of contraception, the various forms of ART, allow women to gain control over the production of children in diverse and new ways. However, as explained earlier, while these can be viewed as good things, they should also be viewed as coming at the cost of being controlled by the medical industry’s agency at the hands of disciplinary and biopolitical powers.

Today, one thing that has become clear is the use of ART demonstrates that, to give birth and to care for a child, are two very distinct and divergent elements of life. Who cares for a child, whether female, male, heterosexual or homosexual, does not diminish the role of care-giving. Rather, ART helps to separate the production of offspring and the caring for them from the supposed predetermined biological roles of the male/female binary, and highlights the importance of care-giving. The separation of giving birth and caring for a child is what is paramount to the advancement of the restructuring of the Western nuclear family and care-giving, as well as the reconfiguration of gender roles of the mother and father.

Direct switching of traditional gender roles, for example, the father taking care of the child and housework, and the mother working outside the home to provide for the family, does not take away from the role of motherhood, instead, it suggests that women can have children and, if they choose, can have some other
loving person care for that child just as effectively and lovingly as they could. This affords the mother time to work outside of the responsibilities of caring for the child, and work to earn money, go to school or pursue other endeavors. This separation between the birth mother and primary caregiver, serves to demonstrate that performing the act of caregiver can be executed by the mother, father or both. Interestingly though, even with the division of giving birth to and the act of care-giving, the role of those who intend to be involved in the act of care-giving have socially folded back into the actions of giving birth. This can be seen linguistically with the now common explanation “we” are pregnant or “we” are giving birth on such and such a date. These examples can indicate many new family dynamics, for example, they could designate the involvement of the father in the birth process or future care-giving, or they could be used in connection to a child being carried by a surrogate. This social development, perhaps, could be argued to convolute the separation between the birth mother and the primary caregiver. However, what it does demonstrate is that the process of giving birth to a child and caring for that child are in flux, and as Anders might claim, humans have been reshaped through the technology of IVF and more advanced forms of ART, as well as through genetic modifications in the food humans eat, or now even how and what kind of medicine an individual receives due to genetic compatibility.

Since the beginning, the use of IVF has helped to challenge and change the family structure, gender roles, and the act of care-giving. Even with the opposition surrounding its use, since 1978, IVF has become more pervasive and gained growing acceptance, culminating with Edwards’ recent Noble Prize award in 2010.
This growing acceptance of IVF has come amidst a cultural shift that can clearly be seen in the 1970s, where society’s understanding of the family structure and care-giving was modified. The development of IVF, though just one of the factors within the decade, however, was nonetheless an important one. Other aspects of change included the second-wave of feminism and growing enrollment in college by women. Economic problems during the 1970s also led to high unemployment and stagflation, which forced many women to seek employment outside the household with no benefits and lower wages than their male counterparts. Growing suburban expansion and new technological innovations used in the home, such as the microwave oven, along with the introduction of video games and videocassette recorders, also helped to change the landscape of the family structure, gender roles, and care-giving during the 1970s. Additionally, some other innovations from the beginning of the decade, such as the floppy disc, email, and laser printers might not have been commonly used in the early part of the decade, but their growing availability through the 1970s and 1980s increasingly altered how humans interact with one another in novel ways, and subsequently changed the family unit. These and other innovations are what laid the groundwork for the technological world of today. It is the cacophony of these cultural reverberations, along with IVF, that altered society’s perception of the family structure, gender roles, and care-giving. The argument could even be made that the technological innovations, such as IVF, microwave ovens, and email, can be viewed, as Anders claimed, to have their own agency. It would be without much opposition to claim that in the 1970s no one would have predicted how these innovations would have changed the dynamics and
patterns of the family. For example, IVF has allowed couples from the lesbian, gay, bisexual, and transgender (LGBT) community to have biological children. Like-wise, microwave ovens have altered how and when the family dinner is eaten in many American households, and email, the beginning of social networking, has changed how families interact and spend time together.

It is clear that IVF was one of the technological advancements that helped change the family structure. Yet another outcome of IVF was a reevaluation of the human body. When partaking in the use of IVF, men and women must undergo a battery of tests to determine their overall health, as well as the health or their sperms, eggs, or uteruses, depending on what role they will play in forming a child. Often through statistical analysis, much like that found in Foucault’s explanation of biopolitical power, a scientific determination of the viability of the body to produce offspring is scrutinized. It could be argued that IVF is an extreme form of the micro management of the body, one that must create a separation between the body and the embryo to produce the ideal future citizen. Furthermore, if a surrogate is used, there is a separation between the body of the birth- mother and the child, which happens when the child is relinquished to the primary caregiver. Although, as Elly Teman found, surrogates in Israel often cognitively recalculate their body through body mapping, which form of ontological cartography, Teman claims, enables birth mothers to “distinguish between parts of their body they wish to personalize and parts they wish to distance, both cognitively and emotionally.”

This form of separation between the birth-mother and the child in utero, is perhaps

180 Elly Teman, Birthing the Mother: The Surrogate Body and the Pregnant Self (Berkeley: University of California Press, 2010), 25.
as Teman explains, due to the cultural setting of Israel where genetics are placed over any other connections that might be formed between the birth mother and child.\textsuperscript{181} For obvious reasons, if surrogacy is used, during gestation there is also a separation between the child’s body and the primary caregiver’s body. The process of fertilization outside the body also produces one more state of separation. Yet another factor with IVF is that science takes more active control in determining human genetics, although, as stated earlier, there is still a sense of uncontrollability as to what might happen with future gene mutations.

These various forms of separation from the body and scientific intervention in how life is created, or brought together, are indirectly demonstrated in Mary Kelly’s *Post Partum Document*. What Kelly directly illustrated is a separation between the primary caregiver and the child, from a scientific approach that is in many ways reminiscent of the IVF. For example, parallels can be drawn between Kelly’s work and IVF because, in principle, they both pose challenges to the traditional concept of motherhood. Moreover, *Post Partum Document*, as stated in section one of this chapter, was created between 1973 and 1978, which places the project amid the years that the first IVF pregnancy was reported in 1973 by the Monash University team in Australia\textsuperscript{182} and the birth of the first “test tube” baby in 1978.

It seems culturally that various forms of separation in the production and rearing of children were taking place during the 1970s. If Anders’ claim that technology develops its own agency is utilized, then it might be argued that the

\textsuperscript{181} As it will be discussed in depth in chapter three, this is not always the case.

\textsuperscript{182} In 1973, the first IVF pregnancy was reported by the Monash University team. This pregnancy, however, was not carried to full-term.
development of IVF was the impetus for this separation, or that, as Dawkins claims, the “selfish gene” will always try to replicated itself by any means. Although impossible to prove, it could be argued that the “selfish gene” is simply manipulating scientific innovations. However, it could also be argued that IVF was developed because of a desire for a child, which has been created through cultural phenomena, for example the claim that a family unit is not complete unless a child is produced. Historically, another reason might be because in 1969 the social program of forced removal of Aboriginal children in Australian ended, leading to a shortage of adoptable infants. Although Australia was not the first to produce a “test tube” baby, they were a leader in the development of IVF.\textsuperscript{183} Thus, it could be argued that social forces shaped the development that gave birth to IVF and other forms of ART. However, it could also be argued, as Donna Haraway has done, that “reproductive politics are at the heart of the questions about citizenship, liberty, family, and the nation.”\textsuperscript{184}

Why IVF was developed could be one or many of these reasons. What is clear, however, is there are various forms of separation that are within IVF and \textit{Post Partum Document}, and a reevaluation of the body took place during the 1970s. The aspect of care-giving in \textit{Post Partum Document} can be seen in the six sections of the project, in which each transforms the often-mundane activities of caring for a small child, for example daily feedings and changing of diapers, into a

\textsuperscript{183} In a period between approximately 1869 and 1969, Aboriginal and Torres Strait Island children were routinely removed from their homes, and beginning in the 1950s the government promoted the fostering and adoption of these child to white parents. When the program ended in 1969, there was no longer a surplus of infants to be adopted.

\textsuperscript{184} Donna Haraway. \textit{Modest Witness@Second Millennium. FemaleMan© Meets Onco Mouse™: Feminism and Technoscience} (New York: Routledge, 1997), 189.
large-scale installation. As explained in the first part of this chapter, each of the sections of *Post-Partum Document* incorporates personal items or dialogue between Kelly and her son to represent Kelly’s interaction with her son that form patterns of care-giving. The relation of drawings to the icon, graphs and charts to the index, and sound recordings to the symbolic, demonstrates Kelly’s clever use of semiotic theory. However, as explained earlier, there are no pictures of Kelly or her son included in the project, rather, the documentation of personal items, printed text, and sound recordings demonstrate the relationship in a seemingly scientific manner. This mode of documentation leads to a separation between the actions of care-giving and the feelings of care-giving. Furthermore, through Kelly’s questioning of her role of mother, she subverts the actions of the predetermined genetic role of motherhood. She demonstrates that the actions of the caregiver are not biological, but rather learned, that is, acquired.

A scientific tagging system is utilized in the section of *Post-Partum Document* entitled *Documentation V Classif-i ed Specimens Proportional Diagrams, Statistical Tables, Research and Index.*
Here, the tags can be viewed as sterile and scientific, but also an integral part of the project, producing a further dichotomy or separation from the image of Kelly as a loving, caring mother, as well as the interaction between the self and the Other on both phenomenological and psychoanalytic levels. This part of *Post-Partum Document* is divided into three sections: “Mounted Specimens and Labels,” “Proportional Diagrams and Research,” and “Statistical Tables and Index.” In “Mounted Specimens and Labels,” the objects are what Kelly refers to as gifts from her son that “were not selected according to a scientific procedure, but were determined by the child’s spontaneous investigation of things,”\(^{185}\) thus demonstrating Kelly’s son’s interaction with the world as he discovered new objects, such as a snail, bugs, and plants. Her actions also demonstrate Kelly’s ability to let her child “go,” to let her child interact with the objects in the life-world. The primary caregiver watches his/her child, and the dangers that confront

the child, but realizes s/he can never fully control the world for the child. Instead, the primary caregiver creates around them, what writer Sara Ruddick characterizes as “beautiful artifacts, ritual play, and small ceremonies of love.”

This is displayed in *Post-Partum Document*, but it is depicted in the voice of a detached scientific manner. This uncontrolled aspect of a child’s interaction with the life-world, in addition to the unpredictable nature of the child’s interaction with the world as s/he transforms from infant, to child, to adult, demonstrates the child’s own agency. Thus, once a child is born, the primary caregiver has limited control over the outcome of the child. The parent might want the child to be a doctor, however, the child ends up pursuing a career in music. As hard as parents might try, children cannot fully be controlled. A parent cannot, with certainty, predict what a child will become. This of course is nothing like Anders’ doomsday prediction for the modern technological world, however, as technology shapes more and more how parents parent their children, stronger parallels can be drawn.

Today, for example, many parents use tracking devices to monitor their children’s actions. Kelly, of course, did not have access to this technology in the 1970s, nor is there any way of knowing if she would have monitored her son from work. Kelly’s parenting dilemmas, her depiction of the separation between the actions and feelings of the primary caregiver, and her scientific approach towards parenting, can however, be viewed as a result of how the modern Western world was changing, and technology was becoming a more dominant factor in everyone’s daily lives. This technology is, of course, not like the austere hammer of which Heidegger wrote, which are objects that humans can control and reveal themselves.

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as *zeug* as they are used. Rather, the modern technology that parents use, such as tracking devices, have their own agency, just as Anders claimed. The technological system of parenting that so many people use today will alter how these children view the world, interact with other people, and view themselves. Moreover, as suggested earlier, ART can even be viewed as changing the gene pool, and allowing new gene mutation to occur.

How a child is conceived, whether a female gives birth to a child using her own eggs or someone else’s, and how a child is raised, is not unwavering, instead they fluctuate, and are influenced by a myriad of cultural, social, and economic factors, as well as technological advancements. In the 1970s, the beginning of the acceptance of a division between giving birth to a child and caring for a child help to redefine the actions of the caregiver. This enabled society to begin to move beyond the supposition of the female body as genetically encoded as the nurturer. The reconfiguration of the performativity of gender roles and the family structure in the 1970s, which was discussed in this chapter, highlights the changing concept of who the caregiver is and how care-giving is facilitated. These examinations led to the claim of the primary caregiver, someone who forms a loving relationship with a child or offspring and does whatever is required to keep a child safe so that the child can grow mentally and physically. This shifting societal perception of the caregiver and the action of care-giving demonstrate how the life-world is also influenced by historical, cultural, social, and economic changes, as well as technological advancements. Furthermore, it was suggested that the connection between the self and the Other engages the mind, body and the world in a way that
technology, such as IVF alters the human perception of the life-world. Mary Kelly’s *Post-Partum Document*, on the other hand, could be viewed as both reflective and influential in the shifting public opinion in the 1970s. As each chapter of this dissertation unfolds, and is discussed within its respective decade, and in relation to genetic advancements, it will become evident that there is no clear definition of who a caregiver should be. Instead, the concepts of the primary caregiver and how a family is structured is one that is complex and still evolving.

**Chapter Two** – The Human Genome, Cleve Jones, the * NAMES* Project AIDS Memorial Quilt, & the 1980s

The suffering of another I can only envision through the mimesis of my own, - Tory Dent\(^\text{187}\)

**Introduction**

AIDS, human genome research, and shifting cultural notions of the family (influenced in part by new medical technologies) are the three distinct elements that became part of the sociocultural fabric of the 1980s. This sociocultural fabric then became the material that was interwoven and displayed in the gay rights activist, Cleve Jones’ * NAMES* Project AIDS Memorial Quilt, stared in 1986. More than two decades later, the 1980s is remembered as a patchwork of changing political, social, and cultural views. Particularly in the United States urban centers, what constituted a family (how a family and gender roles were structured, as well as how caregiving should be implemented) became a matrix of diversified opinions. Within this decade was also the beginning of the tragic pandemic that became known as

the acquired immunodeficiency syndrome (AIDS), caused by the human immunodeficiency virus (HIV). This was a time of overwhelming trepidation, misunderstanding, and loss. As the scientific community scrambled to quell public fears, new advances in the building blocks of life, Deoxyribonucleic acid (DNA), began to be unraveled. With these discoveries, scientists promised not only a new understanding of what it meant to be human, but also foresaw cures for diseases, and longevity of life.

In this chapter, the methodologies that were used in chapter one drawing on Husserl’s life-world, Foucault’s power structures, and Anders’ technological agency, form the framework to discuss the rewriting and mapping of the body that shifted the cultural landscape during the 1980s. This was, however, a reclaiming of the disembodied body through the phenomenological view that locates the sense of self through bodily experience that is complicated through essentialist claims at the beginning of the eighties. This encompasses the feminist and the lesbian, gay, bisexual, and transgender (LGBT) movements, which is further complicated through the split-body experience Iris Young, Julia Kristeva, and others explore in their writings, which helps to enable the fractured postmodern identity found in much of Donna Haraway’s texts. In this chapter, it will be explored how the body is coded and mapped in various ways during the 1980s, such as through the HIV/AIDS pandemic and human genome research. Furthermore, the various forms of mapping are compared to the changing conceptions of family structures, gender roles, and care-giving. While these various threads of rewriting and mapping the
body arose in many arenas, one particularly rich site for exploring them is found in Jones’ *NAMES* Project AIDS Memorial Quilt, started in 1987.\textsuperscript{188}

**Part One** – The Life-World of Cleve Jones’ *NAMES* Project AIDS Memorial Quilt and Human Genome Research in the 1980s.

In the first section of chapter one, Husserl’s concept of the life-world was explained as shared human experiences of intuition and perceptual knowledge in a spatio-temporal setting comprised of a particular sociocultural discourse. The chief operation of the life-world, that the world is given through intuition and experienced as concrete occurrences, then was explained as forming patterns of the individual’s life, which were both personal and intersubjective. Parallels between the patterns found in Husserl’s concept of the life-world and Julia Kristeva’s pre-linguistic stage were then drawn, and related to the artist Mary Kelly’s *Post-Partum Document*. Building on this insight, in this section, how an individual orientates his/herself within the life-world, is used to establish patterns between the scientific understanding of the human genome and the HIV/AIDS pandemic. These patterns are then related to Jones’, *NAMES* Project AIDS Memorial Quilt through further development of the concept of the life-world. A repeating metaphor of mapping is also used to highlight how the body was being mapped, and the understanding of both the inside (the genetic level) and outside (the physical surface of the body) was being rewritten in the overlapping discourse of the eighties. Unlike in the

\textsuperscript{188} Even though Jones always envisioned the making of the AIDS Quilt on a grand scale, it became more than he could have imagined, becoming an international symbol used by AIDS’ activists. Therefore, to clarify certain points within this chapter, a distinction is made between the AIDS Quilt and the organization that made the quilt, the *NAMES* Project, which later became known as the *NAMES* Project Foundation.
previous chapter, where the focus was placed on the 1970s, in this chapter the sociocultural backdrop that is examined is placed in the 1980s. The actions of caregiving are extended to include not only caring for a child but also caring for those afflicted with HIV/AIDS. A brief explanation of the scientific history of humans’ comprehension of DNA and the human genome, though, is first needed to establish an understanding of the sociocultural setting of the life-world in the 1980s.

DNA was first identified in the late 1880s by Swiss chemist Friedrich Miescher, and “the first gene to be mapped to a specific chromosome in man - indeed, in any mammal – was that for color blindness, deduced to be on the X chromosome by E.B. Wilson at Columbia University in 1911.” Although these were both monumental findings, it was American biologist James Watson and English physicist Francis Crick’s discovery that revolutionized human understanding of all animals and plants. In 1953, Watson and Crick concluded that the DNA molecule exists in the form of a three-dimensional structure, the double helix. From this, they construed how the coding of DNA could replicate and instruct from the “mother molecule of life,” as it came to be known. With their discovery, a picture of a central dogma of the flow of information from DNA to RNA to protein came into focus. Twenty years later, the first recombinant DNA experiments in bacteria were in progress, shifting the key area of interest within the scientific community from biochemistry to molecular biology. By the 1980s, this new field of science had become known as molecular genetics, and a new

understanding of Homo sapiens began in earnest with the study of the human genome. In 1990, eighteen countries joined together to sequence and map the entire human genome in what became known as the Human Genome Project (HGP).

Throughout the twentieth-century, many discoveries linked to the human genome precipitated a new understanding of life, as well as altering the way humans perceived themselves and the life-world. In essence, as the comprehension of the human genome expanded, the concept of the human body was rewritten by mapping its genetic code. Multiple innovations were the catalyst for this new knowledge. The rediscovery of Mendelian inheritance at the beginning of the century was a crucial step. Other important advances were Barbara McClintock’s concept of transposition, Alfred Hershy’s discovery of replication of viruses and their genetic structure, and Fred Sanger’s amino acid sequence of a protein and sequencing of DNA. These are just some of the advancements in the field of genetics that laid the groundwork for the scientific jump from Mendel’s early plant hybridization experiments, to experiments involving human DNA and the onset of the HGP. Concurrently, the cartography of how the surface of the body looks became viewed as the effect of one’s genetic code, rather than the surface of the body being the cause of one’s genetics. An example of this is the studies of parental genetic contribution to children’s height. In one such study, published in 1989, both parental heights and child’s height at the age of one were examined.\textsuperscript{191}

\textsuperscript{191} Cf. R. Sorva et al., “Growth Evaluation: Parent and Child Specific Height Standards,” \textit{Archives of Disease in Childhood} 10 (October 1989): 1483-1487.
This study, and other studies, have found a direct correlation between the height of the parents and the height of their children.

With new digital photography and further advances in the understanding of the relation of one’s DNA to the appearance of the surface of the body, plastic surgeon David Teplica’s study of the body shape of monozygotic twins becomes relevant. He suggested that, “diet and exercise appear to be able to temporarily alter size, but it seems that only surgery, disease, or trauma can permanently alter [the] shape."192 of the body. Additionally, other visual characteristics, such as eye color, are now understood not to be simply a dominant or recessive trait, but the result of the gene that was turned on by a series of genes. In addition to physical characteristics of the surface of the body being mapped in divergent ways, the approach of individual orientation within the life-world was also reevaluated. The most poignant example of this grew out of the debate of gender performativity, in which gender roles were remapped.

During the 1980s, gender roles were redefined through the argument that anatomical sex does not determine the gender role(s) one acts out in a given society or the life-world. So profound in its range was this argument that by 1990, the feminist and queer theorist Judith Butler wrote “any theory of the culturally constructed body [...] ought to question ‘the body’ as a construct of suspect generality.”193 Butler, one of the most celebrated of the various theorists and activists who proposed the separation of sex and gender, argued that the contours of the body, or the anatomical sex, are not the appropriate grounds for inscribing

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gender. Specifically, she argues that although an individual is most frequently born with either the sex chromosome XX (female) or XY (male), which genetically determines biological sex, how that person acts or performs the role of the male or female, masculinity or femininity is what determines gender. Gender, she contends, is based on sociocultural factors, not innate genetic sex attributes.\(^{194}\)

The concept of how gender is performed, or gender performativity, as Butler wrote, can be applied to a number of situations, each positioning the participants in various relations to the dominant patriarchal discourse. Each of these positions also locates the participants in the life-world. The repeated actions of gender performativity, which over time become intuitive, orient the self within the spatial-temporal and the socioculture life-world that is comprised of all bodily shapes of an individual’s life, in accord with his/her bodily, personal way of being. This is not genetically determined, rather how an individual chooses to perform a gender role is a choice with a given spatial-temporal and sociocultural life-world.

This orientation could be seen as the pre-predicative formations that the self articulates as the self performs the daily actions of a gender role. These actions then form the patterns of the life-world on both the personal and the intersubjective levels that are measured by the individual. As Alfred Schutz and Thomas Luckmann explain, “My body is [...] not an object in space, but rather the condition for all my experience of the spatial arrangement of the life-world. In every situation my body acts as a center of coordination in the world, with an above...

\(^{194}\) Since, the argument that sex and gender should be viewed as two separate categories was first introduced in the eighties, it has come to be widely accepted in the fields of gender and cultural studies. While some in other fields might still argue this point, it is not the goal to engage in this disagreement, but instead resubmit the separation of sex and gender as a working assumption within the cultural framework of the 1980s.
and below, right and left, behind and in front of.” This is how the self orientates itself within the life-world as the life-world is constantly given to him/her through intuition, and experienced as the concrete world, forming patterns of the individual’s life. These concrete occurrences could orientate an individual to perform within various frameworks of either the heterosexual or the homosexual identity. This is similar to the argument in chapter one, that the actions of the primary caregiver tending to the infant forms patterns of his/her life-world. Additionally, like the pre-linguistic, the repeated actions of gender performativity might also create a tacit cultural language within the gender identity that is intuitively understood prior to an experience being given, or one that is no longer given. However, if an individual consciously chooses to oppose the given sociocultural structure of gender performativity that shapes the shared patterns of the life-world, then gender performativity could be viewed as a form of social protest against the social powers that regulate the body. For example, the individual could resist various forms of regulations of the body that are centered around gender performativity. As will be discussed in the next section of this chapter, these regulations could include Foucault’s concepts of disciplinary and biopolitical powers. Therefore, as the queer theorist Sara Ahmed writes, “if orientation is a matter of how we inhabit spaces, then sexual orientation might also be a matter or residence, of how we inhabit spaces, and who or what we inhabit spaces with.”

Likewise, Schutz and Luckmann argue that in the structure of the

life-world the social stock of knowledge transmitted to the individual relieves him of the necessity of ‘independently’ solving a whole series of important everyday occurrences. As a consequence of this, the individual has in principle the possibility of turning toward ‘new’ and thus not-yet-solved problems that are also perhaps not even recognized. This is not just the case for ‘new’ problems in everyday life. More importantly, such an unburdening allows one to turn to non-everyday problems.197

This demonstrates how the pre-predicative is a condition of higher order knowledge and how an individual might turn in a new direction of problem solving or toward a certain sexual orientation where the individual resides within the social stock of knowledge. Husserl’s concept of the life-world takes on new meaning in the context of gender performativity and the gay or queer orientation. If through the life-world, the self has knowledge of the body and the world through that body, then orientation or disorientation, as Ahmed notes, is an important element within the phenomenology spectrum, and an intellectual experience. Sexual orientation and a sense of identification with a sociocultural and spatio-temporal setting require a meaningful relationship between individuals and the life-world they inhabit. However, if the individual experiences the world by the rejections of the sociocultural predominate sexual orientation in such a way that disorientation takes place, then the sense of disorientation might map a new sexual orientation for that individual. Ahmed explains, through the utilization of Maurice Merleau-Ponty’s writing, that the vital experience of the self of giddiness and nausea is the

“awareness of our own contin-gency and the horror with which it fills us.” 198 The self, however, is able to overcome these moments of horror through a reorientation or a remapping of the body, therefore, “a queer phenomenology might involve a different orientation toward such moments” 199 within the life-world. Orientation, as Husserl states in *Ideas II*, begins with the world unfolding around the self, and is comprehended by the objects in that space. However, if consciousness is intentional, then as Ahmed claims, “we are not only directed toward objects, but those objects also take us in a certain direction. The world that is around has already taken certain shapes, as the very form of what is more and less familiar.” 200 This then maps a new direction for the self, and becomes the self’s “general orientation toward the world. The objects that we direct our attention toward reveal the direction we have taken in life.” 201 The objects inform the self’s perception of the world. To clarify this point, Ahmed uses the example of Adrienne Rich’s account of the process of writing and care-giving. In her book *Of Woman Born*, Rich writes:

> From the fifties and early sixties, I remember a cycle. It began when I had picked up a book or began trying to write a letter. […] The child (or children) might be absorbed in busyness, in his own dream world; but as soon as he felt me gliding into a world which did not include him, he would come to pull at my hand, ask for help, punch at the typewriter keys. And I feel his wants at such a moment as fraudulent, as an attempt moreover to defraud me of living even for fifteen minutes as myself. 202

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202 Adrienne Rich, *Of Woman Born: Motherhood as Experience and Institution* (New York: W. W. Norton & Company Inc., 1976), 23. (The original text included the misspelling of when.)
This passage provides an example of a care-giver who is reoriented away from one object (the book or letter) toward another object (the child). This reorientation moves beyond the physical object, and into the spatial-temporal of the lived experience that inhabits the schism between the writer and the mother. Furthermore, even though the child is not in front of her, instead the child might be behind her or to the side of her pulling at her hand, she, as the caregiver, is reoriented. Thus, as Ahmed explains, whether we can maintain the self’s orientation toward an object, such as the book or letter “depends on other social orientations, which affect what we can face at any given moment in time.”

This orientation of the body provides the self with its point of view of the world. However, even though the book or letter and the child reorient the body, they provide two distinct types of object orientation. These objects are seen in the quotation through, (i), the book or letter that the body moves around, and (ii), the child that moves around the body.

The life-world provides the self with a spatial-temporal setting within a given culture. In the life-world, objects are found in the unfolding world that is the self’s living experience. With sexual orientation, Ahmed argues that, “to become straight means not only that we have to turn toward the objects given to us by heterosexual culture but also that we must turn away from objects that take us off this line. The queer subject within straight culture hence deviates and is made socially present as a deviant.” This maps a path that the self follows over a given life, which Ahmed claims is performative. She states that “the lines that direct us,

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as lines of thought as well as lines of motion, are [...] performative: they depend on
the repetition of norms and conventions, of routes and paths taken, but they are also
created as an effect of this repletion.”

The mapping of the queer subjects then are derived from “sexual orientations [that] are also performative: in directing one’s
desire toward some others, and not other others, bodies in turn acquire their
shape.” Thus, the mapping of the body through the performative actions of its
desired Other, for example the gay body verses the straight body, shapes the body
into the self.

As new conceptions of the body were developing through the continuous
mapping of the human genome and the theories surrounding gender performativity,
the devastating effects of HIV/AIDS was also transforming the immune systems of
individuals with the disease. The patriarchal phallic power was also challenged by,
as Linda Singer argues, “a crisis in phallocentrism, [due to] a fear that the phallus
[was] also fatal, especially for men.”

The outwardly effects of the disease often made it impossible to hide and subsequently affected how the body was perceived.
For example, the visual effects of HIV-related lipodystrophy: sunken face, exposed
ribs, swollen belly, and bony arms and legs, marked the afflicted and often led to
prejudice and ostracism. The sociocultural perception of the gay and lesbian body
and the HIV/AIDS body morphed over the decade as more HIV/AIDS cases where
identified, and a greater understanding of the disease was attained. At the
beginning of the HIV/AIDS pandemic, the scientific community was unaware of

the magnitude of the situation, although today the spread and impact of the virus can be clearly mapped as it moved across continents.

The first findings of a health problem were published in the March 1981 issue of *The Lancet*. The article focused upon eight unexplainable cases of an aggressive form of Kaposi’s sarcoma (KS) occurring amongst young gay men in New York.\(^{208}\) Also, in 1981, in both California and New York, the number of cases of a rare lung infection, Pneumocystis carinii pneumonia (PCP), was observed and reported in the CDC-*Morbidity and Mortality Weekly Report* (MMWR).\(^{209}\) Later, in June, the CDC published an article in the MMWR documenting five men in Los Angeles who had developed PCP without identifiable cause.\(^{210}\) This report marked the beginning of the general awareness of AIDS in the United States.

San Francisco and New York City became the epicenters for the crisis, as the two coastal cities shared several attributes: both had growing, openly gay communities, and both were transportation hubs, with ships docking and planes landing from every corner of the globe. As early as 1981, some in the medical community suspected AIDS to be sexually transmitted, but without data to substantiate their hypothesis, this theory was not, at that time, made public for fear of panic and the potential of igniting an antigay backlash.\(^{211}\) The lack of coverage by the media was also the result, initially, of widespread belief that AIDS was an illness only contracted by gay individuals. It was initially referred to by the media


as a “gay disease, gay cancer, or gay plague, and some health care providers and researchers informally labeled it ‘gay-related immune deficiency’ (GRID).” This caused an increase in homophobia, along with a lack of public empathy for those afflicted with the disease. However, by the end of 1981, PCP was being reported in intravenous drug users, and by 1982 evidence of the disease was seen in hemophiliacs. Then in December 1982, evidence that HIV/AIDS was caused by an infectious agent was proven with the death of a twenty-month old child who died from infections related to AIDS. The spread of HIV/AIDS into the non-gay community led to public panic and to blaming the gay community, wrongly claiming that they introduced the disease into the entire human population.

By this time, gay activist Cleve Jones was forming committees to educate the public. In September of 1981, he helped organize a community forum on AIDS in San Francisco that was covered by the local papers. Jones explains that early forms of prejudice against gays and those with signs of AIDS were clearly witnessed. For example, while he was working for the local San Francisco government he had a list of doctors to which he could refer people with HIV/AIDS. He explains this list was comprised of doctors “who knew nothing about [the] disease but would at least treat them with respect and not be afraid to touch them-a

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rarity in those days.” As the disease spread, the unfair scrutiny of the gay community led to heightened gay rights activism. For example, Jones became so enraged that he turned a memorial march for Harvey Milk into an activist march on November 27, 1985. It was during this march that Jones conceived of the idea for the AIDS Quilt. Inspired by Christo’s *Running Fence* in Sonoma County, and Judy Chicago’s *Dinner Party*, Jones imagined a quilt that would memorialize those who had died of AIDS. From the beginning, he pictured it spread in front of the White House, and hoped it would change public opinion about HIV/AIDS, as well as about gays and lesbians, and that it would help to rewrite the culture of the United States as a more open and accepting society. Jones explains that “HIV was seen as the product of aggressive gay male sexuality, and it seemed that the homey image and familial associations of a warm quilt would counter that.” In 1987, he started the AIDS Quilt with his friend Joseph Durant to raise awareness of the devastation of the disease, educate the public, and deal with the loss of their own friends. They began with a list of forty men they knew who had died of AIDS, and made a three foot by six foot fabric panel for each. Jones explains that the size was to represent “the space that would be taken up by each of those bodies, about the dimensions of a grave.” Each panel represented not only a body, but how that person was viewed by the people who knew him/her. Some panels were made to be loving tributes, while others were

219 Cf. Milk was the first openly gay man to be elected to public office in California; he was killed after only eleven months in office. Jones, *The Making of an Activist*, 48-53.
made without the person’s name for fear of anti-AIDS sentiments towards the dead person and his/her family. As the AIDS Quilt grew, it mapped the various emotions, such as fear and loss, in a spectrum of hues, and displayed how the body and the self were transformed by the new understanding of the human genome.

In the early 1980s, when it was still publicly unknown how HIV/AIDS was transmitted, growing fear of the disease led to prejudice and ostracism of those with HIV/AIDS, along with their families, and caregivers. This prejudice was far reaching and, according to Jones, even included anti-HIV prejudice within the gay community.223 This lack of empathy and fear of bodily contact led to the sociocultural repugnance of an abject state. This is not unlike Julia Kristeva’s theories of the abject. Employing concepts from Georges Bataille, Mary Douglas, and others, Kristeva argues that the production of the abject is directly related to the weakness of the prohibition of the object of abjection. Moreover, anthropologically speaking, the object of abjection is rooted in secular filth that was managed through religious prohibition that was demarcated along dividing lines within the social aggregate, on the basis of the simple logic of excluding filth.224 In the 1980s, these lines were not divided only on the basis of religion, but also on sexual practices, in particular, along the division between the healthy non-diseased body and the diseased and filthy HIV/AIDS body. Thus, those individuals infected or associated with the disease formed a metaphorical socio-symbolic being that was excluded, prohibited, and placed in the margins of society.225 Giorgio Agamben’s theory of

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the bare life associated with the *homo sacer*,\(^\text{226}\) which will be more fully explained in chapter four, can also be employed to describe those individuals who, either because of disease or association with disease, were ostracized, and, in some instances, denied their legal rights.

This abjection, voiced mostly by the straight community, further inscribed sociocultural attitudes toward the body, while the repudiation of the abject by some within the heterosexual community further denied the lesbian, gay, bisexual, and transgender (LGBT) community, a state of being within the sociocultural grounds of the life-world in the 1980s. Since HIV/AIDS afflicted both straight and gay individuals, the denial of inclusion into the mainstream cultural and social community of America, was, however, not exclusively directed at the LGBT community. Instead, the fear of the abject was directed toward individuals who showed signs of the disease. This was famously the case with Ryan White, a hemophiliac who, in 1985, at the age of 13, became a symbol of the intolerance that was inflicted upon AIDS victims, as the school he attended banned him from classes.\(^\text{227}\) Later, amongst an onslaught of media coverage, a court ordered his reinstatement.\(^\text{228}\) White went on to become a national celebrity and spokesperson for HIV/AIDS research and public education. Although, the suffering of this young pre-sexual spokesperson did much to educate America, he and others like

\(^{226}\) For Agamben, bare life represents a state of existence in which the refugee or political prisoner might find him or herself, specifically, barely existing within society. They have little or no legal rights, and only have the bare necessities of survival. See chapter four of this text and also Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare Life*, trans. Daniel Heller-Roazen (Stanford: Stanford University Press, 1998).


him, of course, did not completely allay the anti-gay movement that blamed gay men for starting the pandemic, nor did they eradicate the public panic surrounding HIV/AIDS.

The prejudice against White was not only directed toward him, but also toward his family. Many people feared having any connection not only with victims of HIV/AIDS, but also with their caregivers. Additionally, due to HIV/AIDS, families became divided, for example, parents sometimes disowned their own children after learning s/he was gay or lesbian and/or infected with HIV. These individuals often formed new family structures within the gay and lesbian community, which further questioned gender roles, care-giving, and of course the structure of the family. Various examples of these new family structures, gender roles, and care-giving can be found in the AIDS Quilt. Moreover, the AIDS Quilt demonstrates the mapping of cultural memories from the beginning of the HIV/AIDS pandemic and human’s expanding understanding of the human genome with the argument of a gay gene, which will be discussed shortly. During the 1980s, it was these cultural memories that pervaded the perception and understanding of the body and the various perspectives of the life-world. This altered the relationship between the self and the Other by bringing two very different life-worlds – gay verse straight and HIV/AIDS infected verse non-HIV/AIDS infected – together in a contiguity setting that comprised the American culture of the decade.

The concept of the structure of an individual life-world in relation to a collective life-world is explained by Schutz and Luckmann who argue that each
individual has his/her own life-world with divergent biographies. However, as an individual interacts within a social setting, for example, the viewing of the AIDS Quilt, there are gradations of commonalities between the individual’s life-world and another person’s life-world. These are derived from past, present, and future experiences that Schutz and Luckmann refer to as restorable, actual, and attainable. Schutz and Luckmann argue that “these gradations of the actual, restorable, and attainable reach point not only to my and his world, but also to the world of a third person and finally to ‘everyman’s’. Thus a system of spatial arrangements extends over the various strata of the social system.”

The individuals associated with the AIDS Quilt could, therefore, be viewed as a ground zone, for example Jones’ life-world. The people who viewed the AIDS Quilt represent the bodily interaction between the individuals whose life-worlds form a social system that are formed through the gradations of the actual, restorable, and attainable points within the life-worlds. These are realized through all the senses but perhaps most strongly through the sense of sight, through the viewing of the mourning audience and the physical AIDS Quilt. From here the gradation of interaction expanded and encompassed a nation to form a cultural movement. Whether or not an individual embraces a culture movement is a matter of how the individual orientates him/herself within his/her life-world. As Ahmed claimed, “orientation is a matter of how we inhabit spaces.” Therefore just like sexual orientation, identification with or rejection of a cultural movement or even the restorability of cultural memories provides a sense of identification with a sociocultural and spatio-

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temporal setting of the life-world. Furthermore, using Ahmed’s argument that consciousness is intentional, “we [as Ahmed writes] are not only directed toward objects, but those objects also take us in a certain direction,” and inform the self’s perception of the world from a certain point of view. This was certainly the case with the AIDS pandemic. For example, just like Adrienne Rich’s children, books, and letters, the AIDS Quilt reorients the body through the sociocultural memory that is vividly sown into the fabric of the AIDS Quilt with the many pictures, words, mementoes, and emotions. These have become a demonstration of the evolution and layering of affect that the Quilt possessed, that is poignantly seen as the individual is able to move around as s/he views the AIDS Quilt. However, the presence of other viewers also reorients the body towards various personal stories and actions. This was and is an ongoing process as more panels were and are still being added to the AIDS Quilt.

The NAMES Project has continued to grow since its inception. As more panels were and are still being added, it physically has grown in size, and over the years the meaning(s) associated with the AIDS Quilt has also expanded to encompass not only the gay community but also many sociocultural aspects of societies that were touched by this horrific disease. For example, the abject poverty, literacy, and lack of healthcare of many countries in Africa have led to devastating effects at the hands of HIV/AIDS. The influence of the AIDS Quilt on these societies can be demonstrated in a small way by the Ugandan AIDS service organization, which in 1988, sent Jones African quilts made out of strands of tree-

bark fiber. This, and other panels that were added to the AIDS Quilt, helped expand the message of the AIDS Quilt to demonstrate that HIV/AIDS had become a world epidemic. There are so many layers of meaning to this project, and so many sociocultural influences that can be traced back through not only American society, but also through multiple countries, each with its own sociocultural aspects of various life-worlds depicted through the crisis. Many of the structural levels of the life-world can, therefore, be seen in the AIDS Quilt. For example the individual life-world of the AIDS victims depicted in a given panel, the collective sociocultural life-world that is displayed in the entire quilt placed in front of the White House during the 1980s, and the global life-world where the commonality of illness and death of the pandemic stretch across the global horizon as the quilt became an international symbol.

In the beginning, Jones was influenced by certain aspects of the American culture during the decade. This ranged from a conservative political movement, to feminism and gay liberation, to other forms of artwork, particularly, as stated earlier, Judy Chicago’s Dinner Party, and Christo’s Running Fence. Both of these pieces were produced by a kind of collaborative community, a similar process undertaken in the making of the AIDS Quilt. Even though the Dinner Party and Running Fence have an individual artist associated with them, and Jones seems to have had less influence on the work than did Chicago and Christo, the method of production is similar to the methods of creating the AIDS Quilt by the NAMES Project. Another influence for Jones might have been feminist artists, such as

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Miriam Schapiro and Faith Ringgold who incorporated the feminine tradition of quilting into their paintings. During the 1980s, the Conservative Right also gained power with the election of both Ronald Reagan and George H. W. Bush. Their position on family values and disregard of the HIV/AIDS crisis seemed to have given Jones a platform against which to fight. According to Christopher Capozzola, it was at this time that “feminists and women’s historians were recover[ing] the history of women’s quilting work, while Reagan-era cultural nostalgia brought a new interest in American traditions of domesticity.”

Although, the feminist recovering the traditions of quilting was most likely less known to Jones than the Reagan-era cultural movement of domesticity, both the feminist movement and the Reagan-era helped to shape the 1980s, affecting Jones’ perspective of America. As Marita Sturken, explains, Jones felt the image of the quilt represented a curtain value of the American family. She claimed that Jones saw the image of a quilt evoking an image of “strong durable fabric that is made by collaboration […] a gift, passed down through generations, that speaks of family loyalty.”

The various influences from feminist and earth art, as well as the move by the country to the conservative dogma of the Reagan administration, with its focus on family values, became the backdrop of the social setting of the life-world form upon which Jones drew his inspiration.

The AIDS Quilt itself is comprised of diverse materials, such as cloth, photographs, dolls, flags, feather boas, human hair, and cremation ashes. A vast

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number of personal letters and messages are also written on individual panels. These form an autobiographical articulation of the individual’s life-world that comes from the inner duration of the individual’s experience. As Schutz and Luckmann argue, “my situation consists of the history of my experiences. Autobiographically determined elements are also among the structurally determined elements of my situation. Among these there are in turn many elements which can be deduced from the social embedding of my experiences.”

In addition, to these visual depictions of the many individuals’ life-worlds that comprise the AIDS Quilt, there are many blank panels that are incorporated into the AIDS Quilt upon which viewers can write. All of these elements have become part of the project. Most of the panels, letters, and many of the hand written messages are consistent in depicting, as Sturken claims, the “desire to name the individual and to present artifacts of their lives: pictures, memorabilia, symbols, colors, messages.” Each person or group of people that made a panel for the AIDS Quilt or contributed a letter or message to the project must, according to Sturken, respond to the questions: “how can this person be remembered? What elements will conjure up their presence?”

The answers to these questions have led to new culture dynamics in family structures, gender roles, and care-giving, all of which are displayed in the AIDS Quilt. For example, as Sturken claims, in relation to the AIDS Quilt, the male interaction has morphed into the public display of “men embrace each other, speak of male love, and fathers mourn the loss of their sons, creating a new kind of masculine relationship to the public display of emotion and

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238 Sturken, *Tangled Memories*, 188.
sorrow." In addition, stitched into the fabric and the letters and messages that comprise what many have grown to view as a memorial to HIV/AIDS victims, is a map of private and public memories of the disease, as well as public and social attitudes towards every aspect of the disease. At the same time, the AIDS Quilt maps the spatio-temporal aspect of the spread of AIDS and human’s understanding of the disease, as well as mapping the effects of those touched by the disease.

The magnitude of the AIDS Quilt can now, more than twenty years later, be viewed as a historical map of the socioculturally changing decade. As HIV/AIDS began to spread, the LGBT community was discussed and depicted in the news in relation to the crisis. This was both damaging and liberating as the LGBT community was demonized for its lifestyle, but also, through activism and education, understood in mainstream America like never before. The community built around the creation of the AIDS Quilt, now known as the NAMES Project Foundation, was an integral part of the changing attitude in the United States. Additionally, as earlier stated, the AIDS Quilt has also become a type of memorial that mapped the various aspects of the disease. In his writings on the subject of the AIDS Quilt, Capozzola claims, “recent scholarship in history, anthropology, and cultural studies argues that the creation of memory as a social practice helps to shape the collective identities of groups. Nowhere is this process easier to examine than in the construction of monuments and memorials, deliberately conceived as public acts of memory.”

This, as he argues, is clearly actable to the AIDS Quilt, and as argued above, it is this memory, which can orient the self within the life-

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239 Sturken, Tangled Memories, 203.
world and shape future concrete experiences. Social resistance can therefore not only shape sociocultural memory that is the backdrop of the life-world, but also orient the self within the life-world. Therefore, the life-world, as argued by Schutz and Luckmann consists of the history of an individual’s experiences, which are autobiographically determined by contained elements deduced from social embedded experiences, as well as essentially private incommunicable lived experiences.241

The meaning of the AIDS Quilt is also continually changing due to the blank panels that are placed throughout the quilt. They allow the audience to write messages and comments. According to Capozzola, through this action, the viewer inscribes his/her interpretations of the monument into its surface, and adds to the symbolic material viewed by other audience members. These “blank panels contribute to the communal participation in the formation of meaning, especially when debates are triggered by condemnation of homosexuality or by provocative statements about the Quilt’s relation to political activism.”242 Capozzola continues that, “the Quilt’s relentless emphasis on the dead necessitates our interaction with individuals. Instead of offering its viewer a symbolically empty screen upon which they project their individual interpretations and recollections, the AIDS Quilt provides a proliferation of symbolic material that onlookers themselves must make sense of by participation in the memorial.”243 The AIDS Quilt does not solve the AIDS pandemic, nor does it offer a clear political solution. Instead, the AIDS Quilt stitches together how the relationship between public and private, the individual

and the collective identity is formed and mapped through the political body of the AIDS victims and the political responsibilities of the viewer.

Even though the AIDS Quilt has been criticized for the depiction of AIDS activism as part of the American cultural vocabulary, in particular middle-class, middle-American position, with the exclusion of the “inner-city Latino, black and other poor communities affected by AIDS,”244 it seems to assume, as Capozzola suggests, to challenge the “discourse of nation and family that was particularly prevalent in the 1980s.”245 As Strurken explains, “AIDS has emerged as a public phenomenon and a public-health crisis at a particular historical moment of emerging identities derived from specific shared characteristics – gender, race, sexuality, ethnicity.”246 The association of the AIDS Quilt, with the LGBT community, and the celebration of the American family, rewrote two seemingly divergent cultural paths by merging them into the body of the AIDS Quilt. This connection mapped a new course for the American culture, at a time when family values had become a political tool used by Reagan and his followers.

In 1994, because preservation of the AIDS Quilt was difficult and costly, the NAMES Project began to photograph every quilt panel. These pictures were placed on a website. The website can be used as an educational resource that can reach a wide audience, however, as Struken notes, the website “raises issues of phenomenology and meaning. Can looking at a quilt panel on a computer screen have the same meaning as seeing and touching it? How important are its physical

246 Sturken, Tangled Memories, 146.
qualities to experiencing the quilt?"  

Perhaps more poignantly, how does the viewing of the AIDS Quilt on a website affect the shifting positions of the self and the Other that encompass various views of family structure, gender roles, and caregiving within the life-world? This is a question that cannot be answered in a simple statement, and is too complex to answer in this chapter, but is, nevertheless one that should be pointed out. What is clear, however, is during this period of cultural change, the self/Other binary was challenged by feminism, gay liberation, and the AIDS Quilt. Direct connection between those associated with feminism and gay liberation can be found in both groups questioning gender roles and family structures. As previously argued, the second-wave of feminism was associated with feminists challenging gender roles and family structures. Likewise, Bonnie Zimmerman argues, “The guiding thread of gay liberation was a rejection of enforced heterosexuality, marriage, traditional gender roles and family arrangements, and sexual privacy – all built upon an understanding of sexual identity as something other than fixed.”  

Additionally, other well-known writers, such as Monique Wittig and Judith Butler, were affiliated simultaneously with the second-wave of feminism and gay liberation. Wittig’s argument, to rethink the way society uses the labels of women and men, also demonstrates the direct connections between gay men and lesbians. This is seen with her argument, “If we, as lesbians and gay men, continue to speak of ourselves and to conceive of ourselves as women and as men, we are instrumental in maintaining

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247 Sturken, Tangled Memories, 218.


249 In this statement, she groups together lesbians and gays to argue for a re-evaluation of gender roles. Furthermore, since Butler’s writings have been used by many queer theorists to challenge gender roles, she added yet another connection between feminists and gays by her proclamation, in an interview in 1993, that she considered herself a feminist theorist before a queer theorist or a gay and lesbian theorist.

During the eighties this alliance between gays and feminists can be found in the AIDS Quilt, particularly in their joint effort to pressure the government to allocate money for research for a vaccine and a cure for HIV/AIDS. As Linda Singer argues, the homophobic media incited public panic, which collide with the neoconservative backlash against women’s reproductive rights. In response, feminists joined forces with male AIDS activists to pressure federal research agencies to adopt more egalitarian procedures that were inclusive of women.

According to Claire Bond Potter, a decade earlier while feminists, gays, and lesbians were only marginally successful at creating change during the Carter administration, the invention of the Office of Special Liaison marked a permanent structural shift in the permeability of the state for rights-seeking identity groups of all kinds. The increased political viability of social movements, and their desire for a policy-making role (as opposed to simple inclusion, or an end to discrimination) redefined what counted as citizenship rights.

The achievement of gays and feminists in the 1970s and the alliance that was formed between them in the 1980s, is in large part due to the neoconservative
movement, which pushed for more research and funding to better understanding the HIV virus and to find treatments for AIDS. It was the research being done on HIV that led to a greater understanding of the human immune system. At the same time, scientists were also conducting research on and gaining new knowledge of the human genome. Direct parallels can be drawn between the research that was being done on both the human genome and HIV because of the new understanding of the genetic markers associated with the human immune system. In 1991, the National Institutes of Health (NIH) published a book that outlined the findings by a Committee of the Institute of Medicine AIDS Activities. In this book, it is explained that once the magnitude of the epidemic became clear—especially once HIV was identified as the causal agent—NIH was given the mandate and resources to develop a large, multifaceted AIDS research program to understand the virus’s pathogenesis discover and test therapies, and develop prevention strategies and a vaccine. Research supported and conducted by NIH has led to rapid increases in basic knowledge about HIV and its replication, the molecular and behavioral aspects of transmission, the human immune response to HIV infection, and the clinical course of AIDS. [Furthermore,] the committee concludes that [this research] provide[s] substantial opportunities for greater scientific understanding of the human immune system.\(^{253}\) As a result of this research and research like it, not only did scientists gain a greater understanding of the human immune system, they developed a better understanding of the human genome. One example of this can be found in the quest to understand why some individuals seem to have some

natural resistance to HIV/AIDS. In one study, scientists examined genes involved in immune responses to HIV, and determined that individuals with a genotype associated with high numbers of segmental duplication on human chromosome 17q have some natural resistance to the virus. They determined this by first looking at 1,064 humans from 57 populations and 83 chimpanzees to prove a variation in distribution of chemokine gene containing segmental duplication, which is directly linked to chromosome 17q. Next, they analyzed 4,308 HIV-1 positive and HIV-1 negative individuals from groups with different geographical ancestries. They discovered that “there are significant interindividual and interpopulation differences in the copy number of a segmental duplication encompassing the gene CCL3L1 (MIP-IaP), a potent human immunodeficiency virus-1 (HIV-1)-suppressive chemokine and ligand for the HIV coreceptor CCR5,” specifically, CCR5-Delta 32. This means the higher the CCL3L1 gene dose in an individual the less frequent the rate of HIV infection and/or disease progression. They also discovered that there is a significant difference in CCL3L1, (and therefore a difference in CCR5-Delta 32), between African-Americans, European-Americans, and Hispanic-Americans (European-Americans having the highest dose) leading to the conclusion “that differences in the dose of immune response genes may constitute a genetic basis for variable responses to infectious disease,” and specific tendencies in immune responses can be linked to geographical ancestry.

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Further studies of CCR5-Delta 32, in relation to geographical ancestry led one group of scientists to link the genetic mutation to the Black Death that devastated Europe from 1346-1352.\textsuperscript{256} This claim has been refuted, however, by Samuel K. Cohn, Jr. and L. T. Weaver, who instead argue, that the “emergence of the CCR5- Delta 32 gene corresponds roughly with those for lactose tolerance in Europe.”\textsuperscript{257} Whichever argument is or is not correct, what each hypothesis demonstrates is a direct correlation between the human genome and the environment. This argument will be returned to later in this chapter when Hub Zwart and Bart Penders’ anthological study of the human genome, will discussed.

What is noteworthy here is how through the alliance and activism of gays and feminists in the 1980s, more research was done on HIV, which led to a better comprehension of the human immune system. This, in turn, then led scientist to make connections between the human immune system and the ongoing research on the human genome that was being conducted throughout the eighties.

As humans moved toward a more finite understanding of the composition of DNA, they also had a greater understanding of how humans fit into the evolutionary chain of animals, and how the self might relate to a new understanding of what it meant to be human. This new comprehension of DNA began to allow the self to view potential mates for the viability of offspring, or predict if they were predisposed for a genetic disease. This new understanding, just like the AIDS Quilt, cannot be separated from this given context. As in the

Husserlian sense, this moment refers, not to clock time, but rather to lived time, that is, a part of the self’s lived experience that cannot exist independently from the life-world. As new genetic discoveries were and are made, the acquired knowledge builds upon the existing genetic understanding: mapping a new course in human understanding. As explained by Husserl, and later Merleau-Ponty, the self cannot be separated from the history, culture, and/or language in which it lives. In Merleau-Ponty’s discussion of the body, he explains, “to look at an object is to inhabit it.”

The object cannot be separated from its surroundings. Instead, the object must be viewed in relation to its surroundings, its Umwelt within the given life-world. During the 1980s, whether discussing the human genome or the AIDS Quilt, the sociocultural understanding that was related to each cannot be separated from their respective spatio-temporal moment, for example, the AIDS Quilt, spread in front of the White House in 1987 and 1992, inhabits certain moments in time within the political spectrum of the HIV/AIDS pandemic. As documented in figures one and two,

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259 The term Umwelt is a German word meaning environment or surrounding world. The biologist Jacob von Uexküll and later the semiologist Thomas A Sebeok, both used the term Umwelt to study and explain the concept of communication and signification in humans and non-human animals. While Umwelt and Lebenswelt (life-world) are similar, the main difference is, Umwelt can be constructed or shaped by the life form of the human or animal; it is not given like the life-world. Umwelt also demonstrates the physiology and behavior of the person or animal because it arises through an evolutionary process from generation to generation, whereas, the life-world is the world as the human or animal itself experiences and lives in the world. Uexküll notably theorized that organisms can have different umwelten, even though they share the same environment, and this meaning represents all aspects of an organism’s model of the world, such as water, food, shelter, or points of reference for navigation. Moreover, through a mental interpretation of the world, an organism creates and reshapes its own Umwelt when it interacts with the world and other organisms’ Umwelts. Furthermore, the interaction between Umwelts creates a semiosphere in which sign processes operate in a set of interconnected Umwelten. (see, Jakob von Uexküll, "A Stroll Through the Worlds of Animals and Men: Picture Book of Invisible Worlds," *Instinctive Behavior: The Development of a Modern Concept*, ed. and trans. Claire H. Schiller (New York International Universities Press, Inc., 1957).
each of these moments includes not only the tragedy of the HIV/AIDS pandemic, but also both activism from the LGBT community and the cry for genetic research in relation to the pandemic.
When the AIDS Quilt was displayed, whether in Washington DC or elsewhere, one of the political messages associated with it was the legalization and acceptance of domestic partnerships. The display and the activism associated with the AIDS Quilt helped to create an alternative view of the nuclear family. The personal stories associated with the AIDS Quilt, as Sturken claims, “belie the stereotype of gay men as inevitably estranged from their families. In addition, popular accounts of the epidemic rarely consider the kinds of extended ‘families’ that are constructed within the gay community.” Changes within the family structure were not isolated to the gay community, instead, the family structures were changing among various other social and economic shifts along with the actions of both gay and lesbian activists and the creation of the AIDS Quilt. They altered the nuclear family and redefined it in a number of ways, and through their performative actions they were reoriented within the life-world. For example, through the use of Assisted Reproductive Technology (ART), families were formed with two mothers or two fathers. These families often also included the donor of the egg or sperm, or a surrogate mother. In these scenarios, the roles of mother and/or father might be performed by any given gender within the spectrum of straight or LGBT. An individual might also move between the performativity of given genders of male and female as the individual cares for a child. This new form of the nuclear family has continued to expand, and today, according to Amie Klempnauer Miller, “between one million and nine million children under the age of eighteen live with

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gay or lesbian parents.”\textsuperscript{261} However, a decade earlier, in 2000, the writer Dan Savage claimed, “the National Adoption Information Clearing House, a federal agency, estimates there are between six and fourteen million children being raised by gays and lesbians.”\textsuperscript{262} The difficulty of determining an exact number is most likely due to how some of the LGBT community choose to live an open lifestyle, while others do not.

In \textit{The Kid: What Happened After My Boyfriend and I Decided To Go Get Pregnant}, Savage chronicles the open adoption of his child with his partner from a twenty year old runaway living on the streets of Portland, Oregon. In his sardonic style, he explains that unlike straight couples, all gay and lesbian parents want their children. This is because “it’s hard to get drunk one night and do an adoption, or slip and fall into the stirrups at an artificial insemination clinic – all our kids are wanted kids, planned for and anticipated. All parenting experts agree that a wanted child is usually a loved child, and a loved child is a well-looked-after child.”\textsuperscript{263} Savage is able to make a convincing argument that the child he and his boyfriend will raise will be well cared for. A similar argument is demonstrated in Klempnauer Miller’s book \textit{She Looks Just Like You: A Memoir of (Nonbiological Lesbian) Motherhood}. She explains that the LGBT community is redefining the family structure through the advancement of science, as she admits that “certainly, many of these kids were born through heterosexual relationships, and others were adopted. But an increasing number are the result of some form of assisted

\textsuperscript{261} Amie Klempnauer Miller, \textit{She Looks Just Like You: A Memoir of (Nonbiological Lesbian) Motherhood} (Boston: Beacon Press, 2010), 36.

\textsuperscript{262} Dan Savage, \textit{The Kid: What Happened After My Boyfriend and I Decided To Go Get Pregnant} (New York: Plume, 2000), 58.

\textsuperscript{263} Savage, \textit{The Kid}, 59.
reproduction.”

Her book raises many factors as to how the LGBT community was and is redefining the concept of family structure, gender roles, and care-giving. For example, as her partner, Jane, gets closer to delivering their child, conceived using IVF and donor sperm, Klempnauer Miller continually finds herself questioning her position or orientation as a caregiver. At one point, since she will become the primary caregiver after the birth of the child, she writes, “Thinking of myself as a dad, maybe a stay-at-home dad, feels a little safer than thinking of myself as a mom, especially when I’m not the one who is pregnant.”

Furthermore, her confusion of how she fits into this redefining of the nuclear family is seen in her claim that she feel[s] left behind in unmarked territory. I am expecting a baby, but I am not pregnant. I will be a mother, but I won’t have given birth. I will adopt our child legally, but my experience has little or nothing in common with most adoptive parents. There is really no category, no name for what I will be. I am defined by what I am not: a nonbiological parent, the non-birth mother.

Even deciding how they want the child to address them redefines the family, gender roles, and care-giving, as Klempnauer Miller writes that they decide to call her Mama and her partner Mommy. The title of Mama, she explains, allows her to “find a space between the worlds of Mommy and Daddy.” Savage also explains similarly complex problems in assuming and performing a parental role when he discusses what happens when he goes out in public with his boyfriend and

\[264\] Klempnauer Miller, She Looks Just Like You, 36.
\[265\] Klempnauer Miller, She Looks Just Like You, 50.
\[266\] Klempnauer Miller, She Looks Just Like You, 55.
\[267\] Klempnauer Miller, She Looks Just Like You, 55.
the baby. They are asked questions such as, “Where’s Mommy today? Are you on your way to Mommy’s house? Are your baby-sitters taking good care of you for Mommy? Did these two boys steal you from your Mommy? [and] Whose baby are you?” These questions, Savage argues, would never be addressed to a straight couple. The role of caregiver and family structure takes on new meaning within this open adoption entered into by Savage and his boyfriend. They raise the child, but allow the child to know his biological mother and father, even going so far as to constantly reassure the young girl that they will allow the child to call her mommy. The nuclear family, shown in these two books, redefines the gender roles of the caregiver, and reorients the individual within the life-world. In Savage’s book, he also, demonstrates how the nuclear family can include numerous mothers and/or fathers for one child. This leads to the question, how will the child orientate him/herself within a life-world comprised of gender roles, in which an individual is able to move freely between what was once thought to be a fixed binary of mother and father, as well as, male and female?

Part Two – Power Structures, Gender Performativity, and Cleve Jones’ the NAMES Project AIDS Memorial Quilt in the 1980s.

In the contemporary situation, many of us find ourselves caught between the discursive figure of sexual liberation and sexual epidemic, and what often seems to be the unbridgeable gap between the aesthetics and forms of life associated with each. – Linda Singer

In this section, Foucault’s power structures discussed in chapter one, juridical, disciplinary, and biopolitical powers, are used to explore and articulate

268 Savage, The Kid, 228.
the conceptual dimension of the social resistance that took place during the 1980s. Furthermore, it will be argued that, today these forms of social resistance, or any form of social resistance, as Foucault rightfully argued, do not dismantle and eliminate the power systems, which are the subject of their critique, but rather, alter them to incorporate the changing ideologies of certain groups. In the 1980s, one compelling example of this was the claim that gender roles are only comprehensible when performed within a given sociocultural setting. This argument was developed in tandem, as shown in the last section of this chapter, with the cartography of the surface of the body being newly understood by genetic research, and HIV/AIDS altering the appearance and acceptance or alienation of the body. The perception of the body was also changed by how society defined the performativity of gender roles that the body played. This change in perception of gender roles was due in large part to the alignment of much of feminist theory with gay and lesbian theory during the 1980s. Much of feminist theory from the beginning of the decade was grounded in essentialism, for example, Alison Stone argues that Nancy Hartsock, Catherine MacKinnon, and other predomin-ant feminist were essentialists. Stone makes this argument due to Hartsock’s argument that women had a special responsibility for domestic affective, or nuturant labour, and Catherine MacKinnon’s argument that women are constructed as sexual objects rather than sexual subjects. During the 1980s,

these essentialist arguments began to be challenged by the argument of performativity. This was being developed throughout the 1980s and into the 1990s by Eve Kosofsky Sedgwick, Judith Butler, and others. This concept, that gender is separate from biological sex and is performed, was one of the things that helped lead to the development of queer theory, a term coined in 1990 by the writer Teresa de Lauretis.273 One of the goals of this movement was to argue that labels such as lesbian or feminist should not be used because they do not take into consideration race or culture. They argued that there was no essentialist body with which all women could identify because what a subject does or the role she performs is different than what a subject is, the self. Furthermore, the normativity of biological classification of male or female identities was challenged with the use of genetic abnormalities such as Klinefelter syndrome and XYY syndrome in males, and Turner syndrome and Triple-X syndrome in females. Both XYY syndrome and Triple-X syndrome led to individuals exceeding average human height. In Klinefelter syndrome, the males have an extra X chromosome, thus their chromosomal makeup is XXY or more rarely XXXY or XY/XXY mosaic instead of XY; this sometimes leads to secondary female characteristics, such as breasts. In Turner syndrome females have only one X chromosome instead of two, making their genotype monosomy X or X0. These individuals are short in stature, have webbed necks, small jaws, and lack secondary female sexual characteristics. Thus, in these instances, proving that the cartography of how the surface of the body looks is directly linked to one’s genetic code and gender cannot always be simply

defined. This argument supported Butler’s claim that an individual’s sex does not determine his/her gender categorization, instead, it is the repeated actions associated with a gender that are performed, that form identification with a gender. However, while the above examples challenge the connection of gender categorization and sex, it also supports the further study of the genetic code. It is precisely the analyses of the genetic code, by feminists and others that became one facet in the viewing of the body as a mechanized system, which through stringent micromanagement could be controlled. Therefore, even though through gender performativity an individual can also choose to resist various aspects of a gender role that is established within a given sociocultural and/or life-world setting s/he cannot dismantle the power systems. What can happen is through small infractions of the norm, the norm can be altered. This can be seen through the resistance of the power systems described by Foucault that were discussed in chapter one. For example, Butler’s argument that can clearly be demonstrated through resistance against disciplinary power is found in the performativity of the drag queen, which will be discussed later in this chapter. What her theory of gender performativity highlights is, various forms of sociocultural resistance that are applicable to the forms of social protests, for example, those demonstrated in the AIDS Quilt. Therefore, in this section, it will be explained how both gender performativity and the performative aspect of the AIDS Quilt, when it was displayed, can be viewed as forms of social protest that resisted juridical, disciplinary, and biopolitical powers, which helped to alter the family structures, gender roles, and care-giving in the 1980s.
As explained in chapter one, juridical power, for Foucault, comprised Classical Liberalism, and could clearly be seen in the governmental powers of Monarchies that Thomas Hobbes, John Locke, and Jean-Jacques Rousseau wrote about. This power system could be overthrown and the right to death enacted. However, with both disciplinary and biopolitical powers, which form Neo-Liberalism, this is not the case. Disciplinary and biopolitical powers form the power over life, and in many instances help to initiate their own resistance as individuals subverted them in small ways, but ironically, this resistance often feeds into the power system that regulates the body and normalizes power. Foucault claimed that he does not think that a society can exist without power relations, if by that one means the strategies by which individuals try to direct and control the conduct of others. The problem, then, is not to try to dissolve them in the utopia of completely transparent communication but to acquire the rules of law, the management techniques, and also the morality, the *ethos*, the practice of the self, that will allow us to play these games of power with as little domination as possible. This is exactly what Butler proposes with gender performativity. Through small infractions of the normalized gender role, she demonstrates resistance against disciplinary power. As she repeats these subversive actions, she reveals the power of agency and that, the subject is not determined by the rules through which it is generated because signification is not a founding act, but rather a regulated process of repetition that both conceals itself and enforces its rules precisely through the production of substantializing effects. In a sense, all

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signification takes place within the orbit of the compulsion to repeat; ‘agency,’ then, is to be located within the possibility of a variation on that repetition.\textsuperscript{275} It therefore, is not the norm that causes the regulation of the body, but the repeated performance of the norm that is the regulator power. An individual who deviates from the norm, and alters it in small ways as s/he repeats it, can, therefore, challenge the norm. As Butler wrote:

\begin{quote}
If the rules governing signification not only restrict, but enable the assertion of alternative domains of cultural intelligibility, i.e., new possibilities for gender that contest the rigid codes of hierarchical binarisms, then it is only within the practices of repetitive signifying that a subversion of identity becomes possible.\textsuperscript{276}
\end{quote}

This can, for example be seen in the performativity of a drag queen who is closer to the normative form of femininity than is a butch lesbian. For example, butch lesbians subverts the normative form of femininity through their performative actions by wearing short male hair styles, not crossing their legs and sitting instead with their knees apart, and mimicking other forms of male body language while walking or standing. Similarly, drag queens often perform an exaggerated form of femininity by dressing in overtly sexual female clothes and mimicking female body language while walking, sitting, or standing. Thus, in the butch lesbian or the drag queen, resistance against disciplinary power is found in small alterations of the normative form of gender each time the individual performs a gender role. As stated throughout this chapter, the argument that gender is performative coincided with the mapping of the human genome. In addition to this advancement in genetics, gene replacement therapy was also being developed. Although it had first

\textsuperscript{275} Judith Butler, \textit{Gender Trouble} (New York: Routledge, 1990), 145.
\textsuperscript{276} Butler, \textit{Gender Trouble}, 145.
been proposed in the early 1970s, it did not come to fruition until 1992 when the first gene therapy using hematopoietic stem cells to correct a hereditary disease was performed in Milan, Italy. The concept of gene replacement therapy can, though, be viewed as analogous to gender performativity because although performativity might alter the norm, Butler, or anyone else for that matter, had little control of what that new norm would look like. All that could be guaranteed was that it would be different, and it would hopefully be more inclusive to the LGBT community. Gene replacement therapy is similar, in that, it does not subvert the normative form of an individual’s human genome through performativity, but through uncontrolled future gene mutations.

The resistance against the normative forms of gender roles, therefore, can be compared to Anders’ argument of technological agency. With gene replacement therapy his argument is directly linked to technology and the uncontrollability of gene mutation. With gender performativity, it is not only the technology or advancements in the understanding of the human genome, but the changing socioeconomic factors of the decade that led to an unpredictable alteration of the normative concept of gender. Today, this might be more open and inclusive to the LGBT community, but it is also more controlled by disciplinary and biopolitical powers.

The control of the body through the regulation and institutionalization of the act of sex, according to Foucault, began in the eighteenth-century, through the axes of the discipline of the body and the regulation of populations. Within this discussion, Foucault brings together both disciplinary and biopolitical powers
claiming sex “was at the pivot of the two axes along which developed the entire political technology of life. On the one hand it was tied to the disciplines of the body: the harnessing, intensification, and distribution of forces, the adjustment and economy of energies.”277 For example, an individual must present his/her body in the most appealing way that they are able to, to find another individual willing to engage in sex. This might entail maintaining certain hygienic routines, physical exercise, and eating only certain foods to keep the body in shape:

On the other hand, [Foucault writes] [sex] was applied to the regulation of populations […] It fitted in both categories [discipline of the body and the regulation of populations] at once, giving rise to infinitesimal surveillance, permanent controls, extremely meticulous orderings of space, indeterminate medical or psychological examinations, to an entire micro-power concerned with the body. But it gave rise as well to comprehensive measures, statistical assessments, and interventions aimed at the entire social body or at groups taken as a whole. Sex was a means of access both to life of the body and life of the species.278

It is from this crossroad of disciplinary and biopolitical powers, that regulate sex, that Butler’s gender performativity can truly be seen as social protest, because individuals who deviate from the normative gender roles of male and female also allude to what has been viewed as deviation of sexual activity. For example, since same sex couples would not physically perform sexual intercourse the same way heterosexual couples would, such as intercourse to produce offspring, by outwardly displaying they are not a heterosexual couple they engage in social protest against both disciplinary and biopolitical powers.

The argument that sex and gender should be separated helped to shape gay and lesbian activism in the 1980s, and as queer theory became more prevalent in


academia and gay and lesbian activists fought for equality, how they were defined by society was modified. By the mid-to-late 1980s, the more inclusive term LBG, referring to lesbians, bisexuals, and gay men, began to be used, and by the early 1990s the letter T (for transgender) was added to LBG making it the now commonly used LGBT. The introduction of this term culminated with changing attitudes toward the human body. These changes were derived from, not only queer theory and LGBT activism, but also a new understanding in the human genome and the spread of HIV/AIDS. All of these elements helped to change statistical data on the body, and modify disciplinary and biopolitical powers. As Singer argues, HIV/AIDS allowed for rationalized forms of power to be used in the name of maintaining a healthier disease-free society. In the 1980s, this can be seen in new forms of sexual discipline and management such as, the safe sex movement, which, according to Singer, was developed into “images, languages, and practices which eroticize[d] safe sex,” and were disseminated through Capitalism by marketing condom use and pornography to both homosexual and heterosexual couples. Singer also argues, that during the eighties, HIV/AIDS facilitated the state’s uses of biopolitical power to manage the population and justify social control, surveillance, and “intervention into the bodies of all kinds of individuals – gays, military recruits, [pregnant women, prison-ers, maybe applicants for federal jobs, and IV drug users.” Another way that HIV/AIDS directly altered how the body was defined and controlled was through a growing understanding of how the virus affected the immune system, and how as the virus

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279 Cf. Singer, Erotic Welfare, 43.
280 Singer, Erotic Welfare, 70.
281 Singer, Erotic Welfare, 60.
attacked the immune system the surface of the body was changed. This is seen in many people who have AIDS and develop Kaposi’s Sarcoma (KS), which is the most common AIDS-related cancer. Individuals who develop KS often have pink, red or purple lesions on their skin and in their mouths. Thus, HIV/AIDS can transform the immune system and remap the structure of the body from the inside out, transforming how the body is defined, as well as leading to a modification of statistical analysis and biopolitical power.

During the 1980s, the concept of how gender was categorized and defined was connected to both the visibility of HIV/AIDS and gay and lesbian activism. These movements helped to alter the sociocultural attitude toward the body; however, this was not achieved without public fear and prejudice. For example, public fear against Bobbi Campbell, “the first person with AIDS to go public,” is well documented. Campbell, not only wrote articles for a San Francisco weekly gay newspaper, but also appeared with his lover on the cover of Newsweek magazine. This brought scrutiny from many people, and as Campbell began to show visible signs of the disease, he was even shunned by many in the gay community. The treatment of Campbell and others with signs of HIV/AIDS demonstrated that the body was viewed through biopolitical power placed against a given life-world, and if an individual did not fall in line with the statistical bell curve of that biopolitical power he/she might be eschewed. Jones explains, that individuals faced discrimination by losing their apartments if the landlord found

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out he/she had AIDS, and writers Gregory M. Herek and John P. Capitanio stated that, “the Christian Right and other conservatives routinely invoked AIDS in their anti-gay political rhetoric.”

The activists involved in the NAMES Project, the organization that made the AIDS Quilt, attempted to change negative opinions by informing and educating the public about the disease and the gay and lesbian lifestyle. Activist groups began to form in large cities. ACT UP, one of the better known groups, grew out of the 1987 San Francisco AIDS Action Pledge, and advocated for a commitment to end AIDS. While AIDS was often the main focus of the group, ACT UP did not always center its actions around AIDS; rather, as writer Josh Gamson notes, they incorporated AIDS activism into “the project of ‘recreating a movement for gay and lesbian liberation’.”

In the 1980s, ACT UP members deliberately crossed social boundaries, thrusting their lifestyles into public places by, according to Gamson, “throwing condoms, necking in public places, and speaking explicitly and positively about anal sex.” These actions demonstrate how, as the gay and lesbian community became more open, their various views helped to re-conceive the representation of the body through the social protest against the regulation of the body found in both disciplinary and biopolitical powers. In light of this, the perception of gender roles, family structure, care-giving and even one’s genetic code, with the concept of a “gay” gene, came into question. This facilitated a

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rewriting of how the human body can be perceived, and how the self reacts to the Other. Butler’s argument that gender is based on sociocultural factors not innate genetic sex attributes, helped to change the patriarchal opinion that they were indeed linked. However, Butler’s argument did not eradicate the power structure of the male/female binary, instead, as the normative gender roles were subverted through deviations of gender performativity, of the male/female binary, some of the deviations became incorporated into the normative gender roles. Thus, the gay liberation movement altered the perception of the body, and in doing so, altered the life-world. However, as previously stated, the openness of the gay lifestyle and the public scrutiny of the male/female binary by Butler and others, ultimately allowed for more control of the body through both disciplinary and biopolitical powers. As Foucault argues, “bipolar technology-anatomic and biological, individualizing and specifying, directed toward the performances of the body, with attention to the processes of life-characterized a power whose highest function was […] to invest life through and through.”

Thus, disciplinary and biopolitical powers have only led to more investment and more regulation by the state.

The ability to transform the male/female binary is based on gender being associated with being straight, gay, lesbian, bisexual, or transsexual. For Butler, gender is an act of a cultural performance, that is, “a fantasy instituted and inscribed on the surface of the bodies.” This inscription has, however, been formed and regulated by disciplinary and biopolitical powers. For Butler, genders are “are only produced as the truth effects of a discourse of primary and stable

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288 Foucault, *The History of Sexuality*, 139.
identity.”

Hence, gender roles are constructs, specific to a given society, and acted out in a ritual performance that is repeated on a daily basis. According to Butler, these “repetitions [are] at once a reenactment and reexperiencing of a set of meanings already socially established; and it is the mundane and ritualized form of their legitimation,” therefore, it is the performativity that re-inscribes the social meaning of that gender role within a given sociocultural and spatial-temporal setting of the life-world, and/or system of both disciplinary and biopolitical powers. The performance of rituals maintains the gender role within a binary frame. Yet, within all of these systematized categories socio-cultural, spatial-temporal, life-world, and disciplinary and biopolitical powers, there are shifts. Gender roles and even the binary frame in which they are performed are in flux as cultural performances of gender roles change over an individual’s and society’s experience(s) within a life-world. As Foucault argues, “the body is the inscribed surface of events.”

Culture and its value are inscribed onto the body through a given moment in history which forces the body to use cultural language to describe gender, along with race, ethnicity, beauty, etc… This happened with the gay community in the eighties and the re-inscribing or mapping of the body that was perpetuated by AIDS, along with studying the human genome, as both the inside and outside of the body were demarcated anew by the cultural performa-tivity of gender roles.

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291 Butler, *Gender Trouble*, 140.
As figures like Butler might suggest, many feminist and queer theorist academics supported one another in the 1980s. In part, their alliance was strategic; both groups felt they needed a separate space outside the dominant patriarchal discourse. Many hoped to map a new and separate course for both these movements, one in which the body could be rewritten without the use of the patriarchal discourse. Perhaps, for this reason, another alternative that was explored by both feminist and queer theorists was the use of utopia androgynous science fiction, such as Marge Piercy’s *Women on the Edge of Time* (1979) and Ursula K. Le Guin’s *The Left Hand of Darkness* (1969, 1981) and *The Dispossessed* (1974). Additionally, in the essay *One Is Not Born a Woman*, Monique Wittig argues that the gender role of women was unnatural and socially inscribed. In this work, she describes the “lesbian society [as the element that] destroys the artificial (social) fact constituting women as a ‘natural group’.” In her poetically written, but morbidly graphic book, *The Lesbian Body*, she attempts to re-inscribe the bodily boundaries of sexuality by subverting the abject through the dismantling of a female bereft body, as well as challenge the dominant patriarchal language. The novel describes the flayed, decaying flesh that is removed from the body to reveal the fibrous tissue and skeletal structure that compose the inside of the body, creating images that are both poetic and disquieting. In essence, the rewriting of the body through the removal of the skin allows for the body to be mapped not on the surface where gender is performed, but

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(beneath) the surface, where, Wittig might argue, the lesbian body is found in a person’s genetic code.

At the same time that both Wittig and Butler were publishing and gaining renown, Cleve Jones also called for, not a separate space outside the dominant patriarchal discourse, but inclusion into the patriarchal discourse. He wanted the recognition of the LGBT community, and for society to allow people to live openly irrespective of their sexual orientation. Like both Wittig’s and Butler’s depiction of the body, this meant that Jones and the LGBT community needed to challenge the bodily boundaries and the assumed male position within patriarchal discourse that was regulated by disciplinary and biopolitical powers. Jones explains that this desire often turned into violent protests, probably the most poignant being the White Night riots surrounding Harvey Milk’s assassination and the trial of his assassin Dan White. The riots were in response to the prejudice against Milk’s sexual orientation and activist lifestyle, exacerbated by White being only convicted of voluntary manslaughter, which was the lightest possible sentence. This, along with White’s absurd defense that he had gorged himself on Twinkies, and the resultant sugar had triggered his rampage, enraged Milk’s supporters. 294 What Milk’s supporters wanted was justice and acceptance. They wanted to live openly without fear of retaliation from the dominant patriarchal discourse.

It was Milk’s death that became the catalyst for much of Jones’ activism, which later led to the NAMES Project. After Milk’s death, Jones began organizing a candlelight march to mark the day he died. Seven years into this ritual, in 1985, Jones turned this march into a memorial for Milk and those who had died of AIDS.

He asked the marchers to write the name of a friend who had been killed by AIDS on poster-board. The march culminated with the poster-boards being taped to the three story old federal building in the Castro in San Francisco, at the time it housed the offices of Health and Human Services. It was here that Jones claims he thought of the AIDS Quilt.\textsuperscript{295} The AIDS Quilt and the large scale ceremonial actions of opening, folding, and calling out of names of the dead became a performance in which there was an attempt to give the LGBT community a voice. The placement of the AIDS Quilt in front of the White House, the United States Capital, and the Lincoln Memorial, which are some of the most nationally recognized symbols of American patriarchal society, further demonstrates the challenge by Jones and his supporters to be recognized and accepted. The performance of the demonstration associated with the AIDS Quilt was an essential part of the deconstruction of the preconceived ideas about HIV/AIDS and the LGBT community. The performance of the opening and closing, or the showing of the inside and outside of the AIDS Quilt, helped to rewrite how gender is performed within Western society by placing the LGBT community into public debate. Moreover, it could be argued those involved in the NAMES Project were engaged in a battle against juridical power, which had punished and diminished the power of those afflicted with HIV/AIDS, as well as gays and lesbians.

The AIDS Quilt, while initially being mainly associated with the LGBT community, placing them outside the patriarchal discourse, has, however, changed since its inception. As Marita Sturken notes, “In the mid-1990s it can no longer be perceived as a protest to the nation; it has come rather to symbolize national grief

[... by claiming inclusion in the nation for those who have died of AIDS, it also tends to negate their difference."\textsuperscript{296} It is through the commonality of grief, then, that the oppositions to gender orientation can be overcome. Furthermore, the ritual of reading the list of names of the dead at the displaying of the AIDS Quilt has, according to Sturken, altered the perception of the dead. She explains: “naming is often equivalent to coming out, because representation in the quilt still carries the association of being gay; this connotation resulted, particularly in the first years of the quilt, in many unnamed and partially named panels.”\textsuperscript{297} However, the meaning and memories associated with the AIDS Quilt have changed over time. As the disease has touched more sectors of the population, and the AIDS Quilt has become a national and international memorial for those who have died, being gay is no longer the only assumption people have upon hearing the reading of the names. The meaning of the AIDS Quilt also changes due to its configuration: it is sometimes displayed in parts and sometimes in its entirety. The meaning is altered due to, as Sturken claims, the display of the individual panel, which “carries a particular power by speaking to the dead and the viewer, [or] that same panel [that] carries the weight of the collective message of a community or communities – of a ‘nation’ – when it is part of a large display of the entire quilt on the Washington Mall.”\textsuperscript{298}

In the beginning of the HIV/AIDS pandemic, the stigma of AIDS was not inclusive of the general public, but rather was strongly associated with the gay

\textsuperscript{296} Marita Sturken, \textit{Tangled Memories: The Vietnam War, the AIDS Epidemic, and the Politics of Remembering} (Berkeley: University of California Press, 1997), 216.
\textsuperscript{297} Sturken, \textit{Tangled Memories}, 160.
\textsuperscript{298} Sturken, \textit{Tangled Memories}, 215.
body. This led to more regulation of the body through the use of biopolitical power, which was used to directly regulate and categorize the body of those infected with HIV/AIDS through the monitoring of the individual’s immune system. For example, individuals who fell below the statistical bell curve of healthy T-cells to a count below 200 were diagnosed as having AIDS. This led to the body too often being defined by its amount or lack of T-cells or antibodies.

What the AIDS Quilt did was to challenge biopolitical power by bringing the reality of the human self back to the thousands of bodies touched by the disease, and placing a personal element into the biopolitical power of body regulation. The panels of the AIDS quilt, along with the thousands of others that make up the AIDS Quilt today, were sewn together into twelve-by-twelve-foot squares. Four of them were then attached with grommets and cable ties to form a square that was twenty-four feet by twenty-four feet. These were then folded in what became known as the lotus fold, a method of folding and unfolding the corners together, which was designed by fellow gay rights activist and AIDS Quilt maker Jack Caster. The concept of the presentation of the AIDS Quilt was to position a twenty-four foot square panel that was already in the lotus fold into the center of a grid of walkways. Eight people, each of whom was dressed in white, representing the nurses and caregivers that tended to so many of the dead, would then unfold each section, as the names of the dead were read one by one.
The performativity of these actions transcended the stereotypical gender role of the nurse and caregiver, encompassing the LGBT community through, for example, lovers caring for one another. This performative display exemplified concepts of gender performativity, as those involved modified the sociocultural concept of the typical female caregiver. The rewriting of the caregiver is also shown in the parent(s) caring for his/her dying adult child. During this time in the epidemic, the number of adult children dying and being cared for by their parents led to a seemingly unnatural event. This is because, in the West, it is parents who often died before their children. In addition to those presenting the AIDS Quilt, the spectacle of the audience can be seen as another type of performance. The AIDS Quilt, therefore, displays both private mourning of the panel-makers and collective mourning rituals of the viewers. This is seen through an expanded form of the supposition that gender roles are socially created and performed.
demonstrated in the AIDS Quilt is not only how various roles of the LGBT community are performed, but how the self treats the Other in relation to who is afflicted with AIDS and how it is socially inscribed. This performative process was streamlined as the years passed, the size of the AIDS Quilt, and viewing of it grew exponentially, making for a moving and beautiful display of folk art.

Fig. 4

http://dc.about.com/od/specialevents/ss/Aids-Memorial-Quilt.htm

As the project progressed, the HIV/AIDS pandemic spread. The AIDS Quilt not only memorialized the dead and dying, but also mapped the progression and awareness of HIV/AIDS, as well as documented the allaying of public panic or social changes towards those touched by the disease and the changing attitude towards the LGBT community.

Slowly, public opinion began to change, and by 1988, several events were unfolding that helped to educate and shift public opinion.  Surgeon General C.
Everett Koop authorized a mass-mailing of an information brochure on HIV/AIDS to educate the public and to turn the focus of the conversation from moral politics to concerns of medical care, economic position, and civil rights of AIDS sufferers. Self-regulation and voluntary behavior modification began to be promoted through safe sex education. This also began to emphasize sexual practices over sexual identities, at the same time queer theorists challenged gender identities. “The appropriation of techniques of safe sex for mass consumption is [according to Singer] tantamount to acknowledging the authority of the gay community, rather than restricting that community to the role of victim, not only to regulate itself, but to serve as an instructive frame of reference for heterosexuals.”299 Additionally, Jones and the founding director of the World Health Organization’s Global Program on AIDS, Dr. Jonathan Mann, decided to use the AIDS Quilt as a symbol for the first World AIDS Day. The collaboration moved AIDS activism to a global scale, and marked what has become known as the International AIDS Quilt Movement. Soon after, in 1990, Congress passed The Ryan White Comprehensive AIDS Resources Emergency (CARE) Act, and the documentary Common Threads: Stories from the Quilt, directed by Rob Epstein, won the Oscar for Best Documentary. What these new governmental regulations and education programs also accomplished was a marked transition from the sexual liberation movement from the sixties and seventies to, as Singer argues, “radical restricting of expectations and priorities such that disciplinary realignments of behavior [could]

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be represented not as a limit on pleasure, but as a way of protecting and securing it.”

It could be argued that the changing attitude in the 1980s and 1990s towards LGBT community began in the 1970s, as Jones noted in his book, *The Making of an Activist: Stitching A Revolution*. He claims that, “throughout the late ‘70s it became more and more obvious that gays and lesbians around the country were asserting and claiming rights and freedoms long denied.” But those freedoms were not easily gained; gay men were often depicted through a hateful antigay propaganda, as seen in the 1979 CBS special *Gay Power, Gay Politics*. As HIV/AIDS began to spread, so too did the backlash against gay culture. Though the gay community had started to become a more open society in the late 1970s, Jones feared the community would be forced back into the closets as a result of AIDS. However, he claims:

> The opposite happened. As the virus spread among us and our friends sickened and died, gay people throughout the world dedicated their lives to the fight against AIDS. For us, the struggle against the virus was inseparable from the struggle for justice. In the face of appalling loss, our community united and, with the support of large numbers of heterosexual allies, launched the global campaign to stop HIV. In the process of organizing to fight AIDS, we discovered skills, strengths, and resources we never knew we possessed.

Through Jones’ and other activists’ actions to educate the public about the gay and lesbian community and about HIV/AIDS, they were eventually able to begin to pacify the seemingly insurmountable oppositions to the gay and lesbian lifestyle. The *NAMES* Project stitched the struggles of the gay activist movement and the

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fight against HIV/AIDS together, mapping the defeats and triumphs into the various hues that compose the AIDS Quilt. Over time, the *NAMES* Project and the AIDS Quilt have become symbols that have been used to advocate for understanding and acceptance for the LGBT community, and the reception towards both the *NAMES* Project and the AIDS Quilt have helped to change public opinion of both those afflicted with HIV/AIDS and of the LGBT community.

The first installation in Washington D.C. on the National Mall, was on October 11th 1987, ten years after Milk first called for a National March for Lesbian and Gay Rights. At that time, the AIDS Quilt consisted of 1,920 panels from around the county. Jones explains the response was “overwhelming, something I had not imagined or planned for […] every single person who saw the Quilt with their own eyes became an evangelist […] turning the tide of grassroots support […] We were on the front page of newspapers around the world, even as far away as New Delhi.”304 The following year, the AIDS Quilt had quadrupled in size from 1,920 panels to 8,288. It was, as Jones explained, “a kaleidoscopic range of emotions on a new epic scale.”305 In 1996, it consisted of seventy-two thousand names of those who had succumbed to HIV/AIDS. Forty-two thousand panels represented these individuals. Today, the AIDS Quilt is considered the world’s largest community arts project with more than forty-five thousand individual quilt panels. The *NAMES* Project Foundation has created a website ([http://www.aidsquilt.org/](http://www.aidsquilt.org/)) with an on-line AIDS Quilt image database of each of the individual quilt panels.

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305 Jones, *The Making of an Activist*, 166.
The identities and relationships shown in the AIDS Quilt, vary greatly from hatred and fear to love and celebration of lost life. However, they can all be seen as part of a memorial to the lives lost to the disease, and the struggle against power structures. A large percentage of the panels are unsigned or signed, not with the person’s name, but instead with the relationship to the dead, such as, Mom, Dad, your sister. This demonstrates that the panels are not about authorship or individual production, but often still shows a family connection to the deceased. This is also true for the letters that accompany the majority of the panels that comprise the AIDS Quilt. Cindy Ruskin, a young South African woman, reprinted many of these in the book, *The QUILT: Stories From The NAMES Project*. The book maps many stories, some written as memoirs, while others penned memories by lovers, family or friends. Most are stories from the LGBT community depicting how the afflicted told their families they were gay and/or had AIDS. In each, a shift of self takes place as the writer expresses the terms of death, one of common thread in all of their accounts. It is through the stories of the bodies that were ravaged by the disease that it becomes evident that AIDS changed the perception of the body. As novelist Charles Morris explains: “one’s physical body, whether in decline or fear of (inevitable) diagnosis and death, and one’s extended amative body of lovers, friends, and culture, recently unfettered, was now at the last tether.”

Most of the accounts are painfully moving. As Ann Des Rosiers explains, she had never even heard of AIDS until her son became ill. She cared for him, and after his death returned to school to study home care so she could nurse...
other AIDS patients. Her world became affiliated with AIDS from the level of personal connection and loss to the position of public caregiver. After the death of her son she said: “I’m starting to spend time only with AIDS families now. I have nothing in common with anybody else.”\(^\text{307}\) This, like so many other stories, shows how the disease altered the perception of the life-world and the interaction between the self and the Other. Remembering his own thoughts, Jones, according to Ruskin, imagined the AIDS Quilt could take “all of our individual experiences and stitch them together to make something that had strength and beauty.”\(^\text{308}\) Furthermore, due to the epidemic and the surrounding political storm, the mourning of those that died from AIDS, as Cappozzola explains, “took place in the midst of an activism that had made personal issues into the stuff of politics.”\(^\text{309}\) Therefore, each story that is depicted in the AIDS Quilt helped to show a personal aspect of the disease and added in informing and changing public opinion.

It is obvious that many factors influenced the perception of public opinion that surrounded the AIDS Quilt and the LGBT community during the 1980s. The placement of the AIDS Quilt in front of the White House, the United States Capital, and Lincoln Memorial in 1987, 1988, and 1992 confronted the exclusion of the LGBT community and those touched by AIDS, and as stated earlier became a form of social protest against juridical power. The AIDS Quilt served to demonstrate various forms of how death of the Other, or person with AIDS, is or is not socially accepted. This social demonstration is either the acceptance of or the fear of the


\(^{308}\) Ruskin, \textit{The QUILT}, 9.

gay body and/or lifestyle, and the discloser of those who were afflicted with AIDS. Sometimes, the reaction of the families and friends was also a result of a fear that people would assume the family member afflicted with AIDS was gay, or other people might find out that s/he was gay. The commemorative and political functions of the NAMES Project are interwoven and displayed in the performativity of the presentation of the AIDS Quilt. Once again, this is seen in the folding and unfolding by the white clad volunteers, the volunteers with boxes of tissues, the reading of the names of the dead, and the very spectacle of viewing those around one’s self as one walks through the rows of quilt panels.
Along with how gender is identified and performed, the nuclear family structure was challenged by the political climate of LGBT and AIDS activist groups, such as the San Francisco AIDS Foundation co-founded by Jones in 1982. This group, in particular, developed innovative solutions, combining scientific evidence with community experience to fight AIDS, and promote health. The LGBT community, also, challenged the existing concept of the nuclear family with the argument that LGBT couples should be perceived as a family unit and given the
same rights legally afforded to heterosexual married couples. The LGBT community advocated for such things as the ability to make medical decisions for partners, and ability to adopt children. In 1979, Tom Brougham proposed a new category of relationship called “domestic partnership.” The hope was to give same sex couples the same benefits as married couples.\(^{310}\) In 1982, Larry Brinkin brought the first domestic partner lawsuit in the United States against his employer when his partner of eleven years died, and he was denied the three days of paid bereavement leave given to married employees. He lost the case, but continued to advocate for domestic partnership, and in 1997 helped to alter the perception of the nuclear family by fathering a son, Ben Kelly-Blum, with two lesbians, Debra Kelly and Laura Blum.\(^{311}\) Furthermore, in 1983, Brougham became the political action chair of the San Francisco, East Bay Lesbian & Gay Democratic Club. In 1984, the organization helped elect people who made domestic partnership legal. However, according to Brougham, “it was one thing to pass it and another thing to get an insurance company of any kind to go to the next level.”\(^{312}\) Finally though, in 1991, San Francisco mayor, Art Agnos, signed into law an ordinance providing health insurance, covering city employee’s domestic partners.\(^{313}\)

At the same time that Brougham was fighting to gain domestic partnership legal status, groups, such as ACT UP were not only fighting for equal rights, but also were bringing the alternative lifestyle of the LGBT community to the forefront

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\(^{313}\) Cf. McMillan, “Veteran Civil Rights Activist Larry Brinkin Retires.”
of the general public. This, along with AIDS activism and the beginning of advocacy for domestic partners, helped to bring the configurations of families and care-giving into public debated in mainstream culture. This is reflected in Harvey Fierstein’s play *Torch Song Trilogy*, which won the Tony Award in 1981, and the children’s book *Heather Has Two Mommies*, written by Leslea Newman, published in 1989. The book *Heather Has Two Mommies*, was later part of the Rainbow Curriculum, a program initiated in 1993, by the then Chancellor of New York City public schools, Joseph Fernandez. Fernandez had hoped the Rainbow Curriculum would teach tolerance towards homosexuals; however, it became one of the main reasons parents were able to persuade the New York City School Board to fire Fernandez on February 10, 1993.\(^\text{314}\)

This change in the structure of the nuclear family was in many ways due to the LGBT community; however, straight women were also repositioning themselves in relation to the nuclear family during the 1980s. Perhaps one of the main reasons this happened was because of the second-wave of feminism, which focused on issues surrounding the nuclear family, the workplace, and reproductive rights. This and other political and social factors, such as high unemployment and a stock market crash, helped to facilitate shifts within the nuclear family. For example, during this period, many families could no longer afford to have only one income, leading many married women to enter the workforce. At the same time, in the 1980s, the majority of new college freshman were female, and today, females

outnumber male students at the college level.\footnote{The National Center for Education Statistics (NCES) Fast Facts, accessed September 20, 2011, \url{http://nces.ed.gov/fastfacts/display.asp?id=98}.} This has led to a growing gap in education that has also helped to change the structure of the family. With a trend that began in the 1980s and continues today, women not only work more hours in the public sector than they did in each subsequent decade, but they have begun to obtain higher paying jobs. This, in part, was due to the advancements in technology that started in the 1980s. As new fields of study opened up at the college level, women began to attend college not only for the “traditional female jobs” of teaching and nursing, but also for other fields, such as computer science and computer engineering. Another trend that began, was the outsourcing of factory jobs and a switch to technology-based domestic jobs. These new technology-based jobs required less physical strength, which had been needed for factory jobs, and better organization and communication skills, as well as a college degree or post-secondary training. For these reasons, women were given a more equal footing with men, and today some might even argue women now have an advantage over men in the workforce.

With the growing number of female students attending college, academia, like the nuclear family, was altered. According to Eloise A. Buker, the first courses offered in the field of Women’s Studies appeared in the late 1960s and early 1970s, while the first Women’s Studies program commenced at San Diego State University in 1970. By 1990, more than 2,000 accredited colleges and universities offered Women’s Studies as a program of study.\footnote{Cf. Eloise A. Buker, “Is Women’s Studies a Disciplinary or an Interdisciplinary Field of Inquiry?” \textit{Feminist Formations} 1 (Spring 2003): 76.} Simultaneously, in the 1960s...
and 1970s, the Gay Liberation Movement was occurrence in the United States. It was also during this time period that, according to the writer William B. Turner, “economic and political changes [...] allowed growing numbers of women, lesbian or not, to enter colleges and universities, and the increased openness of the gay men who have always been there, have been crucial” in the establishment of the discourse that has become known as queer theory. Initially, in the 1980s, gay liberation, like feminist theory, was linked to an analysis of patriarchy; both of these groups asserted the notion of separate sexual identities outside of patriarchy. Sometime within the gay liberation movement, this became identity-based forms of sexual essentialism, that were, according to Chris Beasley, claimed from the sociobiological arguments that “employed ideas of a genetic basis for homosexuality – or support from notions of biological sex differences.” However, as explained earlier, these essentialist arguments were later challenged by Eve Kosofsky Sedgwick, Judith Butler, as well as Teresa de Lauretis, and people such as Jones never advocated from a separation from the dominate patriarchal discourse. Instead, Jones wanted to alter it so he and other gays and lesbians would be included into the patriarchal discourse.

The displaying of the AIDS Quilt was, initially, meant as a cathartic action as well as a political one, as Jones and others involved in the project hoped to raise awareness of the scope of the disease. However, in 1988, Jones, perhaps in an attempt to be inclusive to all groups, seems to have shifted strategies. According to

Capozzola, Jones told reporters that “we’re completely non-political; we have no political messages at all.” This statement was further problematized when in the same year, according to Sturken, Jones proclaimed that the NAMES Project was “not a gay organization.” Jones attempted to validate this statement by the claim “that to call the NAMES Project ‘gay’ would be a disservice to the increasing number of heterosexual people with AIDS.” This claim, though, led critics to accuse the organization of “de-gaying” the quilt. Whether this was strictly a political move by Jones, or not, there did seem to be an attempt by the LGBT community to reposition itself within the political landscape of the 1980s. More precisely, the gay liberation movement of the 1960s and 1970s had led gays and lesbians to speak out about injustices they face due to their sexual orientation. There was a shift, however, in their argument in the 1980s due to HIV/AIDS. Now they faced marginalization not only because of their lifestyle, but because of the disease. They needed to organize to demand healthcare, education about the disease, funding to find a vaccine and new drugs. Due to these factors there seemed to have been a new and different attempt by the LGBT community to move out of the margins of society.

As HIV/AIDS was initially stigmatized as a gay disease, the mapping of the immune system and the mapping of the human genome, rewrote, as earlier explained, the cartography of the body. The various concepts that emerged, both positive and negative, were incorporated into the NAMES Project. This along with

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320 Sturken, Tangled Memories, 207.
321 Sturken, Tangled Memories, 207-208.
322 Cf. Sturken, Tangled Memories, 208.
other social forums, for example demonstration by groups, such as ACT UP, helped the LGBT lifestyle to be discussed more openly, contributing to a new perception of the self and the Other within both the life-world and the structural framework of juridical, disciplinary, and biopolitical powers. Furthermore, resistance against disciplinary power was articulated at the end of the decade by Butler’s argument that gender is culturally performed. As discussed in part one of this chapter, Ahmed furthers Butler’s argument by claiming sexual orientation “might also be a matter of residence, of how we inhabit spaces, and who or what we inhabit spaces with.” The self/Other binary can then be viewed as influenced by how the self orientates its self in the unfolding life-world around it, as well as the comprehension of the objects in that space. As the self performs a gender role, as well as how the Other views the self, then, becomes a matter of the placement of the self within a spatial-temporal, sociocultural setting of the life-world. This is vividly demonstrated in the shifting cultural memory stitched into the AIDS Quilt.

Part Three – Günther Anders, Human Genome, HIV/AIDS, & the Family
Structure in the 1980s

Biomedical technology was not new in the 1980s, but with the expanding understanding of the human genome, scientists began to view and influence the

323 Here and elsewhere in this dissertation, the term other is written with a capital “O” to indicate the phenomenological, intersubjective relationship between the self and the Other. This is based on an encounter in which both the self and the Other are in the same spatio-temporal setting. It also indicates that the self’s and the Other’s streams of consciousness are synchronized, and that the self recognizes the Other having similar attributes to its self.

human body on the molecular level. The most prevalent research being conducted in relation to this was, perhaps, HIV/AIDS research. While the majority of scientists were attempting to find a cure and/or vaccine for the betterment of Homo sapiens, Günther Anders’ theories, that were discussed in chapter one, can be drawn upon to elucidate the concept of scientific authority over the body. For example, one of Anders most central claims is that as humans created machines that far exceed human imagination, emotion, and responsibility, they have produced a discrepancy between what humans are able to produce, and imagine, as well as control.\textsuperscript{325} It is precisely this dichotomy of technology developed for the supposed betterment of humans, versus whether or not humans have control over their inventions, that will be discussed in this section in relation to, not only the body and HIV/AIDS, but also family structures, gender roles, and care-giving.

What is HIV, and how did humans come to this crossroad between the virus and the control of the human body? The HIV virus compromises the immune system, and in the process the genetic structure of helper T-cells are genetically altered. Therefore, as the virus invades the body it becomes part of the genetic material of the helper T-cells, part of the person’s genetic makeup. What is unusual is that HIV is a retrovirus that falls into the subgroup lent viruses. These viruses normally cause disease in monkeys, cats, sheep, and goats. However, a complex scientific theory has been developed explaining how the virus that causes HIV/AIDS was transmitted to the human population. In 1999, researchers Paul Sharp and Beatrice Hahn claimed that wild chimps had been infected

simultaneously with two different simian immunodeficiency viruses forming a third virus that could pass from one chimp to another and was capable of infecting humans and causing AIDS.\textsuperscript{326} The most commonly accepted theory of how this jump between species occurred is that the SIVcpz virus was transferred to humans through the killing and eating of chimps.\textsuperscript{327} This virus then mutated into HIV-1, one of the now known multiple strains of HIV. Daniel Halperin and Craig Timberg have argued that the virus then spread through colonized Africa along the European established trade routes. They claim that the virus might have simply died out in the forest with the absence of these trade routes. Moreover, they hypothesize that humans first encountered the virus in remote parts of Cameroon where rubber and ivory trade led humans into parts of the forest where they had never been before.\textsuperscript{328} The map that can be drawn of the mutation of the virus, the crossing from one species to another, and the initial spread of HIV/AIDS reveals the complexity of human’s interaction with each other and their environment. If Halperin and Timberg’s hypothesis is true, then it would also demonstrate how industrialization and colonization contributed to the initial spread of the virus, as well as leading to parallels to be drawn between their and Anders’ claim that humans epistemologically are unable to imagine the outcome or consequence of their inventions. Furthermore, like Anders’ concept that technology has its own autonomous agency, the recklessness and greed of industrialization that demanded


more raw materials is certainly what Halperin and Timberg suggest started HIV/AIDS.

To better understand HIV/AIDS, the mutation of the virus, and how it became a public health problem in the 1980s, researchers have not only attempted to find out how it entered into the human population, but at what point it crossed over. It is now known that the virus is able to lay dormant in its host for many years, which has made it much harder to map the time it first infected the human population. Even though, it was not recognized by the medical community until it began to appear in small pockets of individuals in New York City and Los Angeles in the 1980s, it is believed to have made the transfer to humans much earlier. In 1998, a plasma sample taken in 1959 from an adult male living in what is now the Democratic Republic of Congo, was analyzed. The findings from this analysis suggested that HIV-1 was introduced into humans around the 1940s or early 1950s. However, a few years later, in 2008, researchers placed the transfer between 1884 and 1924. This is currently the most accepted dating of the transfer.

Now that it is believed that people had the disease, and even died from it long before the 1980s, it is conjectured that the virus spread through a large geographical area of the African continent before it was documented in the United States. It is theorized to simply not have been recognized in the third world African countries. Perhaps this was due to the initially low numbers of cases, or

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that those first afflicted were spread across vast rural areas, or even, that there was a lack of centralized healthcare, which meant those who were ill or died were not documented by any centralized system. Moreover, even though the world has seen epidemics and pandemics before, the HIV virus was/is unique because it does not behave like other known viruses. Unlike other pathogens, that either kill an individual or leave him/her with a stronger fortified immune system to be used for future exposures to disease, HIV does not seem to give any protective immunity. This, along with the continued mutation of the virus, was another reason the virus was not initially recognized. This has also made it extremely difficult for the medical community to treat and produce a vaccine. It was, for these reasons, that it was not until it presented itself in pockets of the United States that the medical community began to attempt to find the cause of the disease, isolate the virus, and attempt to find effective treatments. The fight against HIV/AIDS by the medical community has been an arduous battle. The virus is complex. HIV is what is known as a retrovirus with a single strand of RNA, which has continued to mutate. This has made it very difficult to produce a vaccine. The HIV virus works by infecting the body by attaching itself to CD4 receptors found on the surface of helper T-cells. The viral envelope fuses with the helper T-cell membrane and the contents of the HIV particle are then released into the helper T-cell. The virus can only replicate inside human cells. Once inside the cell, the HIV virus begins a process called reverse transcription, which turns the HIV RNA into DNA. The DNA is transported to the cell’s nucleus, where it is spliced into the human DNA by the HIV enzyme integrase. When the cell becomes activated, the body treats the
HIV genes in much the same way as human genes producing new HIV proteins and enzymes and ultimately new matured HIV particles that continue to infect other cells. The process of the virus invading the body and mutating the helper T-cells can be mapped through the viral load in the infected person, and demonstrates the transformation of the body.

During the 1980s, in reaction to HIV/AIDS, human genome research and the biomedical industry became key elements in how the body and the self were understood. As Donna Haraway suggests, the body and self became defined by the construction of the biomedical, technical language of the postmodern scientific culture in the United States.\(^{331}\) This technical language can, once again, be compared to Anders’ theory of technological agency, which he argued ultimately will control humans. This is eerily demonstrated in Haraway’s claim that, in the 1980s, the body could not be separated from science, disease, and culture, but instead, overlapped and was redefined by them. In light of Anders’ argument, somewhat ironically, it is this treatment of the individual by the biomedical discourse in relation to HIV/AIDS that Haraway credits for the initial development of much of the queer theory of the decade.\(^{332}\) Additionally, she argues, “much of the initial impetus for AIDS research and prevention came from the gay community,”\(^{333}\) implying that without gay activism far less research and preventive measure would have been implemented. Both the HIV/AIDS body and the gay or lesbian body, therefore, became two interconnected bodies through an


understanding of the identity of the self as an ambivalent site within the culture of
the United States. The newly formed body, comprised of the HIV/AIDS body and
gay and lesbian body was prominently displayed in the AIDS Quilt, and its
sociocultural understanding and acceptance mapped in what has become a vivid
memorial and example of folk art.

As the virus attacked the immune system it mapped yet another perception
of the body that was based on sociocultural stigma associated with the disease, as
well as scientific discoveries about the disease. While the rewriting of the immune
system was facilitated by HIV/AIDS, a new understanding of the human genome
was developing, and the promise that future drugs might be designed based on an
individual’s immune system or genetic makeup looked encouraging. What is
shown in the AIDS Quilt is that socio-cultural situations are constantly evolving,
and as such the self’s placement within a spatial-temporal, sociocultural setting of
the life-world is always in flux. This was precisely the case in the 1980s as the
body was mapped through gender performativity, HIV/AIDS, and the human
genome. One example of this was the argument that one’s desired sexual
orientation was not a matter of choice. In the early 1970s, genes began to be
assigned to their correct location on the 23 pairs of chromosomes found in the
human body. This was due in part to discoveries, such as, the characteristic light
and dark bands on chromosomes, innovations in recombinant DNA, as well as
cloning and sequencing of DNA. These innovations allowed a chromosomal map
of the human genome to begin, and as genes began to be marked and understood,
theories of a “gay” gene were suggested, and a new understanding of sexuality
began to emerge. By the mid 1980s, the idea that being gay was not a choice, but a genetic predisposition seemed a logical assumption. However geneticists, such as Victor McKusick, suggested that there would be difficulties in the mapping of the human genetic code. He explained that multiple approaches would be needed to find certain genetic markers. Only a few years later, though, it was reported that a “gay” gene had been found.

In 1993, the openly gay molecular biologist Dean Hamer published the article “A Linkage Between DNA Markers on the X Chromosome and Male Sexual Orientation,” in the journal Science, one of the more prestigious scientific research journals in the world. This article was based on Hamer’s gene linkage study. In this type of study, a behavioral trait that runs in families is identified. Scientists then look for a chromosomal variant in genetic material of that family, and attempt to find that variant in those family members, which display that trait. In this case, the trait was homosexuality. Hamer’s findings was replicated in another study in the United States, and published in the article “Linkage Between Sexual Orientation and Chromosome Xq28 In Males But Not In Females,” 1995. Taken together, these hypotheses provided the LGBT community with some backing from the scientific community to support the belief that homosexuality is innate, genetic, and, therefore, unchangeable. Hamer’s 1993 article was first announced on July 15, 1993 on a broadcast on National Public Radio. The article

was published the following day in the journal *Science*. A few weeks later, a cover story entitled “Gay Gene?” ran in *Newsweek*, as did another in *The Wall Street Journal* entitled “Research Points Toward a Gay Gene” with a subheading, “Normal Variation.” The innovative genetic technology allowed this claim, and these articles helped to map a new course for the LGBT community, as well as rewrite the understanding of the body from a genetic perspective. Today, however, people like Hamer and others claim that there is no single gene that can be linked to an individual’s orientation towards homosexual or heterosexual lifestyles. Instead, they claim that sexual orientation is the result of a number of factors, such as the interaction and combination of genes in an individual’s genome, as well as environmental factors. These could include chemical exposure to the fetus while in utero or a myriad of other environmental factors; in short no one is currently able to definitively answer how or why sexual orientation is developed.

According to Cappozzola, Jones and others involved in the *NAMES* Project challenged the “cultural power in the language of Americanism itself, insisting that active and caring national response to AIDS and people who had the disease were not fundamental departures from American traditions in the political and memorial realms.” The actions of those involved with the *NAMES* Project attempted to rewrite the American culture and map a new course of national identity, and the genetic advancement of the 1980s helped to shape this identity. This includes, but is not limited to discoveries relating to the human genome, such as Hamer’s claim of a gay gene. This claim influenced the perception of the self and the Other.

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through the supposition that being gay was innate and unchangeable. This claim helped map sexual orientation on a genetic level and became an analysis of the self and the Other from both the inside and outside of the body. The “gay” gene representing the inside of the body and the way the gay man or lesbian woman performed gender roles representing the outside of the body. This depiction of the inside and the outside of the body could also be argued to have represented genetic markers for inclusion or exclusion from the LGBT community. While the LGBT community fought for inclusion into mainstream American culture, the use of the argument of genetic predisposition toward gay or straight was both one that valorized the LGBT community, but also often ostracized them. This sometimes led to strategical oppositions and multiple suppositions being mapped when dealing with the self and the Other, for example, the bifurcation between essentialist writers’ universal body and queer theorists’ gender performativity. It is evident that during this period, various concepts emerged, some of which were reflected in the AIDS Quilt.

The growing discussion of a “gay” gene leading up to Hamer’s claims coincided with the use of the AIDS Quilt, in 1988 as a symbol for the first World AIDS Day, and the beginning of the international endeavor known as the Human Genome Project (HGP). All three of these paths were interwoven, and helped to map a new understanding of what it meant to be human, and each of these paths seemed to intersect at the point of human’s quest for a better understanding of DNA. The HGP was initiated for just this reason. The HGP was started in order to identify and map approximately 20,000-25,000 genes in the human genome. By
mapping the genome, the scientific community hoped to have a better understanding of the human body, and as a result be able to advance medical treatments on a genetic level. Never before had humans understood the molecular structure of the species and the process of anthropogenesis, the coming into being of Homo sapiens, in such detail. As the structure of the human genome began to be comprehended, new light was shed on the identity of Homo sapiens, which further helped to shape humans. It was found that the DNA structures of humans and many other animals were remarkably similar. The knowledge of the similarities of DNA among humans and nonhumans precipitated a new understanding of the world and the binary frame of the self and the Other. For example, scientists and philosophers Hub Zwart and Bart Penders concluded that biological evolution is related to cultural evolution in a more symbolic dance than had been previously thought. Using the example that dairy herders develop lactose tolerance into adulthood, they postulated that certain cattle milk protein genes co-evolve with human lactase metabolism genes; specifically, they claim that, “our natural environment [is] of our own making.”

339 As a result, “we can be considered ‘self-made’,” 340 or as Anders might say, it is our technological advancements that alter our bodies. Additionally, as previously stated, individuals with a mutation on the CCR5-Delta 32 gene have some immunity to the HIV virus. This mutation is also relevant to Zwart and Penders’ argument because, as explained earlier, the CCR5-Delta 32 gene mutation also “correspond roughly with those for lactose tolerance.

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The complexity of these claims is further exhibited by looking at Barbara McClintock’s theories related to transposition. Through her intense analysis and mapping of maize genetics, she suggested that regulation in mutations occurred as cells formed in maize through controlled breakage (or dissociation) in the chromosome. This process forms a mutation due to a chromosomal segment crossing-over from a parent cell to its offspring during meiosis, and being positioned into a new location on the chromosome. Evelyn Fox Keller argues the application of McClintock’s findings suggests an understanding that requires “rethinking the internal relation of the genome, exploring ways in which internal feedback can generate programmatic change.” Keller also postulates that McClintock’s ideas might necessitate a “rethinking [of] the relation between the genome and its environment, exploring the ways in which the DNA can respond to environmental influences.” The concept of transposition then becomes one that is reacting to both external and internal chains of chemical events on the molecular level. If Zwart and Penders’, Cohn, Jr. and Weaver’s, as well as McClintock’s concepts of evolution are correct, they paint a much more complex picture than Darwin suggested, one in which both humans and their environment are reacting to one-another through calculated molecular changes. This argument will be further explored in chapter four, here though, the point can be illustrated by looking at global warming. Today the evidence of DNA responding to environmental influences is beginning to be seen as both plants and animals react to

341 Cohn, Jr. and Weaver, “The Black Death and AIDS,” 502.
global warming. Such is the case in the recent discovery of a new hybrid shark species found off the coast of Australia. It is believed this shark is more resistant to extreme temperature changes.\(^{344}\) If this is true then both humans and their environments are evolving genetically due to the unforeseen global warming caused by human’s technological inventions, and certainly supporting Anders’ theory that technology has its own agency, or at least there is a causal effect of technology, which in this example is global warming. As Anders argued, humans might be able to develop technology, but their inventions far exceed human’s imagination, emotion, and responsibility. Other examples, of technology’s effect on humans during the 1980s can be seen in the growing use of personal computers. This helped facilitate the com-mercialization of the Internet, which, by the 1990s, had expanded on an international scale, altering the sociocultural and spatio-temporal understanding of the life-world, as well as scientific discoveries. This will be further explained in chapter three and four.

There is certainly an ominous side to technology; however, it is also worth noting how technology has been used to help the disadvantaged, or used in other beneficial applications. This was documented in the 1980s when funding for HIV/AIDS research became associated with the venture capitalist economy of Silicon Valley. Companies such as the biotechnology corporation Genetic Engineering Technology Inc., also known as Genetech Inc., as well as Microsoft Inc., funded and facilitated research in an attempt to find a cure for HIV/AIDS. In

1994, Microsoft founder Bill Gates opened The Bill & Melinda Gates Foundation. This foundation helped and still helps to create a more inclusive image of HIV/AIDS, one that not only includes the LGBT community, but also includes mothers, children, and a significant percentage of the general public in Africa. Much of this shift can be mapped back to Jones’ statement, in 1988, that the NAMES Project was “not a gay organization.” As funding for AIDS research facilitated a new understanding of retroviruses and the human body, as well as the ability for viruses to mutate and jump from one species to another, there was a new appreciation for how interconnected humans are with the world around them. The technological innovation of Genetech Inc. and other genetic innovations helped to alter, not only the treatment of the body, but also how the body is created. These advancements, initially seem beneficial, however, it is important to remember Anders’ argument that technology has its own agency.

In the 1980s, a growing number of families began to be formed through the use of assisted reproductive technology (ART), which allowed the state yet another axis point to monitor the spread of HIV/AIDS, for example, the screening for HIV of potential donors and parents. Additionally, the use of ART created life where individuals no longer needed to exchange bodily fluids, and, as will be discussed in depth in the next chapter, ART allows the state to optimize the population by discarding unwanted embryos. Additionally, the shifting structure of how a family was formed changed how the primary caregiver was represented. IVF, or any form of ART technology, has, according to Singer, “forced existing regulatory

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institutions, including the judicial system, to reconsider, and in some cases revise, the operational definitions of parental and kinship relations. The process [was] complicated by the climate established by the hegemony of sexual epidemic, which [had] provided an occasion for justifying a return to family values.’”\textsuperscript{346} This became the backdrop for the infamous 1986 custody case of Baby M. This case, Singer argues, forced the courts and legislature to “function as [a] forum for [the] societal reconsideration of the ways in which the reproduction of the population is socially organized.”\textsuperscript{347} What emerged were “questions of custody, […] cultural visions of motherhood, paternity, and the contradictory intersections of the technological, legal, and commodity systems.”\textsuperscript{348} What this case did, was to help to “establish the mechanisms for deciding what to do about babies who are produced in other than the usual ways, and babies who will not be raised in what is assumed to be the optimal circumstances, namely, in a household with two married biological parents.”\textsuperscript{349} Likewise, the case introduced into popular parlance the terminology of surrogate motherhood. Singer argues, “a whole set of assumptions and values were condensed into this term and [were] also reflected in the logic governing the first decision, even though these assumptions [were] never themselves put, or acknow-ledged to be, on trial. These include[d] assumptions about what kind of person a mother is supposed to be, and what kind of social situation is best for children.”\textsuperscript{350}

\textsuperscript{346} Linda Singer, \textit{Exotic welfare}, 88.  
\textsuperscript{347} Linda Singer, \textit{Exotic welfare}, 88.  
\textsuperscript{348} Linda Singer, \textit{Exotic welfare}, 80.  
\textsuperscript{349} Linda Singer, \textit{Exotic welfare}, 90.  
\textsuperscript{350} Linda Singer, \textit{Exotic welfare}, 90.
The case of Baby M involved Mary Beth Whitehead and William and Elizabeth Stern, stemming from Whitehead suing for custody of her biological child, conceived through artificial insemination with William Stern. The Sterns had sought a surrogate because Elizabeth Stern had a mild case of Multiple Sclerosis (MS), which later in the court case was argued “rendered her, as a practical matter, infertile […] because she could not carry a baby without significant risk to her health.”\(^{351}\) MS is not considered a hereditary disease. However, through the study of the human genome, a number of genetic variations have been linked to an increased risk of developing the disease.

Whitehead, who gave birth on March 27, 1986, named the girl Sara Elizabeth Whitehead, took her home, and did not accept the contractual monetary arrangement of 10,000 dollars. The child lived with the Whitehead family until the beginning of the trial, January 5, 1987, during which time Whitehead argued that she had bonded with the child through breastfeeding. The court, though, ordered her to stop breastfeeding and gave temporary custody to the Sterns.\(^{352}\) After a lengthy time in the courts, on February 3, 1988, the Supreme Court of New Jersey awarded the Stern family custody, but Whitehead retained her legal status as the child’s mother and was given visitation rights.\(^{353}\) The visitation agreement was, in part, because as many have argued, Whitehead was not a typical surrogate because she was the biological mother. However, Singer argues that the use of the term surrogate mother framed the case within an institutional and contractual logic in


which Mr. Stern occupied a privileged position as coprogenitor, and obscured Whitehead’s position of the child’s biological parent and genetic cocontributor.\(^\text{354}\) This disconnection to genetic relations was further seen when, after reaching the age of majority, the child, then known as Melissa Stern, terminated Whitehead’s parental rights, and initiated the process of allowing Elizabeth Stern to adopt her.\(^\text{355}\) This case challenged both the practice of surrogacy and the concept of motherhood. The court granted Whitehead parental rights since she is the biological mother. What is abundantly clear, when looking at this case, is with the growing frequency of scientific intervention in the creation of human life, the delineation of parenthood has become crucial.

New understanding in the human genome, further advancements in IVF, as well as pre-implantation genetic diagnosis (PGD) at the end of the 1980s fostered a new relationship between the meaning of conception and child rearing. This is seen in the decade through the growing frequency of same sex couples, older couples, couples with infertility problems and/or genetic mutations, as well as in wealthy single women having offspring. The division between conception and child rearing via scientific intervention can be viewed in a multitude of ways. As stated earlier in chapter one, many feminists view any form of ART as an invasion of the female body and sometimes a misuse of poor or disadvantaged women. These concerns should not be dismissed, and will be addressed at a later point. However, at this juncture, the crucial point is that in the 1980s there was a schism between the gestation of the fetus and rearing of the infant that was facilitated

\(^{355}\) Cf. “Now It’s Melissa’s Time.”
through ART and a new understanding of the human genome. This division helped to re-conceive the juridical and social dimensions of the female body, which had long been associated primarily with gestation and caring of children. Moreover, the view of the female body in science, as Keller suggests, has changed throughout the development of science. While her argument is focused on science being gendered and male dominated, however true this might be, it is more useful here to employ her observation that in modern science the God-like mysteries of nature and women were replaced with one that was partially mechanical. This, she suggests, devalued women’s sexuality, and led to the polarization of the definitions of both male and female that were well-suited for the division between work and home required by early industrial capitalism. By the nineteenth-century, Keller claims, a new construction of ideal womanhood emerged, one that was desexualized, harmless, and whose function it was to uphold the values of the middle and upper classes. Women, of these social standings, in essence, were only valued for their domestic ability to keep the family running like a well-oiled machine, demonstrating the far-reaching effects of the industrial revolution. However, during the 1980s, the mapping of the body through the human genome not only helped to rewrite the understanding of the body, but also showed how we are connected to nature, and how the self is oriented within the life-world. This prompted new discussions about the age-old premise of a connection between women and nature. Through the mapping of recessive genes, the maternal body

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took on a more active role on the genetic level, and with the intervention of ART the concept of selfhood became first a matter of genetics, and second a matter of environment. This facilitated a separation of the value of women’s fecundity and their mental contributions. Both were equally important, but to some degree also seen as malleable and increasingly becoming viewed as interchangeable with the gender roles of the opposite sex.

In conjunction with the new divisions of the role of care-giving, Kristeva claims the woman and mother are always sexed, yet not sexed as she fulfills the maternal function of addressing the infant’s basic needs, implying that the maternal function can be fulfilled by either men or women. It also implies an emotionless, mechanical process of addressing the basic needs of the infant, and echoes Keller’s claim of the desexualized homemaker who, through science, becomes mechanical, or as Anders claimed controlled by technology. The mechanical “desexualized” gender becomes a hybrid, not unlike Donna Haraway’s metaphor of a cyborg, from her essay, “A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century.” The self and the Other become machine and organism through the systemization of the actions of care-giving. No longer gendered or biologically determined, the caregiver becomes interchangeable between male and female, which are in themselves gender roles that are mutable through sociocultural and scientific intervention. This shift in ideologies is well documented. In early societies, women were associated with fecundity. It is argued by Keller, Kristeva, and others that scientific discourse within Western civilization merely assumed this association, and presumed that the female body’s
ability to give birth is driven by nature, and, therefore, inseparable from nature. This placed women in a social position derived from her body rather than her mind. Women, as Kristeva explains in “Motherhood According to Bellini,” have, because of this discourse of maternity, been historically reduced to these bodily functions by science. It could, therefore, be argued that since science is delineating the female body through control over bodily functions, this demonstrates another example of the presence of both disciplinary and biopolitical powers. Kristeva further suggests that, “the maternal body is the place of a splitting.” The maternal function cannot simply be reduced to mother, female, or woman, and in this idea, she perhaps offers an example of resistance against both disciplinary and biopolitical powers. Kristeva claims that the mother’s love and desire for the child is separate from the mother functionally addressing the infant’s basic needs. Along the division of these roles, as stated above, Kristeva claims the woman and mother are always sexed, yet not sexed as she fulfills the maternal function of addressing the infant’s basic needs.

Through Kristeva’s argument, the mythology of the maternal function is challenged through the concept of emotional detachment, and supports the claim that either sex can perform the task of addressing the basic needs of the infant. This is paramount because so much of Western science, for example, behavioral, social, and life science, is rooted in the ideologies of the mythology of the maternal function. This connection is made, whether through gendered science, as Keller suggests, or in the argument that the “social analogue of the DNA molecule: both

meaning specifically child rearing and DNA] determine the overall program or plan of development of the system of which they are a part,” as Issac Balbus claims. The general questioning of the mythology of the maternal function is in part, what helped to shift the concept of care-giving, gender roles, and the nuclear family in the 1980s.

Kristeva’s argument is just one among many in the decade that facilitated a fluctuation of perception in the social order of the Western world, which has produced a type of super-structural inclusion of ideologies. This is what Foucault referred to as the creation of “truth” embodied by an individual. This truth is defined as “a system of ordered procedures for the production, regulation, distribution, circulation and operation of statements,” which are today created and enforced by technological advancements, IVF being simply one of many. These technological advancements can also easily be considered to be the mapping of the human genome, or the development of treatments to fight HIV/AIDS. Their influences were far-reaching, as has been argued throughout this chapter, and they helped lead to the conceptualization of gender performitivity.

Another factor in the changing concept of care-giving was the HIV/AIDS pandemic. The ostracizing of those afflicted with the disease, along with their families, led to a new dynamic between patients, families, and the healthcare industry. The financial burden of caring for grown children who were both dying and could not be covered by the parent’s insurance, along with the growing number

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of low-income, uninsured and underinsured victims of AIDS, led to the *Ryan White Comprehensive AIDS Resources Emergency (CARE)* Act, 1990. This along with other actions were sought, in a large part, by the LGBT community, and found what became known as the AIDS community. It was through the actions of the LGBT community that parents, lovers, and friends began to take on new roles of care-giving in the 1980s as the pandemic spread throughout multiple populations of the United States, as well as throughout the rest of the world. Jones’ AIDS Quilt is one of the key symbolic images from this decade that helped to unify caregivers to form sup-port groups and political activism, and ultimately changed not only how the self looks at, but also cares for, the Other.

**Chapter Three** – Genetic Engineering, Patricia Piccinini, *The Mutant Genome Project & the 1990s*

The genetic revolution and the computer revolution are just now coming together to form a scientific, technological, and commercial phalanx, a powerful new reality that is going to have a profound impact on our personal and collective lives in the coming decades.

– Jeremy Rifkin

**Introduction**

In 1998, Rifkin wrote the above epigraph during a moment in the history of Homo sapiens, one where genetics and computers merged so succinctly, that today it is impossible for scientists to conduct research without the use of computers. In this chapter, the field of genetics, known as genetic engineering, arguably made

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possible only by computer technology, is juxtaposed with various concepts relating to family structure, gender roles, and care-giving. The decade of the 1990s was perhaps most not-ably marked with the ambitious Human Genome Project (HGP) spanning thirteen years. The momentous completion was announced in 2003, along with the mapped 20,000 to 25,000 genes that comprise the human genome. Its completion was an accomplishment that truly facilitated a new understanding of the building blocks of Homo sapiens. However, before the HGP was even finished, scientists were already beginning to manipulate genes through genetic engineering. This precipitated an era of evolutionary change that was no longer only controlled by natural selection; now the progression of almost every living thing could be manipulated at the genetic level by the hands of scientists. The decade of the 1990s moved beyond the concept of simply mapping the human genome, to manipulating both animal and plant genomes through genetic engineering.

In 1989, a couple who was a genetic carrier of a severe form of mental retardation that affects males used pre-implantation genetic diagnosis (PGD) to ensure they had a daughter.\textsuperscript{363} Their success forged a new path for PGD that grew exponentially in the 1990s. Additionally, in 1997, the Scottish embryologist, Ian Wilmut successfully used an adult sheep cell to clone the now famous sheep, Dolly. The milestone of the birth of Dolly made it possible to mass-produce identical copies of a mammal. Both these, and other events related to genetic engineering, raised moral questions and added another layer to Günther Anders’ argument of technological agency.

\textsuperscript{363} Denise Grady, “Unnatural Selection,” \textit{Vogue} 10 (October, 1995): 234.
In section one of this chapter, it is argued that through technological advancements, particularly genetic engineering, the life-world was expanded to the global life-world, which was directly influenced by the Western world. The concept of the non-Western body being oriented to the West is examined, as well as, the concept of stewardship by the West. Moral autonomy and Martin Heidegger’s perception of care (sorge) are juxtaposed with technological/scientific agency, eugenics, and Western capitalism. Specifically, it will be argued that during the 1990s, genetic engineering resulted in a new vision of the perfect human that translated into “designer babies,” and genetically modified food. The Australian artist Patricia Piccinini’s, *The Mutant Genome Project*, 1994-1995, with its LUMP (Lifeform with Unevolved Mutant Properties), which is based on the concept of “designer babies,” is used to address these issues.

In section two, of this chapter Michel Foucault’s conception of juridical, disciplinary, and biopolitical powers are used to examine the concept of eugenics in relation to “designer babies.” Furthermore, it will be argued that the desire for an infant to have a certain sex, hair color or skin tone, as well as the attempt to produce more abundant and nutritious food influenced the concept of care-giving at both the individual and state levels. This is seen directly in the care-giving for an infant by the primary caregiver, but also observed in the supposed care-giving of the third world by the wealthy West. Both the caring and misuse of the non-Western body in relation to genetically modified food, the buying and selling of human eggs, and use of surrogacy, will be examined. Examples from Piccinini’s, *The Mutant Genome Project* will be used to discuss how far society will go in the
genetic engineering of a child and the body. Furthermore, the concept of caregiving and responsibilities for what has been created through genetic engineering is discussed.

In section three, Andres’ concept of technological agency will again be called upon to discuss the viability of self-determination, self-organization, self-replication, and self-regulation in the age of genetic engineering. Moreover, using Piccinini’s *The Mutant Genome Project*, questions are raised revolving around how humans are defined as Homo sapiens, and to what extent real and artificial distinctions are perceived. It is also argued that both the female and male bodies, as well as gender categories, are in this context, redefined with the intervention of genetic engineering, for example the uses of PGD to create life could be viewed as challenging the natural process of conception. This example and others will be used to examine the changing concept of gender categorization.

**Part One – The Life-world, Patricia Piccinini’s *The Mutant Genome Project*, and Genetic Engineering in the 1990s**

What is an organism? It is a bounded, physicochemical body capable not only of self-regulation – self-steering – but also, and perhaps most important, self-formation. – *Evelyn Fox Keller*[^364]


During the 1990s, the life-world came to a crossroad as computer technology was being increasingly combined with sciences, creating sweeping changes in how everyday objects, animals, and plants where comprised. With the
increasing development and use of genetic engineering, scientists began to produce biotech plants that contained novel genetic traits such as the insertion of antifreezing protein genes, found naturally in flounder, into tomatoes. This type of innovation was only made possible because of the marriage of science and computers. As Rifkin argued, “The very ‘operational language’ of the computer is now being grafted onto biological systems. It is this common language that is creating a seamless web between the information and life sciences and making possible the joining together of computers and genes into a single, powerful technology revolution.” Computer technology also transformed science to a system-based approach, as Eugene Thacker argues, “For mainstream biotech, a molecule first exists, and then it does something; for systems biology, a molecule is first a process or interaction, and its static existence is only a secondary effect of its dynamic nature.” As new scientific innovations became more readily available across the globe, they precipitated forms of cultural change, from multiple, regional views to a collective global view. This was due to both technological advancements and the subsequent Western or American domination of the world during the decade. However, this state of affairs, created by modernity, led Zygmunt Bauman to argue, “When it comes to designing the forms of human

365 Cf. Rifkin, Harnessing the Gene and Remaking the World, 81.
366 Rifkin, Harnessing the Gene and Remaking the World, 181.
368 For the remainder of this chapter, it should be understood that the term “technology” is being used to refer to the combination of computers and science.
369 Part of the United States growth to become the leading world power, during this decade, was of course the fall of the Union of Soviet Socialist Republics in 1991. The 1990s was also prior to China’s influence as a superpower.
togetherness, the waste is human beings.” In light of Bauman’s argument, today the by-product of technological agency has not only become the consumption of humans but their disposability. In this chapter, an analysis of how technology has shifted the very perception of what is pre-given in the life-world will be examined, along with how this has altered the intersubjective relationship of care-giving.

If technological advancements are shaping our collective understanding of culture that moves beyond borders of geography, language, and/or belief systems, then culture is created by technology, which encompasses the pre-given backdrop of the life-world. As Husserl rightfully argued, in *The Crisis of European Science*, there are repercussions of scientific technology that are often not adequately pondered. Science has and will transform the life-world of human experience. For example, Alfred Schutz and Thomas Luckmann argue that the ability to bring whatever sector of the world I please into reach is empirically arranged not only according to *subjective degrees of probability* but also according to *grades of ability* that are physical, technical, etc. My position in a particular time and society is part of the latter limitation. (A citizen of the Middle Ages could travel to China only with the very greatest difficulties and with the greatest loss of time. Today I can fly to Hong Kong in a day. My children may be able to take a trip to the moon. […] All these are examples of variations of technical possibilities. These variations of technical possibilities are what shape the life-world, and with the marriage of science and computers, clearly defined in the 1990s, there was a growing sense that humans might be able to anticipate the future, and choose

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among numerous possible routes that technology could provide. For example, the human genome project (HGP), started in 1990 and finally completed in 2003, precipitated a decade of new scientific observation which was used to explain the appearance of the world, and foster advancements in genetic engineering. Like Galileo’s proposal that “exact and intersubjectively valid knowledge of the real world can be attained by treating everything about this world as an example of a geometrical object or relationship,” the mapping of the human genome formed a new mathematical understanding of the genetic patterns that comprise every living thing in the world. Furthermore, the manipulation of genes through genetic engineering and biotechnology examined the relationship of every plant and animal in dynamic new ways, ones that involved prediction and observation of the interaction of genes on the microscopic level.

In addition to the new perspective genetic engineering brought to the concept of the pre-given life-world, Rifkin rightly argued in 1998 that genetic engineering had also led to “the globalization of commerce and trade mak[ing] possible the wholesale reseeding of the Earth’s biosphere with a laboratory – conceived a second Genesis, an artificially produced bioindustrial nature designed to replace nature’s own evolutionary scheme.” During the 1990s, with the technology of genetic engineering altering the world in such dramatically fundamental ways, a new responsibility to care for the people who use this technology, as well as care for the things that are created with this technology, became a growing concern of many people around the world.

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373 Rifkin, Harnessing the Gene and Remaking the World, 9.
To begin to examine the 1990s, the globalization of the world, and the importance of genetic engineering and biotechnology must be factored into the equation. It is first important to understand Husserl’s concept of the pre-given and consciousness as existing precisely through the living together of the life-world. Both the individual and the collective belong to the world, and live together in the world, and validate our consciousness through this togetherness. As previously explained in chapter one, for Husserl the pre-given can be applied to both the immediate experience of the life-world and the cultural life-worlds. Husserl argued that what is given in advance or passively received by consciousness forms the backdrop for the understanding of the world. The world and the objects in it are pre-given in an intuitive state of the life-world. However, a cultural community is not perceived like a thing or a body, but is also not given independent of cultural objects or the bodies within the culture. As David Carr argues, “we know the community because we perceive other persons as members, representatives, or authorities of the community and because we perceive physical objects such as tools and books, factories and monuments, as its artifacts and documents.”

The structure of the cultural life-world is given through a spatio-temporal world of perception that is based on an individual’s historicity, and in which truths are created through the individual’s experiences. As Husserl argued, in The Crisis of European Science, when a truth that seems secure in one culture is thrown into an alien social sphere, it is discovered that the truths from each culture are by no

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374 Carr, “Husserl’s Problematic Concept of the Life-World,” 333.
means the same. Furthermore, the cultural life-world also influences theoretical science. According to Carr, in “Origin of Geometry,” Husserl argues that, “theoretical science depends for its possibility not only on the world of immediate experience, the perceived world, but also on the cultural and linguistic community and its world.” Therefore, as Carr argues, immediate experience comprises a primary level and “the scientific level constitutes a tertiary stratum built on the second or cultural level.” This would then mean that immediate experience and the cultural world share the distinction of the pre-scientific, and are therefore together the foundation for the mathematized world. It is this mathematized world, whether through the mathematizing of the genetic code or cybernetics that has, in the present day, altered the life-world.

Today, the global community is increasingly joined through biotechnology and genetic engineering, creating a cultural life-world that is an amalgamation of many cultures’ ideologies, but is also dominated by Western thought. For example, biotechnology and genetic engineering are both used in the production of the world food supply and perpetuation of human life on the embryonic level. These technological innovations have created a global culture that is dictated by scientific technology, which has altered the pre-given life-world. If the life-world is altered, it stands to reason that an individual’s immediate experience of the life-world subsequently will also be changed. Here, then, is a type of cybernetic feedback of biotechnology and genetic engineering in which they both condition culture,
immediate experiences, and the a priori of the life-world. As Rifkin argued, “the bio-tech revolution will affect every aspect of our lives. The way we eat; the way we date and marry; the way we have our babies; the way our children are raised and educated; the way we work; the way we engage in politics; the way we express our faith; the way we perceive the world around us and our place in it.”  

To begin to demonstrate this argument, first genetic engineered food and raw materials will be examined followed by genetic engineered humans. Now, there are many types of food and raw materials that are genetically engineered. As Jennifer Ackerman reported in the May 2002 issue of National Geographic magazine, most people in the United States have been eating genetically engineered foods since the middle of the 1990s. The most common source being processed foods that contain engineered soybean, corn, or canola. Ackerman claims more than 60 percent of all processed foods in the United States can be called genetically engineered foods, and during the 1990s the growing and use of genetically engineered foods grew exponentially. For example, in the United States the acreage of genetically engineered crops jumped nearly 25-fold from 3.6 million acres (1.5 million hectares) in 1996 to 88.2 million acres (35.7 million hectares) in 2001. Furthermore, when the article was written in 2002, Ackerman claimed that more than 50 different "designer" crops had passed through a federal review process, and about a hundred more were undergoing field trials.  

While humans have been genetically modifying food for centuries by cross-breeding, genetic

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379 Rifkin, Harnessing the Gene and Remaking the World, 236-237.
engineering is relatively new. In the 1990s a growing number of genetic engineers began transferring select genes from one organism to another. Ackerman explains that

Genetic engineers can pull a desired gene from virtually any living organism and insert it into virtually any other organism. They can put a rat gene into lettuce to make a plant that produces vitamin C or splice genes from the cecropia moth into apple plants, offering protection from fire blight, a bacterial disease that damages apples and pears. The purpose is the same: to insert a gene or genes from a donor organism carrying a desired trait into an organism that does not have the trait.  

Specific examples of the possible use of genetically engineered food and raw material began to be seen in 1996 when commercially grown gene-spliced food crops were first planted. According to Rifkin, one year later, “more than three-quarters of Alabama’s cotton crop was gene-tically engineered to kill insects.” Other genetic innovations, while developed to benefit humans, also have the potential to dramatically alter various cultures, such as that of India. Many of these innovations seem beneficial, but on closer examination, each seems to be also problematic. This was the case with the development of the gene-tically engineered rice known as Golden rice. This rice was developed in 1999 by a team of scientists led by Ingo Potrykus, of the Swiss Federal Institute of Technology, and Peter Beyer, of the University of Freiburg, Germany. By introducing two daffodil genes and one bacterial gene, the rice was able to produce beta-carotene, a building block of vitamin A. Golden rice, named for its yellow golden color was developed with the hope that the rice would be grown in areas of the world where

381 Ackerman, “Altered Food, GMOs, Genetically Modified Food.”
382 Rifkin, Harnessing the Gene and Remaking the World, 18.
383 Cf. Ackerman, “Altered Food, GMOs, Genetically Modified Food.”
there is a shortage of dietary vitamin A and a high propensity for blindness. Potrykus argues that he helped developed Golden rice as an altruistic act to help the third-world, and had intended to give free seeds to farmers with income under 10,000 dollars. However, Greenpeace and other organizations that oppose the use of genetically engineered food have blocked its use. One of the main criticisms is that no one knows what would happen if Golden rice was cross-pollinated with indigenous plants, and as Jill Diur points out, “it seems implausible that anyone could argue that insertion of a transgene would only influence one trait.” Simply said, no one knows with certainty what future generations of Golden rice might look like, and what if any extra nutrition it might provide. Rifkin argues there is enough valid documentation to be concerned. For example, in California a hybridized wild radish emerged that was a result of an escaped cultivated radish and the jointed charlock weed, and in Africa the harmful pearl millet weed was a result of hybridization between millet and a wild relative, Pennisetum americanum. These often aggressive hybrid plants prevent native plants from growing, and drive them into extinction. Due to environmental changes, of which hybridized plants and animals are part, Rifkin in 1998 wrote that in the United States alone there are between three to five thousand plants nearing extinction. Other negative possible uses for genetically engineered genes is bio-warfare, which could have devastating global consequences. One unfortunate direct cultural

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outcome from the use of genetically engineered food being used in the third-world has been written about by environmental activist and eco feminist Vandana Shiva. She has chronicled some of the problems of genetically engineered food and seed being marketed by Western companies to third-world farmers, for example, the marketing of genetically engineered sterile seeds to Indian farmers with the promise of riches. Since these seeds are sterile, the farmer must buy new seed each year instead of re-using his/her own. This might not be a problem if the seeds were as high performing as first claim-ed, but many of these crops frequently fail. “In 1998 thousands of Indian farmers committed suicide due to indebtedness linked to poorly-performing new hybrid seeds.”389 This practice is, as Shand claims, “‘bioserfdom’ because farmers are caught in a vice, with no choice but to buy inputs from the same company.”390 The India farmer’s increased reliance on genetically engineered seed, and Western influence, is clearly demonstrated by the fact that “in India, farmers grew more than thirty thousand traditional varieties of rice just fifty years ago. Now, ten modern varieties account for more than 75 percent of the rice grown in that country.”391 These examples certainly show the negative effect of genetically engineered food on the cultural level, as one can only image the devastation to the com-munities affected by the mass suicide and lack of food. What this example also demonstrates is the control of the Western biotechnological industry on the global level. Thus, Husserl’s argument about the

391 Rifkin, Harnessing the Gene and Remaking the World, 111.
cultural life-world can be reexamined in this context. To reiterate, he argued that the cultural life-world was given through modes of givenness that contrasted the perceptual world, such as institutions, political organizations, literature, religion … but also was dependent upon the perceived world. This is because, as Schutz and Luckmann explain, Husserl thought “that a stratified social and cultural world is historically pre-given as a frame of reference for me and my fellow-men, indeed in a manner as taken for granted as the ‘natural world’; that therefore the situation in which I find myself at any moment is only to a small extent purely created by me.”

In this scene, the cultural life-world is then pre-given with only minimal influence by the individual; instead, the individual is born into an already existing system, such as language, religion, art, culture, or scientific theory. However, these things do not remain static. Specifically, scientific systems and/or theories, presuppose the life-world in this way of thinking, but they can and do also contribute to transformation and radical collapse of structures through technological agency. The transformation of the life-world, as a result of technology, can be seen in Bauman’s argument that modernization has created a need for the disposal of human waste, or what today is called e-waste (electronic waste). The burden of the disposal of e-waste [Bauman argues,] has been placed on the still “modernizing” parts of the globe, producing the deepest meaning of colonization and imperialist conquests – both made possible, and in fact inevitable, by the power differential continuously reproduced by the stark inequality of ‘development’ (euphemistically called ‘cultural lag’), resulting in turn from the confinement of the modern fashion of life to a ‘privileged’ section of the planet. That inequality allowed the modern

part of the globe to seek, and find, *global* solutions to *locally* produced ‘overpopulation’ problems.\textsuperscript{393} It is therefore technology that creates a frame of reference to perceive the life-world, which today can be viewed on a global scale, and, as Bauman argues, if a certain culture or individual does not follow the prescribed ideology of the global life-world, they are cast aside as wasted humans, and only become visible when they threaten to disrupt the global life-world.

“We, [Bauman writes,] carefully avoid them (or are directed away from them) in our compulsive tourist escapades. We dispose of leftovers in the most radical and effective ways: we make them invisible by not looking and unthinkable by not thinking. They worry us only when the routine elementary defences are broken and the precautions fail – when the comfortable, soporific insularity of our *Lebenswelt* which they were supposed to protect is in danger.”\textsuperscript{394} It is only then that they become visible. In addition, those that are viewed as malleable and useful in the eyes of the global life-world (that is a Western doctrine), might be given seemingly altruistic opportunities created by tech-nological innovations, like the Indian farmers who were promised high yielding nutritional crops. However, when they cannot or will not prescribe to this life-world, they are cast aside as wasted humans, irrevocably altering their life-world. For example, the Indian farmer has always perceived his life-world through a specific given culture that is centered around farming, but when he is given genetically engineered seed that fails, putting him and many of his neighbors in debt to Western seed manufacturers, in time the culture within his village will be forever radically changed. In this instance, the use

\textsuperscript{394} Bauman, *Wasted Lives*, 27.
of genetically modified seed perpetuates the Indian *longue durée* of colonization, as well as scientific genetic, technological agency. Furthermore, this is but one small example of the influence of genetic engineering. It should be remembered that in the 1990s it was not only the food that humans ate that began to be modified but also the creation of humans themselves. This development had a profound impact on the concept of what was and is pre-given. If scientists can alter the DNA of any plant or animal, including Homo sapiens, morphing them into new forms of life, then perhaps nothing is truly pre-given, but rather, continually created by technology that is increasingly disseminated by the global life-world, which is dominated by technology and marketed through the Western capitalist system.

The fact that genetic engineering in the 1990s was not limited only to gene modifications of plants became an important point in not only the changing structure of the family, gender roles, and care-giving in the decade, but also in the relation between the West and non-West. The genetic engineering of humans brought clear ethical dilemmas as science and parenting began to be pushed for the ever increasing, ideal “designer baby.” This was in large part facilitated by the progression of the HGP and the development and implementation of genetic engineering. One resounding out-come of HGP was the proof of just how interconnected humans are across the globe, and with all living animals on planet Earth. Once again, facilitating a life-world that can, no longer be simply set in a certain culture or language, instead the patterns that form the life-world has become comprised within the predominant global cybernetics. This has formed a collective cultural global life-world this has, at its core, a capitalist system dominated by
Western commodities. Whether objects, such as genetically modified food, or as will be revealed, humans, (in the form of sperm, eggs, embryos, babies, wombs, and lives, that are bought and sold in the global capitalist system), have become the site of social colonization where it is not the relationship between the self and the consumable object that is paramount. Instead, as Guy Debord argues, “commodities are now all that there is to see; the world we see is the world of commodity.”395 This has happened at a universal level that has, as Debord rightfully argues, turned the whole planet into a single world market that has established a total hegemony over the economy, which has, through specialized science of domination been broken down into specialties, such as, cybernetics, which oversee the self-regulation of every phase of life, becoming an autonomous economy,396 and those that do not prescribe or succumb to it become wasted humans. Likewise, the distinction of the global life-worlds, and scientific theories of interpreting the world according to methods, seems to be overlapping in new ways, where scientific innovations are shaping the global life-world that is dominated by genetic innovations, such as in genetically engineered food. Science has moved beyond the observation of Galileo to manipulating the life-world into its vision, thus, forming a new understanding of the life-world.

Today, as well as in the 1990s, the West, particularly the United States, has taken on a role that is often viewed, in the West, as stewardship. This has helped to shape the culture, language, and history of the global life-world. This is seen in the many conflicts the United States has engaged in over the last few decades, with the

supposition of humanitarian causes. The influence of the West on the non-West is demonstrated, not only through this stewardship, but also with the pervasion of Western media cultural and technological innovations. The domination of Western media, Debord argues, becomes spectacular representations of living human beings, distilling the essence of the spectacle’s banality into images of possible roles. Stardom is a diversification in the semblance of life – the object of an identification with mere appearance which is intended to compensate for the crumbling of directly experienced diversifications of productive activity. Celebrities figure various styles of life and various views of society which anyone is supposedly free to embrace and pursue in a global manner. Them-selves incarnation of the inaccessible results of social labor, they mimic by-products of that labor, and project these above labor so that they appear as its goal. The by-products in question are power and leisure – the power to decide and the leisure to consume which are the alpha and the omega of a process that is never questioned.397

It is through media, and the illustrious goal of power and leisure that the non-Western body unknowingly subjects itself to com-modification. On the other hand, the West is lead to believe its role of stewardship is moral and justified, and those individuals or groups that threaten the Western dogma should be viewed in a bellicose manner, or as wasted humans. Moreover, from the Western prospective, both of these positions, which do not neatly succumb to the West, are demonized and viewed as a threat to the global life-world. The role of stewardship, however, is justified as caring, but as previously stated, Bauman argues, only “when the comfortable, soporific insularity of our Lebenswelt which they were supposed to protect is in danger”398 does the West claim to care. This has, among other things, orientated the non-West toward the West, and spread Western domination across the backdrop of the global life-world, and had/has come to fill ever breathing space

of this life-world, not only for those prescribing to it, but also for those that were deemed wasted humans.

Similar to Ahmed’s argument of gender orientation, in which the self can re-orientate itself in the life-world by altering the repeated actions of gender performativity, so might an individual re-orientate him/herself within the global life-world. Likewise, the same might be said about cultural performativity, which today is set against, not the dominant patriarchal dis-course but the dominant Western discourse. However, like the patriarchal discourse that women have been born into, this discourse, whether patriarchy or Western is imposed and not a choice. Nonetheless, how, both the Western self and the non-Western self orientate themselves within the Western dis-course or patterns of the global life-world, on both the personal and the intersubjective levels, is achieved through daily ritual actions of cultural gestures that comprise performitive actions. These cultural gestures have, however, become more and more influenced and controlled by both Western media cultural and technology. As stated in chapter two, orientation within the life-world is a sense of identification with a sociocultural and spatio-temporal setting that forms a meaningful relationship between individuals and the life-world. Therefore, the meaningful relationships of the global life-world would be formed through connections that are made between Western technology, media culture, and any other influences from the West. Yet, as Ahmed argues with sexual orientation, the self can reject the sociocultural predominate sexual orientation in such a way that disorientation takes place, and through the sense of disorientation, map a new sexual orientation. The non-West could, hypothetically, like sexual
orientation, reject the permeation of Western sociocultural discourse that has pervaded the non-West, and map a new course within the global life-world. This, though, has become increase-ingly less likely as the domination of Western technology in the non-West controls the body through blatant profit-making initiatives, and what many in the West naively view as altruistic innovations. Technology has mesmerized the West, and transformed the global life-world. The poet, Rainer Maria Rilke poignantly writes, in reference to Western technology, “existence for us is a miracle; in hundred, places it is still the source. A playing of absolute forces that no one can touch who has not knelt down in wonder.”399 It is therefore, more likely that Western technology orientates and defines both the Western and non-Western self within the global life-world. Two of the fundamental ways this happens today, and happened in the nineties, was/is through genetically modified food and the use of assisted reproductive technology (ART) to perpetuated the self.

Today, genetic engineering is simply a piece of a complex system that defines the self within the global life-world. If this one element is closely examined, it could be argued that initially the research in genetic engineering was an altruistic act of care-giving, or even morally autonomous in nature. Scientists claimed genetic engineering of the human body would cure or prevent diseases, and research in genetically engineered food held the promise of producing larger and more nutritious crops in third-world countries. Conversely, because today humans can, for the first time in the evolution of the species, re-engineer the genetic

blueprint of the human race, some fear this will lead to eugenic practices, while others claim it is already happening. For example, Dena S. Davis argues “that where the ‘old’ eugenics involved government coercion to create a ‘perfect race,’ the new eugenics is equally intolerant of disability and difference, but is mediated through the individual decisions of prospective parents.”\(^{400}\) The use of genetically engineered food has also become problematic, and has made many farmers in India and elsewhere more like indentured servants than producers of ample food. These specific situations are troubling, and will be further discussed in section two of this chapter. At the moment, it should just be noted that genetic engineering seems to sometimes raise more moral conflict than offer Homo sapiens a better way of life, and scientific advancements in genetic engineering have in fact often suppressed the Other.

The use of the body and the reshaping of the body, through either ART or genetically engineered seeds and food, could be viewed as re-inscribing the lines of Western imperialism through a capitalist system that profits directly from the non-Western body. Furthermore, as genetic technology has been incorporated into computer technology, the ability for an individual to obtain a detailed genetic readout of him or herself has allowed them, as Rifkin hypothesized in the 1990s, to gaze into his/her biological future. Today, the reality of this knowledge has far reaching implications, and once again Rifkin seems to have predicted the future with his argument that the misuse of this technology could lead to “individuals, ethnic groups, and races increasingly categorized and stereotyped by genotype,

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making way for the emergence of an informal biological caste system in countries around the world.” As stated above, genetic engineering began, not with malice intentions, but was initially viewed from the position of the Western self as an agency of moral autonomy, or even arguably an act of care-giving in relation to the non-Western Other. It was a quasi Kantian system of moral autonomy, in which a self-governed system of genetic and technological discovery was justified as an end in itself. It imposed authority in all situations as a universal law of the genetic code that enabled each person to be viewed, with the help of genetic technology, as everyone having the potential of possessing an equal worth in the world, and therefore deserving equal respect. Idealistically, as individuals consumed genetically “healthier” food, and had his/her genetic code mutated, the individual would be faced with an obligation to treat humanity as an end onto itself, and to view humanity as rational agency, that is, represented through both the individual and others. This new individual, who would be formed through technology, would create a common state of being, which through cognition would form a shared experience of intuitive truths. As Husserl argued, what is given to the self is also given to society. This supposed moral autonomy would set forth a utopian ideology of genetic standardization that would form the shared experiences of the global life-world in which intuitive truths would be grounded. However, as Fredric Jameson claims, a “Utopia is […] by definition an amateur activity in which personal opinions take the place of mechanical contraptions and the mind takes its

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401 Rifkin, Harnessing the Gene and Remaking the World, 3.
satisfaction in the sheer operations of putting together new models of this or that perfect society.”

The technology of genetic engineering has allowed Western scientists to move the phenomenal world to the genetic level where they can analyze the structure and interaction of genes in relation to the body, and determine how these phenomenal actions lead to the appearance of the world, specifically the global life-world. The concept of the things that are evident to us, has developed into the concept of things that are given by genetic engineering, not only to the self but also others, forming shared experiences of intuitive truths. This knowledge has a type of dimension only because in human practices, humans participate in their experience, and participate together in the world. These are shared practices within the global life-world. As stated above, initially this global life-world might have been viewed as a perfect society, a utopia. However, as Jameson claims, with “the advent of perspective of a concrete World Market which is now called postmodernity (or globalization) […] spells an end to [the] Utopian fantasy,” produced by B. F. Skinner, Ursula Le Guin, and others. Instead, today, with the advancement of genetic engineering, the rise in apocalyptic science fiction has lead to a rise in the popularity of dystopias such as The Hunger Games trilogy by Suzanne Collins or The Road by Cormac McCarthy, which were both made into movies. In each of these stories, it is evident that the hope of scientists, to develop genetically engineered food to produce enough food for the world’s growing population has not come true. In The Hunger Games people fight to the death for food, and in The


Road, a large portion of humans have turned into cannibals. Still other science fiction movies, such as Knowing, directed by Alex Proyas, tell of an apocalyptic end of the Earth, but a rebirth in a utopian Garden of Eden. However, the dichotomy of the popularity of utopian stories and the dystopian doomsday predictions, along with the search by the West for a better society, could all be argued to be the impetus for genetic engineering. As explained before, the idealistic initial goal of creating engineered seeds for the third-world was to feed the hungry better and more abundant food. For example, scientists first began to develop genetically engineered seeds to offer sustainable farming that would produce more food for the third-world. However, as globalization, innovations in technology, and social modifications have occurred, care-giving and moral autonomy no longer seem to be the motivation. Instead, these changes have become facets, interwoven on a global scale that situates the Other as a global sociocultural identity that cuts across space and through time.

Influences, to the relationship between the self and the Other are much older than modern technological innovation. Yet, what is different here is that through global-ization the self/Other dichotomy is now viewed as the Other that represents an amalgam of many cultures. Genetic engineering is just one innovation that has helped to alter the global social structure of the self/Other binary. This can be seen in the examples of how genetic engineering is used to make the non-West Other more reliant on the West for essential material goods, as well as how the West uses or misuses the non-Western body. The domination of technology in relationship to the perpetuation of humans and the concept of the
ideal baby, both in the West and non-West, has helped to divide the self/Other along lines of race, class, and gender, altering family structures, gender roles, and care-giving. This, however, as Australian artist Patricia Piccinini demonstrates does not always produce the desired ending that the self envisions.

In 1994 Piccinini began The Mutant Genome Project (TMGP) where she marketed the computer generated Life form with Un-evolved Mutant Properties (LUMP). In this work, Piccinini parodies the Human Genome Project (HGP) and its ideological relationship to the quest for the perfect human. She initially entices the viewer with the promise of the perfect “designer baby” that is marketed through an ad agency, stating in a lecture, at Tokyo Art University, in 2003, “these babies were re-designer by and engineer for total efficiency. They are intelligent, long-lived, disease resisted, but as you can see, they [are] not human.”

This is understood when, upon examination, the viewer soon realizes his/her desire for perfection cannot be met, and instead, has morphed into a toy-like monster-baby. Piccinini creates this installation with digital c prints, three-dimensional sculptures of the designer babies, which are placed on pedestals, and an interactive computer program where the viewer can customize his/her own LUMP (Lifeform with Un-evolved Mutant Properties). Thus, she explores the relationship between tech-science and commodity culture through the ad agency that markets and sells the LUMPs. As, Helen McDonald describes them, they were cute and desirable, but even though the installation “was almost convinc-ing, it could not eliminate the creatures abject aspect. In this way, Piccinini parod-ied the way corporate

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marketing attaches a novelty sales pitch even to embryonic forms of life.”

Fig. 1

Taken from
http://www.medienkunstnetz.de/works/the-mutant-genome-project/images/3/

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In addition to parodying the (HGP) the installation was, in part, a reaction to the concept of genetically engineering babies – known as “designer” babies. This interactive project, which writer and curator Amanda McDonald Crowley explained, allowed audience members to use a computer terminal to customize features for their own LUMP, that were both gorgeous and monstrous artificial life forms. This, like all of Piccinini’s subsequent work evokes questions of personal responsibility, as well as the potential impact of genetic research.\footnote{Cf. Amanda McDonald Crowley, “Creative Encounters: The Art/Science of Collaboration,” \textit{Shaping Technologies} (2003): 231-232, accessed October 18, 2011, \url{http://www.sarai.net/publications/readers/03-_shaping-technologies/227_235_amcrowley.pdf}.} The obvious connection between her work and the use of assisted reproductive technology (ART) also evokes the postmodern feminist phenomenological view found in the
self or split-self in the bodily experience of pregnancy and birth that is found in writers Iris Young, Julia Kristeva, and others. Young points out that even existential phenomenologists, whose “lived body” theories seek to overcome Cartesian dualism, fail the gender test, since they cannot explain the uniquely female bodily experiences of pregnancy and birth. For them the body remains an impediment, something alien, outside; body is again the inferior Other.”

For example, Young views the pregnant subject as “de-centered, split, or doubled […] She experiences her body as herself and not herself. Its inner movements belong to another being, yet they are not other, because her body boundaries shift and because her bodily self-location is focused on her trunk in addition to her head.”

Besides this split, Kristeva, as explained in chapter one, also suggests “the maternal body is the place of a splitting” between the mother’s love and desire for the child, opposed to the mother functionally addressing the infant’s basic needs. Both of these writers are depicting a bodily split of the self that is associated with pregnancy, however with the introduction of ART, this split self takes on yet another dimension that could even be viewed as a disembodied experience. This happens when an egg is fertilized outside the body and then implanted in a woman or through the use of a surrogate who carries and gives birth to a baby for another woman. It is also alluded to in Piccinini’s TMGP through the computer generated LUMP.

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For those individuals who choose to become surrogates, the bodily split divides the self/Other in ways that are unseen in any other relationship, forming a unique perception of the life-world that is comprised within the surrogate’s body and redefines the concept of altruistic care-giving. For even when money is exchanged, the surrogate often claims to have entered into the arrangement to help the intended parent(s). For the surrogate, care-giving takes place on a daily basis as the baby grows inside her. It can, as Elly Teman argues, also take place in various exchanges and situation between her and the intended parent(s) and the relationship that is formed with the child after s/he is born. These various forms of care-giving, partially while the surrogate carries and cares for the child on a daily bases, has led, as Teman argued, a need for a re-mapping of the body. The body of the surrogate is of course hers; however, she is in essence renting part of her body, her womb, to a person with no biological ties. The Other is not of her own blood and is foreign to her, yet, it is literally inside her. This Other, not only occupies her womb but subjects her entire body to physical and mental change, as well as places her in the position to allow doctors and various people to examine and share her body.

How does the surrogate cope with the child in her body who is not hers? The answer to this question varies among different religions, ethnicities, and geographical locations. Likewise, so too does the upbringing of the child. Many anthropological studies, examining the raising of children, have appeared since the creation of Piccinini’s TMGP. What many of them have in common, though, is an

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assessment of how globalization and technology are changing how children are raised. This can clearly be seen in Cindi Katz’s *Growing Up Global: Economic Restructuring and Children’s Everyday Lives*. In this ethnographic study, she examines children’s lives in a Northern Sudanese village with a state-sponsored agricultural program geared towards capitalist development of the landscape, and counters this with a study of New York City children living in Harlem. Here, she focuses on how neo-liberal austerity and post-industrialism have restructured an economy that offers little to the children’s safety or usable resources.\(^{411}\) Likewise, in Anne Allison’s book *Millennial Monsters: Japanese Toys and the Global Imagination*, she explores the global popularity of Japanese youth in relation to the capitalistic conditions of play, for example, the embodiment of global capitalism that is found in the popularity of Power Rangers and Pokémon.\(^{412}\) What these two books, and others like it, highlight is, although there are differences in children’s upbringing, technology and globalization are playing an increasing role in how humans are raised. This is also demonstrated in the various practices of surrogacy and its embodiment/disembodiment now found around the world.

In Teman’s study of surrogates in Israel she suggests that the surrogates cognitively recalculate their body through body mapping. This form of ontological choreography, she claims, enables surrogates to “distinguish between parts of their body they wish to personalize and parts they wish to distance, both cognitively and

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emotionally.” It also allows the surrogate to feel a sense of control within the pregnancy, and forms an embodied knowledge that enables her to feel in control over the medical authority, above technology, and even see herself as playing a central role in the creation of the child, as well as positioning themselves directly under God. Furthermore, this practice does not passively fragment the body by either technology or the nation-state, instead in Israel, where producing more Jews is seen as a national, as well as, religious duty, Teman claims, the surrogate is able to “realign the innovative form of maternity that she has created with nature and culture, with her personal goals, and with the pronatalist national ideology of maternal service to the nation.”

She does this by risking her life and body, she is willing to sacrifice her body “first, for the country, dying a hero’s death: and second, for her children, whose future will be financially secured” by the money she earns. Teman explains that, “the military analogy is inviting because its core theme is that of agency, which lies at the center of the surrogate’s narrative.”

The gift of the child that they give, and the money they receive usually does not alter their social standing. However, Teman repeatedly found the surrogates were empowered by the process. She also cites other ethnographic data that suggest in both the United States and India surrogates often feel empowered by the experience. The surrogate’s actions not only empower her, but also they help to orientate her into the world, and identify her as a caring and selfless individual.

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413 Teman, Birthing the Mother, 25.
414 Teman, Birthing the Mother, 102.
415 Teman, Birthing the Mother, 257.
416 All women who become surrogates in Israel must already have given birth to at least one child.
417 Teman, Birthing the Mother, 255.
418 Cf. Teman, Birthing the Mother, 293.
Furthermore, her actions also alter her perception of the life-world, for example the repeated actions of caring for the child prior to birth often involve such daily rituals as monitoring both the child’s movements and the weight gain of the surrogate and child.

Even though the child is growing inside the surrogate’s body, many of the surrogates view the process as artificial, where their womb becomes a prosthetics for the intended mother that connects the bodies of the surrogate and the intended mother through the womb and fetus. This forms a connection through a state of subjectivity of personal viewpoints, and opinions about motherhood, birth, and care-giving. In this instance, however, truth becomes an ambiguous system where the actions of the body of the intended mother are often given to the self through intuition. This could manifest, for example, as the intuitive responds to being pregnant, even though the intended mother is physically without child. Consciousness then is received or is given truths through an almost passive state of intuition that is opposed to normal experiences, in particular, experiences of facts. Therefore, the surrogate, as the prosthetic womb, allows the intended mother, as Teman explains, to imagine the pregnancy inhabiting a distanced yet connected space project in front of her body, and conjointly held by the surrogate,419 which forms a shared space within the life-world.

The prosthetic womb also enables the intended mother to embody the physical attributes of pregnancy through a phantom pregnancy and demonstrate her intended care-giving through her sympathetic pregnancy. Many of the women Teman interview claimed they had swollen hands and feet, weight gain,

419 Cf. Teman, Birthing the Mother, 140.
contractions during the surrogates labor, and one even claimed she began to lactate.\textsuperscript{420} Other accounts by Teman ranged from “weight gain, sensitized nipples, aching breasts, cramps, stirrings in the belly, and hormonal changes.”\textsuperscript{421} These exhibitions of shared experience are formed through the shared background of pregnancy and birth, and are sometimes extended to the intended father as well as the intended mother, demonstrating the desire to have and care for the child. The child can also be viewed in the Heideggerian scene as the thing that persists outside the self, which is known to the self through the act of care-giving or engagement with \textit{sorge}. It is the child that can demonstrate Heidegger’s argument that, “This persisting thing [the child] is the condition of the possibility of the objective presence of change ‘in me.’ The experience of the being-in-time of representations equiprmondially posits changing things ‘in me’ and persisting things ‘outside of me’.”\textsuperscript{422} The child is independent of the self, changes over time, and changes the self or the caregiver. Thus, the child allows the self to experience time within itself and leap into that, which is outside the self. This happens through \textit{sorge}, such as in the producing of, attending to, and looking after the child. This type of \textit{sorge} places the self in the temporality of Being. Moreover, the bodily changes of couvades syndrome or sympathetic pregnancy,\textsuperscript{423} to either one or both of the intended parents contain presuppositions, which are not rules or structures of consciousness, but enter into the self’s concept of perceptual knowledge, and are

\textsuperscript{420} Cf. Teman, \textit{Birthing the Mother}, 145.
\textsuperscript{421} Teman, \textit{Birthing the Mother}, 149.
\textsuperscript{423} Couvade syndrome is when a non-pregnant partner experiences some of the same symptoms and behaviors of the expectant mother. Cf. Carole Counihan, \textit{The Anthropology of Food and Body: Gender, Meaning, and Power} (New York: Routledge, 1999), 69.
particular throughout consciousness. This knowledge forms a type of sedimentation within the life-world through the actions of the surrogate, and the intended parents. It also forms the lived experience, which draws on past experiences. Although, as Merleau-Ponty argued, it never recapitulates the past, rather it is seen as a novelty that draws on the past.⁴²⁴ Therefore, the surro-gate and intended parents are brought together through the child in a way that “the ego’s active functioning of the living body or the bodily organs, belongs in a fundamental, essential way to all experience of bodies.”⁴²⁵

The unborn child, in so many ways, dictates the bodily experience of the surrogate and intended parents. For example, the bodily changes to the intended mother allow her, as Teman suggests, to carry out a type of gender performance in “which the intended mother seeks to portray a socially desirable ideal of ‘femininity’ that they have been heretofore excluded from because of their inability to bear child-ren.”⁴²⁶ Teman also observed that the surro-gate viewed her own body as sometimes not looking or even being pregnancy, but noticed the physical changes in the intended mother’s body, thus helping to shift the pregnancy to the intended mother’s body. This connection of bodies is explained by one of the doctors Teman interviewed. When she asked him who was his pregnant patient, the surrogate or intended mother, he answered: “I would relate both to the surrogate and to the intended mother, both as individuals and as one together.”⁴²⁷ These

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⁴²⁶ Teman, *Birthing the Mother*, 152.
⁴²⁷ Teman, *Birthing the Mother*, 122.
concepts not only challenge the ideas of the body as an individual whole, but also the mind/body and the self/Other connections that form the life-world.

On the basis of body maps, the women conceptually divide their bodies into different parts that they view as varyingly detached or connected to their own body and to their intended mother’s body. Teman’s study of Israeli surrogates reveals that this mapping of the body helped the surrogates to conceptualize the relinquishment of the baby that they view simply as only carrying. This enables them to emotionally distance themselves from the fetus. Instead, they often connected their body with the intended mother’s body, forming a bond between the surrogate and the intended mother, which replaces the bond that is usually established between child and mother. This bond sometimes included the two women publicly showing affection for one another, such as kissing, hugging, and holding hands, and in one case even cohabitating in the marital bed of the intended mother without the intended mother’s husband. The bond that was established often lasted long after the child was born, forming an extended family where kinship bonds are formed between the surrogate and the intended mother that were sometimes described as blood connections.

With the use of ART, it is well documented that families began to be formed in ways that diverged from the concept of the nuclear family comprised of a mother, father, and children. Sometimes, as Teman documented, families were extended to include surrogates. In other instances, the use of ART altered the nuclear family by allowing same sex couples or single parents to have biological

\[428\] Cf. Teman, *Birthing the Mother*, 27.
\[429\] Cf. Teman, *Birthing the Mother*, 163-164.
\[430\] Cf. Teman, *Birthing the Mother*, 225.
offspring. The dynamics of perpetuating both humans and animals was further altered in the 1990s when the world was introduced in 1996 to the Scottish sheep Dolly. The first animal cloned from an adult cell. The concept of reproduction during the decade involved aspects of genetic engineering that, as Piccinini explained in an interview, raises the questions: What is it to be human? What are the possibilities and responsibilities that come with new innovations? What is the real and artificial? Why do we create new life, especially when we don’t look after the life we have on this planet? What are our responsibilities to new life forms? In her own work, Piccinini does not offer her audience any answer to these questions, instead she simply wants the viewer to ponder these questions and reflect on how science is altering the world around the self, and demonstrate the moral or ethical dilemmas that surround the search for the perfect child. As previously stated, in her TMGP installation, the viewer can create the toy-like monsters – LUMPs by using an interactive computer program, or s/he can view the various displays of the LUMPs that are being marketed by an ad agency. The LUMPs are created, marketed, and sold as the perfect children; however, their morphed bodies no longer resemble Homo sapiens.

Piccinini’s project, perhaps more than anything else, raises issues of caregiving, particularly in the instance when the outcome of scientific innovations do not result in the desired, perfect offspring. With the use of ART, or, hypothetically, in Piccinini’s project, the creation of the LUMPs via computer terminals, parents, scientists, and the human race need to care for the offspring they produce, which

involves attending and looking after their creations. The act of care-giving, which was explained with the use of Kristeva’s con-ception of the pre-linguistic in chapter one, is one of the fundamental ways in which connections in the life-world are produced. This is demonstrated through both human’s participating in their experiences, and particip-ipating together in the world. As stated before, this brings together, as Husserl claimed, the body with “an animal or a cultural object,”432 in a way that “the ego’s active functioning of the living body or the bodily organs, belongs in a fundamental, essential way to all experience of bodies.”433 The concept of interaction in the life-world was most likely influenced by Heidegger’s concept of Da-sein, found in Being and Time, and indeed one of the fundamental characteristics of Da-sein is related to caring. As previously discussed, it is the act of caring that places humans in the world or as Heidegger wrote, it places them in a state of “being-in-the-world, as taking care of things, is taken in by the world which it takes care of.”434 It is the action of caring, whether it is attending to or looking after something, making use of something, giving up or letting go of something, or caring for something that humans have produced, which places humans in a state of being. For Heidegger, being can only occur through the interaction with the world, and only when the individual acts into a specific historicity. One of the fundamental ways that humans can accomplish this is through the act of caring. However, what Piccinini’s TMGP does is reveal the act of care-giving is not as simple as it first seems. As explained earlier, the globalization of the life-world, which was in part created by genetic engineering, has not always produced the

432 Husserl, The Crisis of European Sciences and Transcendental Phenomenology, 106.
433 Husserl, The Crisis of European Sciences and Transcendental Phenomenology, 106.
434 Heidegger, Being and Time, 57.
desired effects, nor has the act of care-giving happened in the ideal way. Likewise, the creatures created through Piccinini’s TMGP do not produce the desired “designer” babies, instead as she writes on her website, the LUMP “is presented as the world’s first commercially available ‘designer baby’ […] which is the human form completely redesigned by an engineer and an ad agency; physiognomically efficient and marketably cute.” The LUMP that is produced, though, does not look like a human child, instead, as explained earlier, curator Crowley claims the LUMPs were both gorgeous and monstrous artificial life forms. The LUMP, a designer baby, or anything else created through the use of genetic engineering becomes human’s responsibility, and with the global life-world this responsibility has become predominant-ly that of the Western world.

Part Two - The Relation of Power Structures to Genetic Engineering, Society, & the 1990s

The advancement of humanist ideas lay in the hands of genetic engineers.
– Jill Didur

During the 1990s, as humans searched for the perfect genetically engineered world, they increasingly assessed the ideal genetic structure through the use of statistical analysis. The genetic material that expanded the probability of obtaining the biopolitical bell curve of such things as height or IQ became increasingly sought after, as the selling of both human eggs and sperm multiplied. Undesirable

genetic mutations increasingly began to be referred to as genetic errors that could be potentially fixed. This development led Dena S. Davis to argue that if “genetic abnormalities come to be seen as avoidable mistakes […] society may be less willing to pay for the education and support of people with genetic problems. Health maintenance organizations (HMOs) and employers may give people a choice: test and abort, or bear the consequences yourself.”

The desire for genetic sameness also creates a true possibility of future generations lacking genetic diversity that could potentially have devastating effects as new viruses and bacterium continue to mutate. Furthermore, there are a growing number of scientists who argue environmental factors play a key role in whether or not certain genes are expressed in an individual’s lifetime, and need to be placed in a more prominent position in genetic engineering. Still other scientists, such as Dr. Stuart Newman, disagree with Richard Dawkins’ theory of the selfish gene, which was discussed in chapter one, and instead argue that, “genes don’t generate organisms. Rather, the very existence of genes already presupposes the existence of the organism in which they’re embedded, and it is the organism itself that interprets, translates, and makes use of the genes in the course of its development.”

However, both Dawkins’ ideas from the 1970s and Newman’s from the 1980s had, by the 1990s, given way to an “understanding of genes as integral components of more complex networks that make up both an organism and its external environ-

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437 Dena S. Davis, *Genetic Dilemmas: Reproductive Technology, Parental Choices, and Children’s Futures* (Oxford: Oxford University Press, 2010), 19. (In the original text maintenance was spelled wrong.)

This external environment was, however, also being manipulated by genetic engineering. For example, as discussed in the previous section, food was beginning to be genetically modified to increase its output and vitamin capacity. Golden rice is a good example, which has been genetically engineered to contain beta-carotene, and was developed with the hope that the rice would be grown in areas of the world where there is a shortage of dietary vitamin A and a high propensity for blindness exists. In the 1990s, one thing that came clearly into focus was that the progress in genetic engineering in humans, animals, and plants within the global life-world could be defined by a growing system of biographical and biological degrees of freedoms.

Those individuals who did not fall into the strict guidelines of the increasing control of biopolitical power of the 1990s subsequently became the Other, demonstrating how an individual’s experiences are socially arranged within the life-world. One example of this was, any embryo that was deemed genetically imperfect or deformed, led to the growing practice of discarding unwanted embryos that harbored less than desirable genetic traits. Embryos that through genetic screening showed any probability of genetic abnormalities simply no longer needed to be born. In this practice, as Jeremy Rifkin rightfully pointed out in 1998, scientists are beginning to reorganize life at the genetic level. The new tools of biology are opening up opportunities for refashioning life on Earth while foreclosing options that have existed over the millennia of evolutionary history. Before our eyes lies an uncharted new landscape whose contours are being shaped

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in thousands of biotechnology laboratories in universities, government agencies, and corporations around the world.\textsuperscript{441} Ironically, however, in 1990 while there was a growing use of genetic screening to avoid the birth of children with unwanted genetic diseases, deformities or abnormalities, the Americans with Disabilities Act (ADA) was signed into law. Perhaps, this action showed resistance against the forces of biopolitical power that were shaping society, or it demonstrated a dichotomy of the social views of the Other, that questioned, not only the Other, but also the self. Due to these genetic engineering practices, some questions surrounding how the self was viewed were: how does one view: self-determination, self-organization, self-replication, and self-regulation? These thought provoking questions are some of the impetus for Patricia Piccinini’s work. As previously explained in this chapter, Piccinini’s work and various practices that use genetic engineering sometimes utilize, and at other times challenge, concept of moral autonomy that resembles Immanuel Kant’s arguments, in an age where both disciplinary and biopolitical powers increasingly control the self. Even though Kant questioned many of the predominate religious beliefs and the existence of God, his self-governed system of moral autonomy ultimately began to look like the Golden Rule. “Do unto others as you would have others do unto you.”\textsuperscript{442} This aspect of moral autonomy, if applied to genetic engineering, would then imply both the designer baby and the deformed baby should be treated and cared for in the same manner. This is one of the main points of Piccinini’s creation of the LUMP. No mat-ter what humans create, whether or not they fall in the biopolitical bell

\textsuperscript{441} Rifkin, \textit{Harnessing the Gene and Remaking the World}, 1.
\textsuperscript{442} Matthew 7:12
curves for such genetic traits as IQ or height, or are what the parent(s) envisioned, the parent(s) has a responsibility to care for that child. How-ever, as Davis argues, when the parents use any form of genetic engineering, the children could be viewed as a literal investment in which a certain return of gender or personality traits are expected. She argues that if “parents pay large sums of money, and make a huge investment in time, effort and personal hassle […] in order to make sure that the child is a boy, or to clone a successful football player, they are likely to feel entitled to the desired result.” Likewise, parents then are, investing in Foucault’s concept of human capital on the biological level, even before the child is born. The time, effort, and money the caregiver invests in the unborn child, might in their eyes, determine the return of value the child will have as an adult within a given society. Although, this loses sight of one of the principle requirements of good parenting, which as Davis explains, is “a balance between having a child for our own sakes and being open to the moral reality that the child will exist for her own sake, with her own talents and weaknesses, propensities and interests, and with her own life to make.” Likewise, parents who genetically engineer their child need to remember that the child is morally autonomous and not their property. This is just one of the problems involving care-giving and genetic engineering. This concept of caring for what is created by humans can also be extended to caring for, not only the individual but entire societies. As explained in the last section of this chapter, today the concept of the life-world can be expanded to be viewed on a

443 Davis, Genetic Dilemmas, 37.
445 Davis, Genetic Dilemmas, 43-44.
global scale. This is due, in large part, because of the influence of the West over the non-west. However, this global life-world, and the act of care-giving associated with it, has imposed both disciplinary and biopolitical powers across the globe.

Today, the expansion of the life-world along with disciplinary and biopolitical forms of power have in large part been influenced by Neo-Liberalism. Western cultural forms have been placed predominately over all non-Western forms of culture, and Western capitalism has expanded to become a global market. Producing commercial and industrial procedures that become self propelling systems, which has led Fredric Jameson to make the claim that the overarching structure of capitalism has taken the place of any of the grand constructions to which Imagination might lay claim [...] the function of Imagination slowly atrophies for want of use; it is this process which we have called the wanting of the Utopian impulse, the enfeeblement of Utopian desire, and which saps our political options and tends to leave us all in the helpless position of passive accomplices and impotent handwringers.446 Furthermore, this capitalist structure creates, as Robert J. C. Young explains, a cultural movement that is “one of simultaneous processes of unification and differentiation.”447 Conversely, Guy Debord argues, technology or the spectacle has produced a loss of unity in the world and its massive expansion in the modern period demonstrates how total this loss has been: the abstract nature of all individual work, as production in general, finds perfect expression in the spectacle, whose very manner of being concrete is, precisely, abstraction. The

spectacle divides the world into two parts, one of which is held up as self-representation to the world, and is superior to the world. The spectacle is simply the common language that bridges this division. Spectators are linked only by a one-way relationship to the very center that maintains their isolation from one another. The spectacle thus unites what is separate, but it unites it only in its separateness. This is demonstrated in many forms of technology, however, within this chapter the focus is placed on the intersection of genetic engineering and computer technology that emerged in the nineties, and how this new biotechnology shaped Neo-Liberalism into the global market it is today. Many products bought and sold through this global market are produced by the biomedical and plant biotech industries, both of which utilize innovations in genetic engineering, and it could be argued, were initially produced for the betterment of Homo sapiens. While most individuals would agree the eradication of disease and suffering, and the enhancement of physical, emotional, and mental wellbeing are beneficial to the individual and society, an important question must be asked. Who should be entrusted with the authority to decide which genes are eradicated from the gene pool while others are encouraged to flourish? Shortly, it will be demonstrated that the outcome and genetic development has often lead to more disciplinary and biopolitical control by the West, creating an unequal distribution of wealth and power between the West and the non-West, the beginnings of which can be mapped as Western capitalism expanded from Europe, and North America to the non-West becoming a global market. This capitalist

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expansion was rooted in the industrial marketplace that was built on fossil fuel. It could also be traced back to the publication of Charles Darwin’s *The Origin of Species*, 1859. Rifkin argues that with the publication of Darwin’s theory “the bourgeois class could rationalize its economic behavior by appealing to the universal laws of nature as its ultimate authority. It was possible, even acceptable, to justify the brutal exploitation of the working poor and imperialist adventures abroad all in the name of faithfully obeying the ‘laws of nature’.”

Today, however, the biotech marketplace, which is ruled by genetic information, is an increasingly growing presence in capitalism, often it seems with the same Darwinian mindset as that of the bourgeois class in the 1900s.

As Western capitalism spread, there was a reorganization of the social order, which produced a global market, but as Debord argued, also isolated the self, and only united the self with objects and other people through technology. As previously argued, much of the initial impetus for this technology was, supposedly, rooted in moral autonomy. Therefore, in the 1990s, this should have enabled equality and the action of care-giving, regardless of if a person was from the West or non-West, or if s/he outwardly displayed the optimum genetic traits. Conversely, the isolation that Debord rightfully points out, has only intensified since the nineties, and has led, not to moral autonomy, but to the growing use of humans, land, and resources as raw material. Those individuals that can or will not succumb to the domination of technology are viewed as either bellicose or wasted humans. Leading to what today seems to be grossly less equality between the West and the non-West, particularly in relation to global capitalism. Technology has

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though, imposing sticker control over both the Western and non-Western body through the use of disciplinary and biopolitical powers. For example, Western companies such as Monsanto have in the past convinced many farmers in India to use their genetically engineered seed. The Western control of the body through disciplinary and biopolitical powers can also be seen in the development of genetically engineered food such as golden rice, but also in the genetically engineered corn and soy beans that are grown and consumed in the West. This, and other genetically engineered food, dictate the supply that is available for consumption in third-world countries, and even in large sections of the Western world. It is still unknown what the long-term consumption of this food will have on the individual, but what is clear is that technology is changing humans from both the outside and the inside. There are some individuals who resist genetically engineered food by growing or buying organic food. In this way, they resist technology, as well as disciplinary and bio-political powers. This though is often only available to individuals who can either grow their own food or afford the high cost of organically grown food. Once again, the marketing or giving away of, genetically engineered food in the third-world, and perhaps even arguably in poorer Western communities such as poor inner city neighborhoods, could be viewed as an altruistic act to enable these populations to meet the standards of the bell curves of biopolitical power. These standards, though, have been established through statistical analysis, often by Western hands. Therefore, the individuals who consume this food are not only being controlled by disciplinary and biopolitical powers, but also by the technology that created the genetically engineered food.
The beginning of this schism of equality between the West and non-West can, however, be seen long before genetic engineering was practiced in modern laboratories. As the age of capitalist globalization began with the rise of liberal modernity in Western Europe and North America some two hundred years ago, the control of the non-West by the hands of capitalism began. While, liberal modernity has advanced capitalism in the West, it unfortunately propelling much of the non-West into social decay, economic stagnation, and laid the groundwork for the expanding control over the body through both disciplinary and bio-political powers.

Western capitalism has simply placed a cultural hegemonic veil over the non-West. This has expanded particularly the cultural views of the United States to a global level at the expense of the Other, and moving beyond mere reorganization of the cultural to the control of the body on the genetic level. The globalization of cultural hegemony has lead to the genetic engineered body that is formed both through assisted reproductive technologies (ART) and genetically engineered food. Through the Western capitalist market, the idea is formed that the body is optimized with the assistance of genetic engineered advancements such as with the consumption of genetically engineered food. This regulates the body on a global scale forming a cultural hegemonic concept of health and the idealized body. Moreover, what is deemed as ideal has been established through the use of biopolitical power and marketed through global capitalism.

At the root of the problem of Western capitalism, according Weigang Chan, is the “bourgeois voluntaristic nationalism [that] defines the nation as rational
association of free and equal individuals in a given territory.”

This has not facilitated any form of positive care-giving, a national consciousness or an imagined community, as it has in the West. Instead, in the non-West, it has led, as what Debord argues is isolation and Chan rightfully argues, is the fragmentation of the whole society “into regional, linguistic, and religious assertions, or tribal or ethnic loyalties. Leading subsequently to […] lawlessness, ineffective governments, and economic stagnation.”

Freedom and a hegemonic vision of liberation have not been achieved, instead disciplinary and biopolitical powers have enforced regulations on not only the body but on entire societies through the global capitalist market. This happens, not through clear-cut acceptance or rejection of Western capitalism, but instead as the post-colonialist writer Homi Bhabha suggested, restless, uneasy, interstitial hybridity. Cultural hegemony, therefore, is found not in new freedoms through the actions of resistance against juridical power, but instead cultural hegemony has become the hybridity of the non-West with, more often than not, the Western media culture that is driven by the capitalist state. This, along with the actions of scientific innovations, such as genetic engineered seed, imposes a supposed state of care-giving by the West over the non-West. Within this state of care-giving, the non-West is persuaded to believe that Western material goods and even Western ideologies are better than those in the non-West. Therefore, the non-Westerner needs to act and look more like the Westerner, for example s/he should eat food from the West such as McDonalds or wear Western style clothing. This

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though is done, as Bhabha suggested, in a hybrid state. The enforcement of disciplinary and biopolitical powers allows this state of hybridity to become a new form of cultural hegemony that focuses more precisely on the genetic level of human development. This demonstrates a growing control of both the non-Western and Western body by disciplinary and biopolitical powers, which are enforced by the Western capitalist state that dominates the global market. However, the goal could be perceived as a state of care-giving, because, as Foucault claimed, the goals of disciplinary and biopolitical powers were to “administer, optimize, and multiply it [meaning the body] subjecting it to precise controls and comprehensive regulations.”

The administering, optimizing, and multiplying of specifically the non-Western body is seen in the growing of genetically engineered food, the buying of human eggs, and the use of non-Western women as surrogates. The unpredictability of the outcome of these and other genetic innovations, though, undermined the powers of the capitalist state, and as will be examined in the next section, lead to new power dynamics that are controlled by the very technology that was to initiate freedom and equality. Hybridity, therefore, as stated by Young, and suggested by Bhabba, “becomes the moment in which the discourse of colonial authority loses its univocal grip on meaning.” Hybridity, through technology such as genetic engineering, has created a state that is unpredictable and uncontrollable.

Disciplinary and biopolitical powers seem to be controlling the body through the hybridity of conception and birth, as well as the consumption of food,

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453 Young, *Colonial Desire*, 22.
which today are all so connected to the non-Western Other. On further examination, through, it is realized that this control is no longer dominated by humans; instead the unpredictability of genetic engineering has reshaped not only the human body but also the sociocultural concept of the global life-world. Furthermore, to complicate the understanding of the non-Western Other, as Edward Said’s suggests, this Other has never fully been understood by the West. In his well known book *Orientalism*, 1978, he suggests the way the West views the East is always through a Eurocentric translucent vial of Otherness. Arguing that, Orientalism is simply “a kind of Western projection onto and will to govern over the Orient.”\(^{454}\) It is a construct of the West, and never existed, which Said emphasizes has excluded or suppressed the voice of the Other, and the history of the subaltern. Today, this has been extended to the technological agency that the world is viewed through. This is done under the framework of both disciplinary and biopolitical powers, that, for example can be seen in genetically engineered food and humans. Of course this general statement would be argued by Young, who rightfully questioned, “can there be a general theoretical matrix that is able to provide an all-encompassing framework for the analysis of each singular colonial instance?”\(^{455}\) The answer is mostly likely no. Nor can the complexities of globalization be simply explained through Foucaultian disciplinary and biopolitical powers or technological agency. This can only offer one view in a rhizome of observations.

Clearly, the cultural hegemony of Western capitalism has become the


\(^{455}\) Young, *Colonial Desire*, 164-165.
means that controls the non-Western body, the Other. For example, through the selling of genetically engineered seed and food, third-world countries are controlled by Western companies. Another example is the growing practice of the buying of the body or renting of the womb of Indian women for the use of surrogacy. Globalization, and even the global economy, that is controlled by Western capitalism, has placed many culturally diverse societies under the rule of not one social class, but by the ideology of Western capitalism that controls the non-Western body through both disciplinary and biopolitical powers. This has created a global worldview that is imposed and perceived as a universal societal norm, which is based on the statistical data of biopolitical power. Images of the Western body shown through popular Western culture, the driving hegemonic forces, however, only compound the dichotomy between the idealized West, the unattainable body which represents the self, and the non-Western body that represents the Other. This has no quality of liberation, instead only imposing further disciplinary and biopolitical power sanctions on the non-Western body. To truly understand these various phenomena, a closer examination of each of these factors is necessary.

Perhaps the most pervasive and fundamental system of control, through disciplinary and biopolitical powers, is the genetic engineering of the world food supply. Today, advancements in genetically engineered seed and food have enabled the West to control a large portion of the means of food production. Genetically engineered seed and food are sold, not only in the West, but also to the third-world. The seeds are produced in the West, in particular by the practice based on the Genetic use restriction technology (GURT), colloquially known as
**terminator technology.** The process, as explained by activist Hope Shand, “involves the use of genetic switches, triggered by the application of external chemicals, to control a plant’s genetic traits.”⁴⁵⁶ The term “terminator” refers to the genetic engineering or modification that has made the seeds sterile so farmers cannot collect the seeds and replant them, forcing the farmers to purchase more seed and allowing the West to control food production and dependence on a global level. This practice not only controls the food production, but it also ultimately controls the health and longevity of the body of those who depend on this food.

The world’s biggest seed supplier is the fortune 500 company, the Monsanto Company, located in St. Louis, Missouri. The Monsanto’s website provides an image of helping build sustainable farming and environmental friends biotech development,⁴⁵⁷ that Jill Didur claims promotes the idea of “humans as autonomous and unified agents.”⁴⁵⁸ However, she and others argue this is far from the case, instead companies, such as Monsanto “re-inscribe relations of power along colonial lines.”⁴⁵⁹ Monsanto, opened in 1901, and is known for producing polychlorinated biphenyls (PCBs), Agent Orange, and rBGH artificial growth hormone that is injected into cows. They have also won more than 674 biotechnology patents, and because of their strong-arm tactics, are known among farmers as the “seed police.”⁴⁶⁰ Companies like Monsanto do not find fault with their practices, instead they argue that for centuries farmers genetically modified

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⁴⁵⁸ Didur, “Re-embodying Technoscientific Fantasies,” 100.
⁴⁵⁹ Didur, “Re-embodying Technoscientific Fantasies,” 100.
their crops by producing hybrids through controlled pollination, and there is little
difference in their biotechnological methods. Biotechnology is simply an extension
of this practice except “plant biotechnology allows for the transfer of a greater
variety of genetic information in a more precise, controlled manner.”

Furthermore, they claim to be helping third-world countries with so-called miracle
seeds such as Golden Rice, which as explained earlier is genetically engineered rice
that includes beta-carotene. The concept is that in areas of the world where there is
inadequate nutrition, the Golden Rice will help prevent blindness. However, no
one knows what will happen when this genetically engineered plants are cross-
pollinated with indigenous plants, and as Diur points out, “it seems implausible that
anyone could argue that insertion of a transgene would only influence one trait.”

Additionally, as explained in the last chapter, Barbara McClintock’s discovery of
transposition proves genes are responsible for turning physical characteristics on
and off. This leads to the hypotheses that the transgene in genetically engineered
food could affect unrelated plant traits even in that food product.

Environmental activist and eco-feminist Vandana Shiva chronicles some of
the problems of Western capitalism in India, sighting how Western corporations
have marketed genetically engineered sterile seeds to Indian farmers by promising
abounded crops. Since, as previously explained, these seeds are sterile, the farmer
must buy new seeds each year instead of re-using their own seeds. As previously
explained, this might not be a problem if the seeds were as high performing as first
claim-ed, but many of these crops frequently fail. “In 1998 thousands of Indian

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461 Didur, “Re-embodying Technoscientific Fantasies,” 105.
462 Didur, “Re-embodying Technoscientific Fantasies,” 111.
farmers committed suicide due to indebtedness linked to poorly-performing new hybrid seeds.”463 This practice is, as Shand claims ‘‘bioserfdom’ because farmers are caught in a vice, with no choice but to buy inputs from the same company.’’464

The use of genetically engineered seeds and food is sold on the global market to both the West and non-West, and like the example Shand offers, Western farmers have also faced difficulty with the large corporations such as Monsanto. For example, farmers who refuse to buy genetically engineered seed from Monsanto are monitored by the company to see if any of their neighbors’ (who bought seed from Monsanto) crops cross-pollinate with their crops. If evidence is found of any hybrid plant, Monsanto sues the farmer, dragging the case out in court until the farmer is bankrupt.465 The control and modification of the world food supply by companies, such as Monsanto, alter the body through the various chemicals that are used in the production of the food. This includes chemicals added to seeds and to growing crops. The example of the body here crosses between the West and non-West, forming a body that is controlled through both disciplinary and biopolitical powers and enforced through Western capitalism. The body is no longer viewed from an individual sociocultural perspective. Instead, the body becomes a conceptual body representing all bodies in the global cultural hegemonic state. Disciplinary and biopolitical powers both seek to optimize the body and suppress diversity, and can be viewed as both caring and indifferent.

465 Cf. Barlett and Steele, “Monsanto’s Harvest of Fear.”
Certainly, the production of food fortified with vitamins to be fed to those who cannot achieve the biopolitical bell curve could be viewed as care-giving, however, the growing production and even forceful growing of genetically engineered food that has no data to substantiate any benefits could be viewed as simply the greed of maintaining profit margins in a capitalist system. This produces a gap between the individual body, with his/her desire, i.e. the farmer in India who uses genetically engineered seed because he wants to produce more food to make more money, and the body formed by social production of the farmers who use genetically engineered seed. It is within a fissure such as this that philosophers Gilles Deleuze and Félix Guattari construct a social theory of desire, which according to Young, fills in the gap “between the production of desire and social production”\textsuperscript{466} that is missing from Freudian psychoanalysis.

Instead of using the physical cartography of the body to understand the self, Deleuze and Guattari compose a body that is free from the weighty flesh of the individual. They comprise a “body” they term the “body without organs.” It is both the cultur-al hegemonic body affixed with desire and the unseen body of capitalism spread out, engulfing the world along lines of longitude and latitude in a continuous movement com-pounded by money and desire, creating either individuals or groups that “are tra-versed by lines, meridians, geodesics, tropics, and zones marching to different beats and differing in nature.”\textsuperscript{467} This produces a spatio temporal moment in which the “body without organs” erodes the difference between “the social production of reality […] and a desiring-production that is

\textsuperscript{466} Young, \textit{Colonial Desire}, 168.
mere fantasy.

It is in this space that the social creation of the concept of designer babies is produced, the idea of the perfect child created in a lab, superseding the “naturally” conceived child. This becomes not only the fantasy of the perfect child, but also the fantasy of perfect self that can be realized through a projection of the self onto the fantasy of the child. This fantasy is played out on the global sphere through the renting of wombs in third-world countries by Westerners. The body of the surrogate is not a factor. The renting of a womb becomes the desire for a mere organ without true acknowledgement of the body that is swaddled by a capitalist desire of the sociocultural fantasy of a designer baby. As Deleuze and Guattari claim, “the social field is immediately invested by desire, that it is the historically determined product of desire,” this, through capitalism, institutes the artificial coding of the social structure of the family and state. This becomes what Deleuze and Guattari call the nomadism or a point of non-culture within the Western society’s knowledge system. The designer baby deterritorializes the family structure, gender roles, and care-giving by transgressing contemporary social codes. This is accomplished through the suspension of both culture and territorial boundaries becoming a counterstrategy for capitalism, and forming a new understanding of the family structure, gender roles, care-giving, and self. As Daphna Birenbaum-Carmeli and Marcia C. Inhorn claim, “technologies are sociotechnical products, which are shaped by human and nonhuman factors, including the technical features of the technologies as well as the economic,

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political, cultural, and moral environments in which they unfold.”\textsuperscript{470} The designer baby has, as Davis argues, radically altered the relationship between parent and child. She claims, “New genetic technology will encourage parents to view their children as commodities, as a consumer item one picks and chooses like a new car. […] According to a 1991 Newsweek report, 11 percent of parents in a survey said they would abort a fetus predisposed to obesity.”\textsuperscript{471}

This desire for the perfect human or the perfect child was not a novel concept invented in the 1990s. As the feminist writer Joan Rothschild explains, the quest for perfection can be traced through Western history, for example, in the Age of Reason, reason equated to perfection, whereas, “madness equal[ed] imperfection equal[ed] unreason.”\textsuperscript{472} This concept, alongside Social Darwinism and eugenic thought, according to Rothschild, elicited the scientific and technological dream of the perfect human being, which transformed society and helped spread both disciplinary and biopolitical powers. “Under an ideology of scientific and biological reductionism, human perfectibility and progress were selectively ordered and marked by genetic heritage.”\textsuperscript{473} Rothschild further explains that later in the early part of the twentieth century, genetics were combined with sterilization in a form of eugenic practices that “suggested a type of biological engineering.”\textsuperscript{474} This practice profoundly affected the discourse of the self (the perfect human) and the Other (the less-than-human), allowing for the possibility of the self-made human on

\textsuperscript{473} Rothschild, \textit{The Dream of The Perfect Child}, 28.
\textsuperscript{474} Rothschild, \textit{The Dream of The Perfect Child}, 48.
the genetic level that was created according to the statistical data of biopolitical power. However, Rothchild states, that in the post-Holocaust world of the mid-twentieth century eugenic discourse had shed its racist rhetoric but retained a form of eugenics in reproductive practices based on the desire to eliminate certain diseases.475 Beginning in the 1990s the growing practice of PGD, a procedure that analyzes the embryo prior to insertion into the womb, allowed for genetic abnormalities to be detected, and those embryos discarded. Other genetic tools, such as the use of gene and germ-line therapy, began to be researched. Gene therapy used on humans has grown since 1990 when it was first used on a four-year-old girl, Ashanti DaSilva. Although, germ-line therapy, where genes are inserted into reproductive cells or possibly embryos causing permanent genetic change that can be passed on to offspring, is still only used on animals. The research and use of gene therapy allows yet another possibility for the search for the perfect child and the control of the body through biopolitical power.

The media and society have increasingly influenced the desire for what the ideal offspring actually looks like. In tandem with this are questions addressed by bioethics, as seen from the sensationalized cases of the 1970s test-tube baby Louise Brown and the 1980s Baby M. The media frenzy surrounding the 1990s cloning of the sheep Dolly is yet another example of bioethics being influenced by the media, and subsequently lacking the development of defining critical questions about medical practices, ignoring, as Rothschild states “the ways technologies and science combine to operate as disciplining technologies.”476 This, she argues, has

475 Rothchild, The Dream of The Perfect Child, 52.
476 Rothchild, The Dream of The Perfect Child, 186.
led mainstream bioethics to “avoid examining the process through which criteria emerge that mark the imperfect child, and begin to define the qualities for the child that would be perfect.”

This is reflected in the Hollywood movies *Gattaca*, 1997, where children are made to order, and *Twilight of the Golds*, 1993, where a family has to choose whether or not to abort a fetus prenatally diagnosed as homosexual. The film, *Twilight of the Golds*, in particular, demonstrates how Dean Hamer’s claim of a gay gene, made in the same year as the film, could be detrimental. Books such as Rifkin’s *The Biotech Century*, 1998, or Barbara Katz Rothman’s *Genetic Maps and Human Imaginations*, 1998 further explore the ethical implications of this new technology. Many of these ethical conundrums are also reflected in Piccinini’s TMGP and the creation of the LUMP. As previously stated, she explained in an interview in 2010 that some of the questions that she is exploring through her art making practice are: What is it to be human? What are the possibilities and responsibilities that come with new innovations? What is the real and artificial? Why do we create new life, especially when we don’t look after the life we have on this planet? What are our responsibilities to new life forms?

**Part Three** – Technological Agency, Patricia Piccinini’s The Mutant Genome Project and Genetic Engineering in the 1990s

Earlier in this chapter, it was argued that technology and scientific advancements are shaping the collective understanding of the cultural life-world.

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In this section, a closer examination of how technology not only shapes the life-world, but also alters nature and care-giving will be examined. Furthermore, Patricia Piccinini’s work and the practice of creating “designer babies” will be scrutinized in relation to Günther Anders argument that technology has its own agency, and the manipulation of genes, whether plant or animal based, has become the raw material of this technology. While there are many examples that could be used to demonstrate the use of ART and the sub-sequent experience of disembodiment at the hands of scientific intervention, which demonstrates one aspect of the technological manipulation of nature, Piccinini’s work is an idea specimen. This is because among the many aspects of her work is the recurring theme of technology manipulating nature. Even though she seems to believe humans have always manipulated and altered nature, there is a recurring message in her work, one which states humans cannot truly control nature, and humans need to be more mindful of what they are creating. Unlike many feminist writers, such as Evelyn Fox Keller and others, this element of control over nature does not seem to be one that incorporates the male/female binary. However, like Donna Haraway’s cyborgs, Piccinini, through her LUMPs, suggests an apparent gender confusion, with issues of coding or name as the concept of creation and parenting is rerouted in the network structure of care-giving. This care-giving would be inclusive to both before and after birth, two procedures that, as discussed in both chapters one and two, can be viewed as following divergent paths due to scientific intervention. These paths map new identities of the self and the Other with endless possibilities of multiple identities that morph – shape, form, and transcend gender. These
processes of coding and caring evokes, as writer Yvonna Volkart claims, a “deconstruction of monsters and goddess-like models as products of the same fantasy of perfect control and uncontrollability.”\textsuperscript{479} It is the unpredictability of the human attempt to control nature that drives Piccinini’s work. Science might offer the perfect “designer” baby, as suggested in Piccinini’s TMGP, but what is desired and what is received through genetic engineering do not always perfectly align. Instead, as previously stated, Anders argument has come to fruition. Humans have created machines that far exceed humans’ imagination, emotion, and responsibility; they have produced a discord among what humans are able to produce, and imagine, as well as control.\textsuperscript{480} In the 1990’s, Anders’ argument was extended into the field of molecular biology by the increasing use of computer technology to produce new genetic engineering techniques. Perhaps, the most poignant example is the scientific goal to grow a fetus in a totally artificial womb, from conception to birth. The argument, according to Rifkin, is that scientists “would assure a more predictable environment and make it much easier to make genetic corrections and modifications.”\textsuperscript{481} This goal is one of the underlining arguments that Piccinini analyzes. However, the concept of “designer” babies, as suggested in Piccinini’s TMGP, might form a new mutant Other that is much less than the ideal human. As the pediatrician and writer Perri Klass cautioned, genetic testing of parents and fetus only reveals the absence of certain conditions, not the guarantee of a perfect

\textsuperscript{479} Yvonne Volkart, Monstrous Bodies: The Disarranged Gender Body as an Arena for Monstrous Subject Relations, Medien Kunst Netz, 2007, accessed, October 18, 2011, \url{http://www.medienkunstnetz.de/themes/cyborg_bodies/monstrus_bodies/scroll}.


\textsuperscript{481} Rifkin, Harnessing the Gene and Remaking the World, 30.
Therefore, the resulting baby produced by scientific intervention might be less than desirable.

The concept that even with scientific innovations there is still a sense of uncertainty when having a child, is one of the key elements in Piccinini’s TMGP. She shows the extreme of what can be produced, an unhuman like creature that is a parody of the designer baby. Yet, Piccinini’s offspring, the LUMP, as well as creations in her other projects, evoke a need for caring and nurturing. There is a sense of responsibility by humans to care for the creatures that are created by the use of genetic engineering. In TMGP, she explores ethical and social issues relating to genetic engineering through the LUMP, which, as stated on her website “is presented as the world’s first commercially available ‘designer baby.’ LUMP is the human form completely redesigned by an engineer and an ad agency; physiognomically efficient and marketably cute.” The applications of Piccinini’s work to real life situations might seem far-fetched at first, until an examination of the current practice of ART is undertaken.

Beginning in April of 1997, the invention of the first artificial human chromosome was made public by researchers at Case Western Reserve University Medical School in Cleveland, Ohio. This “development [according to Rifkin] could lead to the customized design of genetic traits in the sex cells, or in embryonic cells just after conception.” The researchers were able to use a

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484 Rifkin, Harnessing the Gene and Remaking the World, 27.
machine to blend natural DNA and synthetic DNA in the laboratory. Rifkin explains that

the synthetic DNA was made to mimic part of a human chromosome called a centromere, which is a primary structure responsible for chromosome replication. The [DNA was] then injected into cells growing in laboratory dishes. The new DNA ‘self-assembled’ into chromo-somes. Genes on the artificial chromosome continued to function in daughter cells for more than six months and after the parent cell had divided more than 240 times.  

K. S. Jayaraman, one of India’s most well known science journalists, in 1996 reported that the hope of scientists who are working on this breakthrough is that one day this will “allow doctors to alter people’s genetic inheritance or cure diseases by slipping genetic ‘cassettes’ directly into cells.”  

Like the fear of the unpredictability of the hybridization of genetically engineered seed with other seed, this altering of genetic inheritance should sound some alarms. What would the children of these genetically engineered people look like? What, if any new genetic modification would they harbor? The inability to answer these questions clearly demonstrate Anders’ argument of technological agency.

Subsequently, the family that is created through the use of ART, such as through the use of a donor egg and/or sperm, and gestated in a rented womb in a third-world country such as India begins to make Piccinini’s work eerily relevant. These practices demonstrate the far-reaching control of genetic engineering on the family structure, gender roles, and care-giving. Likewise, genetic engineering a “designer” baby brings to light what Birenbaum-Carmeli and Inhorn suggest, that “ARTs may accelerate the erosion of traditional nature-culture dichotomies in the realm of reproduction, effecting far-reaching consequences, such as the blurring of

boundaries between nuclear and extended families or the breaching of couples’ intimacy.”

For example, sociologist Amrita Pande claims that “gestational surrogacy, where the surro-gate is implanted with someone else’s fertilized eggs, created three possible categories of motherhood: the biological mother (the woman who contributes the ovum); the gestational mother (the surrogate) and the social or intended mother (the woman who raises the child).”

Additional ethical question arise when only the desired embryos are given the opportu-nity to be born. The less desirable or defect embryos, which might not be the “correct” gender, or could be viewed as carrying a disability, are destroyed or used for medical research such as the global industry of human embryonic stem cells. These practices, as Birenbaum-Carmeli and Inhorn point out, “challenge local notions of personhood, including when human life begins, the status of the embryo as a human being, which lives are valued, and whether the disabled have a right to life.”

One particular problem that should be addressed is the perceptive that surrogates are simple renting their womb. She is, as Gayatri Chakravorty Spivak writes, the subaltern women who has been traditionally not allowed to speak for herself. She has, as Spivak argues, been double colonized, both by the male patriarchal control of the private domestic sphere and the patriarchally collo-nial control within the public sphere.

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488 Pande, Amrita, “‘It May Be Her Eggs But It’s My Blood’: Surrogates and Everyday Forms of Kinship in India,” Qualitative Sociology 4 (Fall 2009), 380.
women being used to gestate children for first world families, the argument has rightfully been made that these women are being used to reinscribe imperialism through the use of the body. This is seen in the 2010 documentary Made in India, by Rebecca Haimowitz and Vaishali Sinha, where a poor, illiterate Mumbai woman, Aasia Khan, becomes a surrogate for a couple from San Antonio, Texas. Aasia enters into the contract to put aside money for her children, to give them a better life. She does not tell her husband what she is doing until she is already pregnant with twins. Entering into the contract for the promise of seven thousand dollars, she only wants to help her family. However, she only receives eleven hundred dollars because the babies were born prematurely: a common outcome of implanting embryos into both biological parents and surrogates. This documentary depicts the growing practice and many of the problems of gestational surrogacy, particularly highlighting the problem of third-world women being made to feel disposable. According to sociologist Amrita Pande, the concept of the disposability of the third-world “is an integral part of the working of global capitalism.”

The growing use of the third-world women for surrogacy has, according to sociologist, France Winddance Twine and others, created the phenomena known as reproductive tourism, which has become a form of outsourced industrial labor. “Increasingly [Twine writes] women and couples from the United States and Europe have begun traveling to India to hire women at discount rates to gestate and

491 Gestation surrogacy is the most common form of commercial surrogacy, it involves a woman who gestates a fetus, meaning she is impregnated with an embryo that she has no genetic ties to. She is paid labor, working on a nine-month commercial contract as she carries the pregnancy to term. From: France Winddance Twine, Outsourcing the Womb: Race, Class, and Gestational Surrogacy in a Global Market (New York: Routledge, 2011), 11.

deliver babies for a fraction of what it would cost in the United States."\(^{493}\) Today, Anand, India houses the most successful surrogate childbirth business. This, according to investigative journalist Scott Carney, is due in part to the endorsement of Oprah Winfrey who, in 2007 featured the Akanksha Infertility Clinic on her daytime talk show.\(^{494}\) Oprah showcased a young American couple that had tried unsuccessfully to have a child. Due to affordability they turned to the founder and director of the Clinic, Doctor Nayna Patel. According to the show Doctor Patel helped the woman become a mother, and the Indian surrogate was lifted out of poverty.\(^{495}\)

There does seem to be both pros and cons when dealing with the concept of surrogacy. It is not a novel invention, in-s stead it has existed through the practices of second wives, concubines, maids, and, on some level, the use of wet nurses. Specifically, Twine points out that “there are biblical examples from Genesis (Chapter 30) in which Rachel, who is infertile, gives Bilhah, her servant (or slave) to Jacob as a concubine to serve as a surrogate. Bilhah gives birth to two sons whom Rachel names and considers her children.”\(^{496}\) Additionally, Pande observes the role of surrogacy in the Hindu mythological stories of Lord Krishna, who was given to the cowherd’s wife Yashoda to raise and protect him from the cruel demon king Kamsa. Many stories depict a loving bond shared between Lord Krishna and Yashoda. The mother-son interaction is, according to Pande, “a popular theme in media representations of Indian mythology as well as Hindu devotional songs and


\(^{494}\) Scott Carney, “Cash on Delivery,” *Mother Jones* 2 (march/April 2010), 68.

\(^{495}\) Carney, “Cash on Delivery,” 70.

\(^{496}\) Twine, *Outsourcing the Womb*, 13.
prayers."⁴⁹⁷ Pande suggests that the popularity of the mythological stories of Lord Krishna and Yashoda have helped some India women justify their role as surrogates.⁴⁹⁸ The main difference between these stories and the practice of surrogacy today is that now surrogacy is being performed within a global market, crossing both longitudinal and latitudinal territorial boundaries that extend and map a new course for the nuclear family.

The burgeoning medical tourism has become a lucrative business that will most likely only continue to expand. With surrogacy alone estimated to be a $445 million business in India, the practice, which became legalized in 2002, is a growing business.⁴⁹⁹ The customers, according to Carney, are most frequently American, British, French, Japanese, and Israeli.⁵⁰⁰ The women who are surrogates in India are often from a low caste, living below the poverty line, and are frequently illiterate. Another factor that leads to the assumption that these women are being taken advantage of is that the contracts they are made to sign are most often written in English, a language that even if they are literate is usually foreign to them.⁵⁰¹ Additionally, Doctor Khanderia, who ran the clinic where Pande did her casework, admitted to recruiting the surrogates, checking their medical history, handling the paperwork (including signing the consent forms and the contract regarding payment), monitoring the surrogates during pregnancy, delivering of the babies, and even setting up bank accounts for the surrogates.⁵⁰² The women who choose to

⁴⁹⁹ Twine, Outsourcing the Womb, 17.
⁵⁰⁰ Carney, “Cash on Delivery,” 69.
⁵⁰¹ Pande, “Not an Angel, Not a Whore,” 147.
⁵⁰² Pande, “Not an Angel, Not a Whore,” 149.
enter into surrogacy usually keep it a secret from their community, village, and even their own family. This is due to the stigma “of getting pregnant for money, which is associated with the ‘immoral’ commercialization of motherhood.”\(^{503}\) These women are, in essence, renting their wombs. This is further demonstrated by the fact that if an egg is also required, the preference is often to purchase the egg from a poor, white woman from one of the post-Soviet societies.\(^{504}\) The egg can then be fertilized and a gestational surrogate in India can be hired.

As depicted in the film, *Made in India*, there is a growing practice of medical tourism, and companies such as Plant Hospital provide service for the first world to receive an array of medical treatments in third world countries. These procedures, including various forms of ARTs, are often unavailable to the majority of the local population. This phenomenon, therefore, often seems to be taking advantage of the third-world, and as previously stated, can be viewed as reinscribing colonial lines through the use of the third-world body. This is particularly true in the case of surrogacy. The women are often housed together in small rooms, evoking images from Margaret Atwood’s *The Handmaid’s Tale* where women are used as human incubators in a frightening futuristic society. However, in Pande’s case study of surrogate women in Anand, India, she discovered that the women found a sense of empowerment in the process. This was due to the money earned by the women, and the rewriting of kinship relations. While pregnant, the women from Pande’s study were housed together, had little contact with their children and family, and were “cared for” by the surrogacy clinic.

\(^{503}\) Pande, “Not an Angel, Not a Whore,” 154.  
This separation from their families and living arrangement forms a kinship between the surrogates that is, not only a gender space occupied by the women while pregnant, but also a kinship that often crosses borders of religion and caste.\textsuperscript{505} Additionally, the women in her study were engineered to be better surrogates. They were given computer lessons, as well as English, so they could converse with international clients. These classes, along with their new found kinship allowed the surrogates to share information and “sometimes come up with strategies for future employment and even acts of collective resistance.”\textsuperscript{506}

While surrogacy in the United States costs between $50,000 to $100,000, in India it is a fraction of that, approximately $5,000 to $20,000, and on average the India surrogate earns between $3,000-$5,000, which according to Carney figures out to about the “same percentage of the total fees—about a quarter—as their American counter-parts.”\textsuperscript{507} The vast difference in price makes the Indian surrogate the perfect choice for many couples. The fact that many of these women are desperate for money and see no other alternative is unsettling enough, but the method of Doctor Patel’s clinic highlights the surrogates physical and mental health are second to the process of processing babies for cash. This is demonstrated in the discrepancy between the United States practice of implanting one or two embryos compared to “Patel’s clinic routinely uses five or more embryos at a time.”\textsuperscript{508} The sum of money offered to these women, though is usually equivalent to nearly ten

\textsuperscript{505} Pande, “Commercial Surrogacy in India,” 989.
\textsuperscript{506} Pande, “Commercial Surrogacy in India,” 971.
\textsuperscript{507} Carney, “Cash on Delivery,” 70.
\textsuperscript{508} Carney, “Cash on Delivery,” 71.
years of a family’s income,\textsuperscript{509} and often is done out of desperation by the mother to give her children a better life. The process of surrogacy then becomes a form of care-giving for both the unborn child that is not genetically hers and the genetic child/children she must leave for almost a year.

Additionally, through interviews, Pande found the women hid money from their husband’s to buy things for themselves, or intended not to give any of the money they earned to their husbands. Such was the case with a 45-year-old woman Pande interviewed. Reportedly, when asked if she had talked to her husband about the money she was earning, the woman told Pande: “Oh no, I haven’t talked to my husband about the money or what to do with it. Why would I? I’m the one earning it. […] And in any case, what does he have to do in this? He did nothing.”\textsuperscript{510} Pande also suggests that surrogacy challenges the “hegemonic notion of kinship [by] (1) Redefinition of the blood tie; (2) Reinterpretation of patrilineal ties and (3) Labored ties across borders.\textsuperscript{511} This is true, not only in India, but in any area of the world were surrogacy takes place. While in the West, there are numerous reasons to go down the path of surrogacy, such as simply a biological desire to have offspring, in other areas of the world the desire to have a child is viewed as a sacred duty to family and nation, and one that perpetuates the patrilineal structures for future generations. This is particular true when a male child is born. Such is the case in the former soviet bloc countries. In the past, couples that were not able to conceive were often ridiculed and ostracized. Childless women were made to feel defective, and men were made to feel emasculated. However, if a couple is unable

\textsuperscript{509} Cf. Pande, “‘It May Be Her Eggs But It’s My Blood’,” 382-383.
\textsuperscript{510} Pande, “‘It May Be Her Eggs But It’s My Blood’,” 386.
\textsuperscript{511} Pande, “‘It May Be Her Eggs But It’s My Blood’,” 380.
to conceive today they can turn to an array of technological advances in ART, and even with possible iatrogenic consequences, many couples view them as positive. The majority of ART procedures are focused solely on the female body, which, as writers Yulia Panayotova and Irina L. G. Todorova suggest, demonstrate “a symbolic redefinition of the family and parental roles. [...] Infertility specialists [are] often endowed with a metaphoric paternal role, a role further endorsed through the marginalization of the male partner.”\textsuperscript{512} As the male partner is made less important in the role of producing an offspring, it could be argued that the processes of ART reinterpret the role of patrilineal ties in the production of children. This perhaps could even shift the power structure of patrilineal ties to matrilineal ties. The process of egg exchange commonly practiced in Ecuador provides the best example of this possibility. Through the sharing of eggs amongst family members, there is not only a rewriting of the family structure, as males are marginalized, but also a redefining of gender roles and care-giving. In Ecuador, it is common for a woman to use eggs from “female relatives – sister, nieces, goddaughters, sister-in-law, and grown daughters – rather than anonymous, paid donors.”\textsuperscript{513} This, as Elizabeth F. S. Roberts notes, alters the structure of kinship that anthropologist Claude Lévi-Strauss claimed was the elementary structure of kinship that is always an exchange of women between men. “Instead, the movement of eggs between female relatives in Ecuador promotes continued

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relationships between them.” This restructuring of kinship helps to redefine the structure of the nuclear family, gender roles, and care-giving in Ecuador. Although this practice provides an alternative to surrogacy that seems more altruistic than the Indian model, the sharing of eggs may not be the best solution to infertility. In Roberts’ study there seems to be no regulations on what otherwise would be a result of an incestuous relationship. This and other egg exchanges that could be viewed as inbreeding, produce an onslaught of moral, ethical, and possible health problems that are far too encompassing to address in this chapter, but should, however, be mentioned.

Whether in the former soviet bloc countries, Ecuador, Indian or elsewhere, the various practices of ARTs are rewriting the family structure, gender roles, and care-giving, a development surely never envi-sioned when the various forms of ART were developed. As Pande argues, this is particularly true when considering the symbolic role blood plays in the structure of bloodlines in India. In India, the way kinship is arranged is based only on the bloodline of the father. It is believed that semen “is derived from blood, being the product of the father’s seed, a child inherits the father’s blood” and therefore becomes part of his family. The mother’s blood only nourishes the fetus and is not contributing to the identity of the child. However, the surrogates Pande interviewed had a very different interpretation of the blood tie: “They not only claimed that the fetus is nourished by its (gestational) mother’s blood but also emphasized that this blood/ substance tie

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515 Pande, “‘It May Be Her Eggs But It’s My Blood’,” 383.
imparted *identity* to the child."\textsuperscript{516} The role of imparted identity has traditionally been reserved only for men in Indian culture. It therefore seems these women feel that they should take the male position of power associated with kinship. Among these women, Pande found that they sometimes felt the blood tie was even stronger than a connection based solely on genes, and this blood tie continued through the life of the (gestational) mother and child’s lives. This blood tie then is able to cross all cultural borders, and all class, religious, and racial borders, and produce a system of artificial coding of a social structure of the family and state, becoming what Deleuze and Guattari called a nomadism. As stated earlier, in this instance this system is driven by the desire and fantasy of the perfect designer baby that has often been genetically engineered. The procedure of the non-Western surrogate produces an ironic twist to the concept of kinship and family structure. Pande rightfully points out that “the surrogates form kinship ties that disrupt the sanctity of biology and genes within a system that might well be the pinnacle of the commodification of the genetic tie.”\textsuperscript{517} The Indian surrogate becomes situated between the altruistic loving, nurturing mother who cares for the child and the disposable contractual mother who, once paid, disappears. However, the (gestational) mother attempts to trump her disposability by claiming her blood imparts the identity of the child, and forms a bond that cannot be broken by time or space. This maps a new understanding of motherhood and the female body, and creates an interpretation of blood ties by the Indian women that privileges gestation over genetics. This is analogous to cultural practices found in other countries, such

\textsuperscript{516} Pande, “‘It May Be Her Eggs But It’s My Blood’,” 383.

\textsuperscript{517} Pande, “‘It May Be Her Eggs But It’s My Blood’,” 393.
as Japan and Greece, where “local beliefs hold that ‘blood’ conferred through gestation and childbirth establishes maternity.” However, in other cultures, such as Israel, genetics are placed over gestation, and there is a clear distinction between the surrogate and the fetus’s blood. Thus, there are many avenues that can be analyzed when examining the agency of ART and how it is affecting the nuclear family, gender roles, care-giving, and the dynamics between the self and the Other.

Many ethical and moral questions of course are brought to light when viewing the multiple sides and diverse situations that are related to the use of ART to create human life. However, these ethical and moral dilemmas are only compounded with the practice of either the destruction of discarded embryos and/or the used of biogenetic entities, such as: fetal tissue, umbilical-cord blood cells, bone marrow, and human embryos for stem cell research. As Aditya Bharadwaj explains, the Euro – America landscape conceptualizes the human embryos as sentient beings, and public opinion has been polarized against such research. However, “in India the use of embryonic and fetal tissue in the service of generating biotech products and profits is viewed less critically.” This has lead to the globalization of biotechnology that, as Bharadwaj argues, is in India, market-driven by the political economy of India. This leads, yet again, to many problems that are too large to undertake within the confines of this chapter, but

should at least be brought to light. What is clearly demonstrated is that Anders’ concept of technological agency can and is found in the use of ART.

Chapter Four – Microarray Technology, Eduardo Kac, *Natural History of the Enigma*, and a new century

*Introduction*

Within this chapter the framework from the previous three chapters the life-world, disciplinary and biopolitical powers, as well as, technological agency are once again used to discuss the expanding use of genetic engineering. What is different about this chapter, however, is rather than discussing genetic engineering on plants and humans as two veins of one argument, here there is an examination of the combining of plants and animals at the hands of science. This new form of genetic engineering certainly began many years ago with recumbent DNA techniques, but the scientist that developed recumbent DNA did not have the goal to literally create new life forms that were, for example, part plant, part human. These new forms of life, called chimeras, are composed of two or more different types of animals or plants. This technology was developed as the end of the last millennium was reached, and growing number of genetically engineered plants and animals were being developed. While this sometimes meant the manipulation of genes within the organisms, a growing number of experiments produced chimeras. Simultaneously, there was the continued expansion of the globalization movement,
which by the beginning of the century was reaching into the remote regions of the world through both physical expansion of capitalism and vertical space created by technology. As previously discussed in chapter three, the global expansion created a cultural hegemony that has been increasingly controlled by technological agency and marketed through Western capitalism. This has, as Guy Debord argued, left the individual isolated where s/he makes connections with the world only with the use of technology. Ironically, this isolation has also led to the individualization of scientific creation. One example of this is, by the turn of the century the world began to witness a productive joining of computer technology and genetic engineering that formed both synthetic biology, where new forms of life are created, and computational biology, where new mathematical data is developed and analyzed. These are both used in bioinformatics, which Eugene Thacker argues can be described as an intersection between bioscience and computer, an intersection that is replicated specifically in the relationships between genetic ‘codes’ and computer ‘codes.’ Areas of specialization in biotech, such as genomics, or pharmacogenomics, are each unthinkable without an integrated relationship to computer technologies. Increasingly, a large number of the tools researchers use are not only computer-based, but also Web-based, running from servers housed at universities or research institutes. As industry publications have noted, the traditional ‘wet lab’ of molecular biology is being extended, augmented, and even replaced by the ‘dry lab’ of bioinformatics and computational biology.\footnote{Eugene Thacker, \textit{Biomedia} (Minneapolis: University of Minnesota Press, 2004), 2.}
This has produced innovations such as microarray technology. What is unique about this, and other scientific innovations like it, is it combines and relies on both computer and genetic codes, forming what Thacker argues is a hybridization of biological and non-biological components that are analyzed by the digital medium of computers, such as in microarray scanning, imaging, and analysis software.\textsuperscript{522}

It was precisely, advancements such as microarray technology that as the dawn of the new millennium commenced, held the promise of individualized medicine. This technology allowed scientists to look at an individual’s genetic make-up and determined if the individual had certain genetic variations and/or genetic markers for a variety of diseases. The hope was that this new technology would allow scientists and doctors to tailor drugs for individuals based on their genetic makeup as well as prevent unwanted genetic mutations being passed on to offspring. Through this technology the understanding of the body moved from the natural to the artificial, and from the outward appearance of one’s skin or hair to an understanding of what the genes and the markers on those genes look like, forming new social categories that were based on genetic make-up. For example, a new social and genetic category could be formed by the identification of those individuals who are carriers of BRCA1 or BRCA2, two genes known to be related to breast cancer. This then, forms a new system of coding the body, which is based on one’s genetics. Screening for genes that place the individual at greater risk for diseases, such as breast cancer, can also lead to an individualized examination of the self and the customization of drugs, surgical procedures, and life-style changes.

During the first decade of the new millennium, individuals not only began

\textsuperscript{522} Thacker, \textit{Biomedia}, 80.
to customize their healthcare in dynamic, new ways, they were also increasingly able to customize the products they used. For example, it became possible to customize and order online items such as cars and computers. These products were assembled and shipped directly from the factory to the individual. No longer were thousands of the same products produced; instead, each was customized to meet the individual’s desires. In addition, the sheer plethora of information that the Internet and digital technology allowed individuals to access, afforded individuals the ability to pick and choose information that was perceived as truth but is in fact often subjective. For example, an individual might watch or read one or all of the following sources of news, and receive three different perceptions of truth – BBC news, Al Jazeera news, or the New York Times. Yet another development to form from the merging of computer and scientific technology was the creation of BioArt. In 1997, the artist Eduardo Kac coined the term BioArt to refer to artwork that “employs one or more of the following approaches: (1) the coaching of biomaterials into specific inert shapes or behaviors; (2) the unusual or subversive use of biotech tools and processes; (3) the invention or transformation of living organisms with or without social or environmental integration.” These artistic creations also formed a perception of truth that often starched the imagination to include fanciful worlds that included transgenic inventions. These are, of course, individual visions of the world, translated from artist to viewer via scientific and computer technology.

In the first section of this chapter Kac’s installation the *Natural History of the Enigma*, 2003 will be employed to examine the concept of truth in relation to

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the life-world. This investigation will then be expanded to include the argument that only through the globalization and the advancements in technology has society reached the state of individualization in which the concept of truth becomes customized through technology.

In the second section of this chapter, the focus will be placed on Michel Foucault’s systems of disciplinary and biopolitical powers, and Giorgio Agamben’s theory of homo sacer, particularly his argument that a person who has been placed in the position of the homo sacer exists in, what he calls, ‘bare life.’ It will be argued that the combination of science and computer technology, particular in such technology as microarray, and the creations of chimeras, can be directly linked to the micro management and biopolitical control of the individual body, as well as the future offspring(s) of that individual, or the body of a chimera. It will subsequently be argued that microarray technology has helped to bring the body, or even unborn body, to Agamben’s ‘bare life,’ and the creation of any form of chimeras exist in a form of ‘bare life.’ It is through this argument that the concept of care-giving will be given further development, and the argument will return to Kac’s work.

In the last section, Günther Anders’ arguments will once again be employed, however, a closer analysis of how science and computer technology not only affects but controls the individual’s body and DNA will be examined. Bioinformatics, microarray technology, and other recent developments will be explored in relation to the individualization of medicine. Furthermore, the growing counter ethical arguments against this new technology will be examined. These
include the argument that the influence of environment should be considered when making medical decisions, as well as the fact that the information proved by such technology as microarray often gives only a statistical probability of developing a disease.

**Part One** – The Customization of Truth and the Life-world, and Eduardo Kac’s *Natural History of the Enigma*

Recombinant DNA techniques are the ‘artists’ tools’ of the postmodern era. With the new technologies, human beings assume the role of creative artists, continually transforming evolution into works of art. – Jeremy Rifkin\(^{524}\)

Rifkin’s observation exemplified artist Eduardo Kac’s work between 2003 and 2008. Kac, inspired by the association between the anthropomorphic and botanical the forms of artist Giuseppe Arcimboldo and the philosophers René Descartes and Julien Offray de La Mettrie created an installation, the *Natural History of the Enigma*. In this installation, first exhibited in 2009, at the Weisman Art Museum, in Minneapolis, Kac used recombinant DNA technology to create a plant genetically engineered to contain one of his genes. This new hybridized life form, which he called a plantimal, part plant, part animal, and named Edunia, was, according to Kac, created by isolating and sequencing a gene from his immune system, Immunoglobulin (IgG) light chain (variable region) that is found in blood, and then placing it into a petunia plant. Kac’s stated that the delicate red veins on

the light pink petals of Edunia were the sole loci for the expression of his gene, thus, creating a resemblance to the human vascular system. While there are other elements to this installation, such as a fiberglass sculpture based on the flower’s unique molecular structure, a limited edition of Edunia seed packs, and watercolors and photographs, for this section it is the element of fantasy in relation to Edmund Husserl’s theory of the life-world that is of interest. Furthermore, the concept of fantasy within the life-world will be juxtaposed with genetic engineering technology known as microarray and the perception of individualization currently found in society and the various forms of hybridized life that have and are being created by science.


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Edunia was displayed in a simple nondescript container that was placed on a pedestal in the center of the gallery. The simplistic of the presentation was juxtaposed with the complexity of the scientific endeavor that Kac undertook in the creation of the plantimal.


Kac’s work reflects the growing development that began in the 1970s, namely the innovations in recumbent DNA, which opened up new possibilities in what humans were, and are, able to create. Jeremy Rifkin describes some of these early experiments in his book *The Biotech Century*. Rifkin explains that in 1983, Ralph Brinster, of the University of Pennsylvania Veterinary School, inserted human growth hormone genes into mouse embryos, creating what became known as “super mice.” These mice not only grew faster and larger, but also continued, generation after generation, to express human growth genes. A year later, in England, scientists fused together embryo cells from a goat and a sheep, placed
them in a surrogate animal and created a sheep-goat chimera.\textsuperscript{526} The concept of a chimera was not new, it was written about in mythology, and as Bernard Andrieu argues, up until the end of the seventeenth-century the chimera was viewed as a creature with a monstrous body and a mythological function.\textsuperscript{527} Whether through mythological fantasy or today’s science, the chimera is a complex mixture of species that is not simply a hybrid such as a mule which is sterile. Instead, the chimera was first the mythological mixture of lions, goats, and dragons, but today, it is the mixture of creatures that could not be created in nature, such as the sheep-goat. Another example of the developing number of chimeras was in 1986, when scientists took the gene that produces bioluminescence in fireflies and inserted them into the genetic code of a tobacco plant, producing glowing tobacco leaves.\textsuperscript{528} Later, in 1997, doctors at Johns Hopkins University deleted genes in mice that were connected to muscle growth, and created what became known as “Mighty Mouse.” This mouse developed bulging muscles, huge shoulders, and broad hips.\textsuperscript{529} This was the same year the first artificial human chromosome was developed, which as Rifkin argues, brought with it a kind of predictability that had eluded those working in the field of gene therapy.\textsuperscript{530} The creation of artificial human chromosomes transformed and redefined the body.

Kac’s project reflected the movement that grew out of the innovations of recumbent DNA that started at the beginning of the current century. This was the

\textsuperscript{528} Cf. Rifkin, \textit{Harnessing the Gene and Remaking the World}, 14.
\textsuperscript{529} Cf. Rifkin, \textit{Harnessing the Gene and Remaking the World}, 23.
\textsuperscript{530} Cf. Rifkin, \textit{Harnessing the Gene and Remaking the World}, 28.
development of a second Genesis that was created through the reprogramming of the genetic codes of living things to suit cultural and economic needs and desires. These genetic creations have a history that could be linked to simply the crossbreeding of plants and animals. Kac certainly was not the first artist to use the technology of crossbreeding. The concept of the second Genesis had previously been conceptualized in artistic works such as Edward Steichen hybridized Delphiniums shown at the Museum of Modern Art in New York in 1936, and George Gessert hybridized irises from the 1970s, which he presented as a form of contemporary art. However, unlike Steichen and Gessert, Kac’s Edunia is a true chimera that he claims was composed of his own DNA and a promoter to guide the red expression only in the flower vascular system.\footnote{531}{Cf. Kac, Natural History of the Enigma, \url{http://www.ekac.org/nat.hist.enig.html}.} It is a unique life-form, because as Chin-Chin Yap explains, “Human-plant hybrids are common- the company Ventria Bioscience manufactures genetically modified rice that produces proteins found in human breast milk, saliva and tears, for example- but never before has the food engineering industry produced human protein in flowers. Kac’s Edunia is not only the first artwork to hybridize a plant with a human gene, but also the first instance anywhere of a flower producing a human protein.”\footnote{532}{Chin-Chin Yap, “Blooming Into Being: What Seems Like A Normal Flower Has Human DNA Coursing Through Its Veins. How Does This Bio-Artist’s Creation Fit Into US Intellectual Property Law?,” \textit{ArtAsiaPacific Magazine}, 68 (May/June, 2010): 63, accessed October 15, 2012. \url{http://www.ekac.org/artasiapacific2010.jpg}.} Kac, the first to conceive of the idea of Edunia, did not however, work alone to bring the plantimal to life. “To bring his creative progeny to life, [Susannah Schouweiler explains], Kac enlisted the help of a number of scientists, foremost among them Neil Olszewski, a professor of plant biology at the University of Minnesota, who
coordinated the fabrication of the transgenic plant and isolated the source of the human gene used in the flower.”

Edunia produces other issues that are not often found in artwork, including the caring for a living thing, the propagation of the artwork, and the collecting and storing of seeds, which Kac argues will contain his genes. This installation was facilitated by the artist’s fanciful imagination and the simultaneous development and marriage of both science and computer technology that had begun in earnest in the 1990s. Quoted in Shieva Salehnía’s article “Transgenic Petunia Inspires Art,” Kac said the project was “indicative of the transformation that life in the 21st century is undergoing.”

In the first decade of the new millennium both computers and science have brought inventions to life that are often hybridized forms of life, chimeras. These, such as in Kac’s plantimal, are formed through the combination or joining together of two or more animals and/or plants. For example, in 2008, scientists at Newcastle University created embryos that were part human and part cow. Other forms of hybridization have included the creation of cyborgs, the joined together of humans and machines, or the third possibility that arose was the combination of the chimera and not a true cyborg but various produces created by machines. For example, the creation of the Vacanti mouse, in 1996, where, an ear-shaped cartilage structure was grown by seeding cow cartilage cells into a

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biodegradable ear shaped mold and then implanted under the skin of the mouse. The goal was to then use the ear on an individual who had a damaged or misformed ear. The engineering of human skin, veins, or ears outside the human body, with the aid of machines and other living non-humans tissue, has been increasingly used for burn victims, and veterans who require plastic reconstructive surgery. These and other innovations formed through the joining of computers and science have, already radically changed the way humans communicate and interact with one another as well as perceive the world around them.

However, the use of technology in science is not new. It can easily be documented from the archaic art of alchemy that modern founders of science, such as Sir Isaac Newton practiced, through modern chemistry and physics to the new biotechnical art of algeny. What is different is with algeny, a term coined by Dr. Joshua Lederberg, the essence of a living thing is changed. Rifkin explains, the algenic arts were and are dedicated to the ‘improvement’ of existing organisms and the design of wholly new ones with the intent of ‘perfecting’ their performance. But algeny is much more. It is humanity’s attempt to give metaphysical meaning to its emerging technological relationship with nature. Algeny is a way of thinking about nature, and it is this new way of thinking that sets the course for the next great epoch in history. Moreover, as science and computer technology increasingly permeate the world around us, it is with the use of algeny that the life-world is brought from human’s observation of nature to human’s manipulation of

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537 Rifkin, Harnessing the Gene and Remaking the World, 33.
nature through the use of biotech-nology. This forms a biotechnical relationship with nature, that Rifkin argues produces the mindset not “of an organism as a discrete entity but rather as a temporary set of relationships existing in a fluid context, on the way to becoming something else. For the algenist, species boundaries are just convenient labels for identifying a familiar biological condition or relationship, but are in no way regarded as impenetrable walls separating various plants and animals.”

It was therefore with this new scientific technology that humans began to create animals and plants that were uniquely individual to human’s creative imagination. It was, as Julien Offray de La Mettrie argues, “through the imagination, the sciences flourish and grow in beauty; it makes wood speak, echoes sigh, marble breathe, and rocks cry; all inanimate bodies take on life.” These plants and animals, like Kac’s Edunia, helped to form a special suspension within the lived experience and the cognitive fantasy of humans where truths are constantly being altered and individualized. This changes the individual’s experience with others through the intersubjective of the everyday life-world that is shared by humans, in which communication and inter-subjectively related action are the rule. As Alfred Schutz and Thomas Luckmann argue, “just as a specific form of sociality belongs to the style of lived experience, or to the cognitive style, so also does an appropriate specific form of self-experience. In a dream, or fantasy, one can subjectively experience oneself as endowed with completely different attributes of a different biography from those which one ‘has’

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538 Rifkin, Harnessing the Gene and Remaking the World, 34.
What is different in the scientific fantasy of the algenist is his/her fantasies truly do endow the self, as well as other people and animals, with different attributes. They no longer simply remain fantasies. It is this new reality of the life-world with which Kac engages through such work as *Natural History of the Enigma*, both on the molecular level and through a symbolic gesture of ideas and fantasies. Furthermore, Kac’s wish fulfillment of his fantasies brings his imaginative installation, *Natural History of the Enigma*, into the realm of the utopian science fiction. As compared to Fredric Jameson’s analysis of Ursula K. Le Guin’s *The Lathe of Heaven*, 1971, Kac’s work demonstrates, “The will to power is not something outside of being, that we could omit in order to exist in some more peaceful state. It is Being itself; as witness the way in which Heidegger is able to transform Nietzsche’s version of the impulse (as we traditionally understand it, and as Le Guin understands it [or in this case Kac understands it]) into Aristotelian *energeia*, that is, into the very force of life and activity itself.”

In the science fiction novel *The Lathe of Heaven* the plot revolves around George Orr whose dreams alter reality, and William Haber who unsuccessfully attempts to use Orr’s dreams to solve various social problems. The will to power, in this novel, is not judged as power that is evil or catastrophic although the results according to Jameson, “seem almost exclusively to deserve that description.” Likewise, Kac’s Edunia is not evil or catastrophic but makes the viewer aware of the possibility of the mutation of humans at the hands of science and computer

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technology, which in itself could be destructive to the human race. Yet another comparison that can be drawn to Jameson’s argument is that in *The Lathe of Heaven*, the totality of being is seen in Orr’s impulses, and his very relationship to being is forced into action, which results in changes that, according to Jameson, are “a necessary part of being and implicate the dreamer fully as much as his director.” So too does Kac’s fantasy or dream of Edunia bring into being, for the viewer, the realization of changes within the world that implicate not only Kac, but also the scientific community. When first observing the *Natural History of the Enigma*, the viewer might see Edunia as representing a simulated environment that reveals a dystopic world, in B. F. Skinner’s *Walden Two*, 1948, Ray Bradbury’s *Fahrenheit 451*, 1953, or William F. Nolan and George Clayton Johnson’s *Logan’s Run*, 1967. This analogy is clearly brought to light with the mandated destruction of Edunia by the National Institutes of Health. Before undertaking the creation of Edunia, Kac had to agree that no leaves, seeds or blossoms could escape into the natural environment, and Edunia would be destroyed at the end of the exhibition. The reason being that Kac created a unique life form, a chimera, and it is not known what might happen if the plant were to be cross-pollinated with another plant. As previously explained, Kac claims to have created this exclusive life form by isolating and sequencing a gene from his immune system, Immunoglobulin (IgG) light chain (variable region) that is found in blood, and then placing it into a plant. This specific gene, the IgG, helps the immune system to distinguish the self.

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545 Abbe, “Not Your Garden Variety Petunia, This Petunia Carries Artist’s DNA.” A8.
from the non-self to protect the body against foreign molecules, disease or invaders in the body. Thus, plantimal is a genetically-engineered flower that is a hybrid of Kac and a petunia through the use of the gene that is responsible for the identification and rejection of foreign bodies. However, Kac uses the gene to integrate into the foreign body to create a new kind of self that is partially flower and partially human. Thus, the line between the self and the Other, or the object, has been blurred, and a redefinition emerges in a fantasy-like science fiction world in which his offspring is a chimera that is both plant and human, creating a sundry of essential elements of Kac’s lived experience that is also a cognitive style common to a fantasy world of truths. In her article about *Natural History of the Enigma*, Schouweiler quotes Kac: “My hope is that when you spend time, physically in the presence of the flower, when you confront that duality and tension of the nature of the Edunia itself, you’ll reconsider how you view yourself in relation to other living things.”

Kac, and arguably the viewer, become absorbed in the fantasy world. When this phenomenon takes place, they no longer need to master the external world. As Schutz and Luckmann argue, within the fantasy world “there is no resistance by Objects surrounding me which have to be subdued.” Within the life-world, there is pragmatic criterion between correct and false knowledge, specifically of the relationship between subjective knowledge and the historical dimension of reality within a sociocultural setting. There is, of course, socially disseminated false knowledge that is presented as truth. With the individual’s life-world, as Schutz and Luckmann argue, there is a

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biographical articulation of what s/he can control and in “this sense, the biographical character of the present situation forms an element of […] [his or her] stock of knowledge.” This knowledge is, as Schutz and Luckmann argue, known to the individual because of prior situations, and is unique to the individual. It is therefore a stock of biographical knowledge that helps the individual determine his or her present situation, forming a unique biographical articulation. This, according to Schutz and Luckmann,

refers not only to the content, the ‘meaning’ of all the prior experiences sediments in it, in situations. It refers also to the intensity (lived experiential nearness and depth), duration, and sequence of these experiences. This circumstance […] constitutes the unique biographical articulation of the individual stock of knowledge (and thereby the actual situation).

It is then Kac’s understanding of science and technology and pervious BioArt creations that form his biographical knowledge that is his individual stock of formal knowledge, as well as tacit knowledge that is not able to be adequately articulated but is revealed through his art practices and his actual situation. For Kac his offspring, Edunia becomes the extreme distinctive autobiographical articulation.

This concept of creating an exclusive autobiographical knowledge that refers to prior experiences in particular situations can be applied to the first decade of the new millennium. As in previous examples, the life-world that the individual experiences that is created through a soicocultural setting, which in the beginning of the century could be viewed through the lens of science and computer technology. It is within this soicocultural setting of, for example, the application of

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Human Genome Project (HGP), that the individual’s experience is shaped by his/her prior experiences in a particular situation. That situation’s duration is related to other experiences, and a unique biographical articulation of the life-world that is perceived as an actual situation is created. In chapter three it was argued that in the 1990s genetic engineering and capitalism helped to form a global concept of the life-world. One of the greatest accomplishments of the decade that followed was the completion of the Human Genome Project (HGP). The mapping of the human genome demonstrated the sameness of all humans at the genetic level and moved the concept of globalization to a new plateau. It also, however, facilitated an understanding of the genetic variation, which makes us individual. It is therefore through technological innovation, such as the HGP, that the cognition of the self and Other was altered. As the human genetic code was mapped, scientists were able to truly begin to understand individual markers for mutations and pretense for disease and various attributes. At this point, science, computer technology, and the world moved beyond the globalized life-world of the stock of biographical knowledge, to a life-world where the individual could gain an understanding of him/herself on the genetic level, forming a unique biographical articulation through biological knowledge that shaped his/her life-world. This is seen through completion of HGP in 2003, which allowed scientists, in innovating ways, to move ahead and attempt to understand genetic variations that caused human diseases. One of the resulting revolutions of HGP and other innovations in the field of science and computer technology was the development of bioinformatics. Eugene Thacker argues, bioinformatics required scientist to
transform research through the various systems of computer and information technology. Science then becomes the “layering of computering and networking technologies onto processes and interactions of biomolecular regulation.”

For example, Thacker argues “The use of genome sequencing computers, DNA microarrays, computerized sequencing, online data mining, and a host of other techniques enable systems biology research to integrate what would normally be widely divergent data sets. […] Therefore[,] the system biology approach readapts biology to the terms of information processing network.”

In the process of microarray this is clearly seen. Geneticists use DNA microarrays, a collection of microscopic DNA spots attached to a solid surface, to measure changes in expression levels, to detect single nucleotide polymorphisms (SNPs), or to genotype. Each DNA spot in a microarray contains a specific DNA sequence, known as a probe. These probes can be a short section of a gene or other DNA elements. Many types of arrays exist, and the largest difference between each type is whether the probes are spatially arranged on a solid surface (such as glass or silicon bio-chip) or on coded beads. Under high-stringency conditions, a labeled DNA or cDNA sample are hybridized to the immobilized probes. Probe-target hybridization is identified and quantified by detection of fluorophore-, silver-, or chemilumin-escence-labeled targets to determine relative abundance of nucleic acid sequences in the target. Therefore, what the process of microarray demonstrates is, as Thacker argues, that bioinformatics takes the notion of a genetic ‘code’ quite literally – as something that can be digitized, ported to other platforms, and

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modeled in a variety of ways.”\textsuperscript{552} The use of microarray, therefore, clearly demonstrates the integration of computers and technology. This is further seen in what Thacker refers to as “wet” data, or DNA, or proteins that would be worked with in a laboratory, and “dry” data of biological sequencing done with computer databases. Thacker argues that, “microarrays such as the DNA chip are – as devices in themselves – hybridizations of biomolecules and technological substrates DNA and silicon. But microarrays are also more than that, for they function by transforming DNA into an auto-diagnostic molecule, by harnessing the ‘natural’ process of complementary binding between DNA for novel, diagnostic ends (e.g., gene expression profiling).”\textsuperscript{553} Thus, microarrays transmit data “type across media, and such devices act as a kind of fulcrum transmitting data from one ‘platform’ to another.”\textsuperscript{554} It is also through technology, such as microarray that science has turned into an individualized technology like never before, bringing with it a new understanding of the life-world. While the concept of the individual experience of the life-world stems from the cognitive processing of the world round the self, what microarray does, in essence, is offer a technological approach to the cognitive understanding of the self through a hybridized form of science and technology. Once the individual knows whether s/he has or does not have a propensity for certain diseases, the way s/he views the life-world is altered, and the situations in which the individuals engage reflect the individual’s changing concept of his/her relationship to the biographical life-world. For example, if an individual learns he/she has a gene that puts him/her a high risk for skin cancer, it would seem

\textsuperscript{552} Thacker, “Open Source DNA and Bioinformatic Bodies,” 34.
\textsuperscript{553} Thacker, \textit{Biomedia}, 69-70.
\textsuperscript{554} Thacker, \textit{Biomedia}, 70.
to make sense that the individual would avoid exposure to the sun, and might even instruct others within his or her family to do the same. The object, the sun in this case, is viewed differently, and the interactions within it are altered. Husserl argued that, “To live is always to live-in-certainty-of-the-world. Waking life is being awake to the world, being constantly and directly ‘conscious’ of the world and of oneself as living in the world, actually experiencing [erleben] and actually effecting the ontic certainty of the world.”  

This argument, that consciousness is embedded in and operates with the world of meanings and prejudgments that are socially, culturally, and historically constituted, have today become more directly shaped by science and computer technology.

It is not hard, as Rifkin argues, to comprehend that beginning in the 1990s, children raised in the fully computerized society have come to willingly accept the concept of nature that has emerged. These children grew up using computers to organize their entire environment, and since the 1990s this fact has only been compounded with each passing decade as humans increasingly rely on computer technology. Furthermore, this, as Rifkin argues, has come to the point where they believe that nature itself is organized by the same set of assumptions and procedures they themselves use when using technology. Thus, current ideas about how nature operates mirror technological and economic relationships that are establishing with the natural world, providing a new generation the assurance that the way it’s going about organizing its world is compatible with nature’s own

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organizing design of the life-world. The domination of science and computer technology on the individual’s knowledge of the life-world, on both the subjective and inter-subjective levels, seems to be readily accepted, and it is when the individual engages with work such as Kac’s *Natural History of the Enigma* that he or she can truly take a moment to question the ramification of this process.

**Part Two – The Growing Control of Biopolitical Power Over the Individual Body**

Death is compounded by oblivion, and the foundation of humanness – faith in human continuity – is endangered. The final horror is that no one will be left. - Terrence Des Pres

Throughout the last three chapters, Michel Foucault’s concept of juridical, disciplinary, and biopolitical powers has been discussed and used to show how the individual is controlled by social and government institutions, particularly those related to genetic advancements. Further, it has been argued that these forms of control relate to both the individual and the collective experience with, and understanding of the life-world. In this chapter, however, the focus will be placed more directly on biopolitics in relation not only to Foucault’s writings, but to Giorgio Agamben’s theory of *homo sacer*, particularly his argument that a person who has been placed in the position of the *homo sacer* exists in what he calls a state of ‘bare life’ (Greek *zoê*). Moreover, Amgamben’s argument will be juxtaposed with both microarray technology and the creation of chimeras, specifically BioArtist Eduardo Kac’s creation *Natural History of the Enigma*. It will be argued

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that each of these – the current state of bare life, microarray technology, and chimeras have only come to fruition through the advance-ments and merging of science and computer technology. Within this framework, the main question that will be examined will be, what type of care-giving is found in each of these situations? To make a clear argument that there is indeed a correlation between Agamben’s conception of bare life and both microarray technology and the creation of chimeras, it is necessary to first return to Focault’s argument of biopolitics, and then explain Agamben’s position on *Homo Sacer: Sovereign Power and Bare Life*.

The growing emphasis on individualization and the unification of science and computer technology has resulted in an ever-growing presence of biopolitics, which has led to a power system that is organized through the use of technology, and pervades many of the personal and collective aspects of the individual’s life-world. This has happened through particular technology, such as microarray, which micromanages the individual body through comparison of statistical data. What can be gleaned from an examination of Foucault’s work is that society, meaning both individually and as a whole, has reached its current state, where control has been used by the government through the use of biopolitical power, because of a transformation that, Foucault argues, began in the eighteenth-century. In *The History of Sexuality: Volume 1*, he writes, “for the first time in history, no doubt, biological existence was reflected in political existence; the fact of living was no longer an inaccessible substrate that only emerged from time to time, amid the randomness of death and its fatality; part of it passed into knowledge’s field of
control and power’s sphere of intervention.”

For Foucault, this is the beginning of the current state of disciplinary and biopolitical powers, which were facilitated initially by the state, but have since expanded to include the broader form of control found in social norms, which govern behavior through social control and do not liberate the individual but further control him/her. This form of biopolitical power is enforced formally through sanctions, or informally through body language and non-verbal communication. For example, people who do not follow social norms and dress or act in unconventional ways, such as dyeing their hair purple or not bathing, might be stared at or avoided in public. People who are viewed as not following these social norms may be labeled as deviants, and considered outcasts of society. Therefore, for Foucault, biopolitical power first operates through the state that has become so omnipresent and pervasive that no evasion is possible. Only through subversive methods of normative social pressures can any tactical method be attempted to resist state controlled biopolitical power. These methods of control include various regulations that are formed through statistical analysis of a population, but are also often administered through social norms. However, today, those individuals or groups that are viewed as deviants who are in fact, as Agamben and Zygmunt Bauman would argue, the displaced, the refugee, those that have been squeezed and stretched but still do not fit the mold, become, as Bauman argues, “thrown out of focus, cast in the shadow, forced into the vague or invisible background – no longer belong to ‘what is’. They have been denied existence and a

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room of their own in the *Lebenswelt.*” This is justified as such, not by an individual per say, but rather by the biopolitical power that dictates social norms, which have been imposed by the specific controlling factors of a national state that forms the sovereign power. This, as will be explained shortly, forms Agamben’s *home sacer.* What is troublesome is that this form of control and isolation has only become more prevalent, while at the same time becoming more subversive in the technological age. For example, today, biopolitics can be seen in statistical data that is gathered by the state which the individual or group is judged against. This has formed a biopolitical power system that the individual cannot escape. Today, this can be seen in inner cities, where areas that are designated as high crime areas are monitor more vigilantly by the city, and individuals have fewer freedoms due to, such policies as, stop and frisk, and the sometimes imposed curfew. Today, the monitoring of groups and individuals in these areas is often done by surveillance cameras, which are placed in stores, homes, on the street, in parks, etc…, as well as, monitored by individuals with technology, such as cell phones. With new technology and the increasing presence of biopolitical power, this constant monitoring has created a market for covert cameras, audio recorders, and devises to collect data from personal computers and cell phones. The use of this technology is increasingly used around the world. Today, this technology is relatively inexpensive and is found in nanny cameras, as well as watches, pens, sunglasses, insulated thermoses, key chains, and neckties. Thus, the pervasiveness of biopolitics has become a system of power that is inescapable, and although the

individual can respond by subversive actions that are local, tactical, and not systematic, s/he exposes themselves to becoming reduced to bare life (Greek zoē).

Another possibility, though, is with the increased domination of science and computer technology, from the turn of the current century the regulation of the body has been implemented through such methods as microarray technology. What this technology specifically allows doctors and scientist to see is whether or not an individual has any variation in his/her genetic code that has been deemed unwanted by society. As previously explained, the task of biopolitical power, according to Foucault, is to take charge of life needs continuous regulatory and corrective mechanisms […] Such a power has to quantify, measure, appraise, and hierarchize […] it does not have to draw the line that separates the enemies of the sovereign from his obedient subjects; it effects distributions around the norm […] A normalizing society is the historical outcome of a technology of power centered on life.561 The goal of the state’s employment of biopolitical power is to produce and enable a better life through the regulation of the body. As previously explained, this is done through surveillance or monitoring of statistical analysis and administering of life along the average of a bell curve, which micro manages the body and the bodies of a given population. It is, as Foucault argues, the “endeavors to administer, optimize, and multiply [life,] subjecting it to precise controls and comprehensive regulations.”562 This is done, not simply through punish-ment, but through positive and negative reinforcement of social norms or opinions that pervade life in every facet of the life-world. Moreover, Agamben argues that

561 Foucault, *The History of Sexuality*, 144.
562 Foucault, *The History of Sexuality*, 137.
Foucault claimed the “State assumes and integrates the care of the natural life of individuals into its very center; on the other hand, the examination of the technologies of the self by which processes of subjectivization bring the individual to bind himself to his own identity and consciousness and, at the same time, to an external power.” Therefore, biopolitical power affects not only the intersubjectivity of the life-world but also subjective aspects of the life-world, and in doing so cross-breeds in such a way that the individual is a distinct part of the state, and the state is a distinct part of the individual.

This merger of state and individual can be seen in Dena S. Davis’ discussion of newborn screening provides a glimpse into how biopolitical power begins to regulate the body from the moment each individual enters into this world. She writes: “Almost all newborn screening is done without the informed consent of the parents. In many states, parents can theoretically refuse screening, but in fact as they are rarely told of it beforehand, or told only in very vague terms, this right to refuse is meaningless.” Each state, therefore, makes an initial diagnosis of any deviations from the existing statistical analysis. The supervision of the body becomes, as Foucault claims, “effected through an entire series of interventions and regulatory controls: a biopolitics of the population,” that tries to optimize the lives of a given population. This constant monitoring does not, however, always produce an advantaged state of existence. This is clearly seen in Agamben’s book *Home Sacer: Sovereign Power and Bare Life*. In this book, Agamben lays out an

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565 Foucault, *The History of Sexuality*, 139.
argument for what he views as the current state of biopolitical power. He does this by first explaining the fact that the Greeks, the progenitors of the *polis* or city-state, used two terms to talk of life. According to Agamben, the first, *zōē*, “expressed the simple fact of living common to all living beings (animals, men, or gods), and [the second,] *bios*, […] indicated the form or way of living proper to an individual or a group.”

While *zōē* was usually restricted to the *oikos*, or privacy of the home that was beyond political interference, *bios*, was related to the public realm and suggested entry into the polis or a politicized form of life. Between these two states there was, however, a ‘state of exception’ in which ‘bare life’ emerged, forming a ‘zone of indistinction’ in which the individual is excluded from the polis and resides between the *polis* and the *oikos*. It is here that the individual exists in bare life, a life that consists of only the essential elements of existence. Agamben takes this idea of bare life and applies it to Auschwitz to claim that the death camps were an overt example of bare life in relation to an unmediated relationship with absolute sovereign power, which operated through the mechanism of what Hannah Arendt called the banality of evil. Arendt argued, in the right extraordinary historical circumstance, the average person, can become a cog in a machine that is committing tremendous evil and suffering. She further argued that even while performing atrocities, these people never truly comprehend what they are doing. In the infamous Eichmann trial, where Arendt developed her theory, Adolf Eichmann, a bureaucrat in the Nazi party, was placed on trial for his involvement in the murder of the millions of Jews in the death camps. In his closing statement, Eichmann argued that, “he had never been a Jew-hater, and he had never willed the murder of

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human beings. His guilt came from his obedience, and obedience is praised as a virtue. His virtue had been abused by the Nazi leaders. But he was not one of the ruling clique, he was a victim, and only the leaders deserved punishment. [...] ‘I am not the monster I am made out to be,’ [he said] ‘I am the victim of a fallacy’.”

It is from this case that Arendt argues, people are formulated by the circumstance they are in, and if they are placed in an evil situation they will become evil without understanding what they are doing and without intending to be evil. While Arendt’s argument explains how Agamben’s bare life could come to fruition, Arendt’s banality of evil, when applied to Eichmann, fails to take into consideration the anti-Semitism Eichmann, and others like him, had before joining the Nazi party. Likewise, Arendt does not consider how Eichmann, or others like him, had to persuade the governments of France, Belgium, and other European countries to send their Jews to the death camps, which would have been a calculated and strategic undertaking by Eichmann. As Terrence Des Pres argues in his account of the Holocaust, “plainly, there is more than one way to survive, and a point after which the heroism of survival turns into its opposite. The distinction is between those who live at any price, and those who suffer whatever they must in order to live humanly.”

Nonetheless, for Agamben, Arendt’s arguments play a crucial role in is development of home sacer. His use of the refugee can be directly linked to Arendt’s *The Origins of Totalitarianism*, in which Arendt argues, “modern power conditions which make national sovereignty a mockery except for

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giant states, the rise of imperialism, and the pan-movements undetermined the stability of Europe’s nation-state system from the outside. None of the factors, however, had sprung directly from the tradition and the institutions of nation-states themselves. Their internal disintegration began only after the first World War, with the appearance of minorities created by the Peace Treaties and of a constantly growing refugee movement, the consequence of revolutions.”

For Agamben, Arendt’s argument is directly related to his argument that the individual is born into a nation-state that makes bare human life the foundation of its own sovereignty, however, when the refugee enters the nation-state s/he becomes the disquieting element, and fractures the identity between man and citizen, between nativity and nationality. The refugee, there-fore, throws into crisis the original fiction of sovereignty, but this figure, the refugee, Agamben argues, deserves to be considered the central figure of our political history. The Nazis’ “final solution” could only happen after the Jews were denationalized, only then, when they were no longer citizens, could they be viewed as sacred in relation to archaic Roman law, and were destine to die.

Those that were betrayed by their governments, he argued, “entered the camp [and] moved in a zone of indistinction between outside and inside, exception and rule, licit and illicit, in which the very concepts of subjective right and juridical protection no longer made any sense.” For Agamben, Auschwitz becomes the frame through which to explain the present state of sovereign power over the individual. This is put forth as a modern state of bare

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life in which the refugee, the political prisoner, or the victim of torture have, in a sense, been outlawed, placed beyond recourse to law but still have a precarious relationship to the law. Likewise, “Homo sacer, [Bauman argues,] is the principal category of human waste laid out in the course of the modern production of orderly (law abiding, rule governed) sovereign realms.”\textsuperscript{572} Bauman uses Agamben’s example of Kuwait, a state without a people, that the world powers defend and the Kurds, Armenians, Palestinians, Basques, Jews of the Diaspora to represent people without a state. These two examples demonstrate those that can be oppressed and exterminated with impunity. Their only destiny can be state identity, which only makes sense if recodified within the concept of citizenship.\textsuperscript{573}

Agamben wrote \textit{Homo Sacer: Sovereign Power and Bare Life} in 1995, and it was translated into English in 1998. Since it was first penned, it has had far reaching effects on the Western world, helping to shift the view of academia and alert it to the possibility of a coming world were the horrors of government control, often seen in dystopian science fiction, comes to life. In fact, Agamben’s coming world eerily resembles George Orwell’s dystopian novel \textit{Nineteen Eight-Four}, first published in 1949. In this novel, a parallel can be drawn between Agamben’s sovereign power and the ruling political force in \textit{Nineteen Eight-Four}, The Party. The Oceanian province of Airstrip One, where the novel takes place, is controlled by the figurehead Big Brother and The Party’s totalitarian ideology that is implemented through methods of omnipresent government surveillance and public mind control. Any citizen who does not abide by the political system, euphem-

\textsuperscript{572} Bauman, \textit{Wasted Lives}, 32. 
\textsuperscript{573} Bauman, \textit{Wasted Lives}, 33.
istically named English Socialism (Ingsoc), is persecuted on thought crimes, and essentially enters into bare life. This is where the protagonist, Winston Smith, finds himself after being taken into custody by the Thought Police for having a love affair with the character Julia. While imprisoned Winston is subjected to a prolonged regimen of systematic beatings, psychologically draining interrogation, and electroshock torture all under the premise that Winston can be cured of his insanity. Winston, therefore, exists in Agamben’s vision of the coming community where the sovereign state draws no clear distinction between the *homo sacer* and the outlaw who has no recourse to the law except for the sovereign’s power over his/her life and death. However, as Bauman argues, Orwell’s Big Brother was

preoccupied with *inclusion* – integration, getting people into line and keeping them there. The new Big Brother’s concern is *exclusion* - spotting the people who ‘do not fit’ into the place they are in, banishing them from that place and deporting them ‘where they belong’, or better still never allowing them to come anywhere near in the first place. The new Big Brother supplies the immigration officers with list of people they should not let in, and bankers with the list of people they should not let into the company of the creditworthy. He instructs the guards about whom they should stop at the gate and not let inside the gated community. He inspires the neighbourhood-watchers to spy out and kick out the suspected prowlers and loiterers – strangers out of place. He offers homeowners closed circuit television to keep the undesirables away from the door. He is the patron saint of all bouncers, whether in the service of a night club or of a State Ministry of Home Affairs.  

The marginalization of the refugee, political prisoner, or even Winston from *Nineteen Eight-Four* goes beyond the binary distinction of inside/outside, centre/margin, or inclusion/exclusion, and as Agamben argues, represents the modern political subject, who at any moment could be any given individual. Bare life, for Agamben, becomes embedded with the modern democratic order, which he

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argues is a return to a sovereign state that can use its unmediated power to control the body of its subject. He warns of a ‘coming community’ that is not based on rights but returns to the main principle of Foucault’s juridical power, that which can decide when to suspend rights in a ‘state of exception.’ This, though, only happens when there is confusion or blurring between the law and fact or outlaw and citizen, and it is in this confusion that the ‘coming community’ becomes the sovereign state. The most notable example that resembles this ‘coming community’ is the concentration camp, where citizens barely existed within a society that once granted them freedoms and rights. They, though, became like the *homo sacer*. Their religious beliefs became their crime, revoking their rights and banning them from society. Their life became inconsequential and expendable. In this sovereign state, the state of exception becomes the rule, creating a blurring between the *homo sacer* and the outlaw who has no recourse to law except for the sovereign’s power over his/her life and death. Thus, for Agamben, the coming community is like Nazi Germany, which turned on its citizens, and through intimidation banished millions of Jews to death.

Today, it is the sovereign state that can create laws to monitor its own citizens, and through biopolitical power control the body, as Agamben argues, “*Not simple natural life, but life exposed to death (bare life or sacred life) is the originary political element.*” Hence, it is clear that Agamben builds on and extends Foucault’s discussion of biopolitical power, and relates it to modern politics, suggesting that *homo sacer* and its bare life have turned into an experience of modern subjection, that is not so much the inclusion of *zôê* in the *polis* – which

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575 Agamben, *Homo Sacer*, 88, Agamben’s emphasis.
is, in itself, absolutely ancient – nor simply the fact that life as such become a principal object of the projections and calculations of State power. Instead the decisive fact is that, together with the process by which the exception everywhere become the rule, the realm of bare life – which is origin-ally situated at the margins of the political order – gradually begins to coincide with the political realm, and exclusion and inclusion, outside and inside, bios and zoē, right and fact, enter into a zone of irreducible indistinction. Agamben claims that within this zone “It can even be said that the production of a biopolitical body is the original activity of sovereign power.” In Auschwitz, the prisoners existed in a biopolitical space where the unmediated absolute sovereign power reduced them to bare life. Agamben argues, “the camp [was] the place in which the most absolute conditio inhuma that has ever existed on earth was realized.” However, he argued that the camps should not be defined by the events that occurred there, instead, the questions should be asked, such as, “What is a camp, what is the juridico-political structure, that such events could take place there?” He continues that the camps should not be viewed as mere “historical fact and an anomaly belonging to the past (even if still verifiable) but in some way as the hidden matrix and nomos of the political space in which we are still living.” This has turned into a troubling predicament in which Agamben makes his most radial claim, that “today there is no longer any one clear figure of the sacred man, it is perhaps because we are all

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576 Agamben, Homo Sacer, 9, Agamben’s emphasis.
577 Agamben, Homo Sacer, 6.
578 Agamben, Homo Sacer, 166.
579 Agamben, Homo Sacer, 166.
580 Agamben, Homo Sacer, 166.
virtually homines sacri.”\textsuperscript{581} This is because the sacred man is denied access and protection from governmental, societal, and divine law; instead s/he is abandoned by them, leading to the question, who amongst us is the homo sacer? For Bauman argues, “as the ‘redundant’ population stays inside and rubs shoulders with the ‘useful’ and ‘legitimate’ nest, the line separating a transient incapacitation from the peremptory and final consignment to waste tends to be blurred and no longer legible. Rather than remaining as before a problem of a separate part of the population, assignment to ‘waste’ becomes everybody’s potential prospect – one of the two poles between which every-body’s present and future social standing oscillates.”\textsuperscript{582} While the old Big Brother, according to Bauman, still thrives in urban ghettos, refugee camps, and prisons, the new Big Brother excludes those who do not fit in. Bauman argues that, “between themselves, the two brothers police and service the borderline between the ‘inside’ and the ‘outside’ [leading to] the choice between staying in line and rejection – between the warden-ship of the first or the second of the two Big Brothers jointly presiding over the game of obligatory inclusion and compulsory exclusion.”\textsuperscript{583}

Today, individuals are subjected to being monitored, regulated, and if the sovereign power deems necessary, killed with impunity. This has been clearly demonstrated with such actions by the United State government in its relation to the establishment of the Guantanamo Bay detention camp in 2002. This camp was erected in Cuba on a United States Naval Base by the George W. Bush Administration to hold detainees believed to be connected with the war in

\textsuperscript{581} Agamben, \textit{Homo Sacer}, 115.  
\textsuperscript{582} Bauman, \textit{Wasted Lives}, 71.  
\textsuperscript{583} Bauman, \textit{Wasted Lives}, 133.
Afghanistan and later Iraq.\textsuperscript{584} It became infamous for the torturous practices that were inflicted on the detainees. In this situation, much like the Jews in Nazi Germany or the Tutsi in the Rwandan Genocide that took place in 1994, where an estimated 500,000 people were murdered over the course of approximately one-hundred days,\textsuperscript{585} it is the sovereign power that decides who the sacred man is. (However, perhaps today a non-gendered and more inclusive term such as sacred individual would be appropriate.) The sovereign power is the authority that creates spaces, such as Auschwitz or Guantanamo. In these spaces “bare life and juridical rule enter into a threshold of indistinction [that Agamben argues] we must admit that we find ourselves virtually in the presence of a camp every time such a structure is created independent of the crimes that are committed there and whatever its denomination and specific topography.”\textsuperscript{586} Furthermore, Bauman argues “once a refugee, forever a refugee. Roads back to the lost (or rather no longer existing) homely paradise have been all but cut, and all exits from the purgatory of the camp lead to hell.”\textsuperscript{587}

It is in this chilling analysis of late Western modernity that, today, genetic screening of bodies and embryos takes place. Neither the bodies, embryos, nor even the cells and genes are political prisoners or refugees, but oddly, they have similar status in the watchful eyes of the sovereign power. In this instance, the sovereign power is not simply controlled by the government. It is not a warring

\textsuperscript{585} Alison Liebhafsky Des Forges, \textit{Leave None to Tell the Story: Genocide in Rwanda} (New York: Human Rights Watch,1999), 1.
\textsuperscript{586} Agamben, \textit{Homo Sacer}, 174.
\textsuperscript{587} Bauman, \textit{Wasted Lives}, 79.
nation, nor does it have the goal of punishing or eradicating an ethnic group. Instead, the sovereign power has emerged as a triumvirate force of government and the medical industry that establishes the bio-political bell-curve, and deems what is acceptable. Its goal is to weed out and eradicate certain genes and/or gene mutations through the biopolitical or even eugenic justification that it wants to optimize human life.

Today, if an adult uses microarray technology, and they are found to have what is currently viewed as a genetic disorder, the sovereign power cannot put them to death. They may be, though, instructed to take certain drugs to keep them within the biopolitical bell curve of what is viewed as healthy. They could also potentially be treated and viewed differently both publicly and privately, for example, hypothetically, their health insurance and/or employers might view them as a costly risk to insure or employ, and potential mates may not view them as viable anymore. Therefore, genetic testing, such as microarray, once again, could be viewed as a way to control a population, such as in the United States. Similar, to Agamben’s depiction of the homo saucer who exists in bare life, certain sectors of the population who are subjected to genetic testing might be denied certain entry points into both the social and private realms of society. If a group, such as dwarfs, is strongly advised not to have children then their genes could be viewed as, not necessarily outlawed, but certainly unwanted by society, and essentially put to death. Likewise, if a dwarf did have a child who outwardly showed a preventable genetic “disability,” the parent(s) could not be prosecuted by the law for having the child. However, with the growing availability of screening, and the fact that a
dwarf can have offspring who do not have the gene for dwarfism, there is the possibility that the parent(s) stand to be forever asked why they had the child. Today, the availability of genetic screening for Down syndrome, and other genetic linked abnormalities could leave parents in a situation where they might also have difficulties finding services, such as schooling and health insurance to meet all the necessary help or therapy the child might need. Today, an example of this might be Down syndrome, but there is a possibility in the future this could include blindness, deafness, learning disabilities, or even a below average I.Q. This argument, and the following discussion about the discarding of embryos, could be further complicated with precarious dichotomy of church and state regarding right-to-life, however, this would be too broad of a discussion for the confines of the dissertation.

Unlike the adult who is given choices, the outcome for an embryo is more dramatic. If an embryo is found to genetically deviate from the desired statistical analysis, it is often not granted the right to be born and instead destroyed or used for medical research. This is because what is viewed as healthy and/or desirable is that which adhere to the bell curve of biopolitical power. What is truly troublesome is, genetic markers for learning disabilities, IQ, and other factors are rapidly being discovered, and today, like many other genetic linked health concerns, are presented as potential risks. For example, it has been argued that the genetic marker CNTNAP2 has the potential to cause specific language impairment disability, dyslexia, Tourette’s syndrome, and autistic-spectrum disorders. An embryo with this marker could have one or more of these disabilities, or live its life with no sign of any of them. As in the article “A Functional Genetic Link between
Distinct Development Language Disorders," published in the *New England Journal of Medicine* in 2008, scientists claim they can only predict a propensity for the disorders that are linked to CNTNAP2. It is possible, though, that as these markers are identified, embryos with these mutations will not be chosen to be implanted into a womb regardless of the knowledge that the embryos might not show any sign of these disorders. Moreover, it has been proven with early intervention many of these disorders are lessened or become virtually undetectable, and these individuals are able to live healthy, full, productive lives.

Today, it is clear that the connection between genetic screening and biopolitical power has led to increasing regulation of both the adult’s and children’s bodies. As suggested above, the sovereign power has become a force that includes the United States government, the medical industry, and capitalism. This is seen in the development of drugs marketed and prescribed to make society have the right statistical, blood pressure, amount of sleep, sugar level, cholesterol, sex drive, etc. It is this sovereign power which has a particular rule over children’s bodies, whether at the embryonic stage, infancy, or a young child. Each of these stages of life is measured against statistical data to indicate various methods of care. However, the power over children’s bodies could also be viewed as being strongly controlled by the parents. This control is directly linked to the care-giving the child receives. The combination of the government, the medical industry, capitalism, and parental control could be viewed as forming a new type of sovereign power that dictates the type of care-giving that child receives. This can be clearly seen

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with new genetic screening, which has altered the way the care-giver cares for his/her child. For example, a young child who is screened and found to have high cholesterol might be placed on a low cholesterol diet that is strictly monitored by the parents. Furthermore, the availability of screening with microarray and other methods has sometimes led to unnecessary screening. Davis tells of a mother who, when she found out she had inherited one of the BrCa 1 and BrCa 2 gene alterations, which is known to increase the risk of breast and ovarian cancer, wanted her children who were under the age of six tested for the mutation. When the genetic counselor refused to help, the mother simply turned to the Internet and found an online company that tested for BrCa1/2 without involving a physician.\(^5^{89}\) Such information could lead parents to treat their children in different ways. For example, if the child in the above instance did turn out to be a carrier of BrCa1/2 mutation the mother might subject the children to frequent tests, and persuade them to have preventive surgery early in life, thus, raising them with the constant fear of cancer and death.

In addition to the control that sovereign power has over individual human lives the experiments that create chimeras present their own set of highly charged ethical biopolitical issues that are, once again, controlled by the government, the medical industry, and capitalism. This connection between biological and political existence has led to radical arguments, such as that of Bernarrd Andrieu. Andrieu uses Foucault’s concept of biopolitical power, to argue that the invention of chimeras will go beyond gender roles to the fundamental binary of the male and female sexes. While he refers to Foucault’s argument that, if humans become

\(^{589}\) Cf. Davis, *Genetic Dilemmas*, 118-119.
chimeras, then the binary of the sexes might disappear, Andrieu argues, “it would be the logical consequence of the ideological link instituted by biopower between sex and truth: Having a real sex is not understood by the human chimera as the reduction of social sex to biological sex.”590 As humans become transgenic they will, according to Andrieu, no longer have free choice of which sex they are, instead science will choose for them based “upon the validity of the body, health or economy.”591 Today, with China’s one child law, and the growing ratio imbalance of females to males, China might foretell a future were female children need to be produced, or the role of care-giver might be assigned to particular men based on their predisposition, health, and/or economic status. Perhaps, as recently suggested in the journal *Cell*, off-spring will be created from induced pluripotent stem cells, which can be taken from adult skin cells and other tissue.592 This, in theory, would allow an individual to produce both sperm and egg cells, and create an offspring in a surreal, science fiction, asexual, reproductive reality. With the experimentation of producing offspring through stem cells and the genetic engineering of chimeras, the future of not only the human race but also every living thing can be viewed through the framework of biopolitical power. This is poignantly highlighted in the work of BioArtist Eduardo Kac.

Today, as Kac argues, “society controls individuals cognitively (through ideology) and physically (through their bodies) in what Foucault aptly termed ‘bipower’ or ‘biopolitics.’ We have now entered a social realm in which the

minutest elements found inside the body (e.g., genes) can be externalized (through gene sequencing and amplification), and what is created outside (e.g., a synthetic chromosome) can be internalized (transgenics).”

It is this blurring of inside and outside, female and male, and truth and fantasy that Kac engages with his *Natural History of the Enigma*. Since, as stated on his website, Kac regards Edunia as mimicking his skin tone and veins, as well as containing his DNA, the Edunia could be viewed as an offspring of Kac. This is demonstrated in the following text found on his website.

The new flower is a Petunia strain that I invented and produced through molecular biology. It is not found in nature. The Edunia has red veins on light pink petals and a gene of mine is expressed on every cell of its red veins, i.e., my gene produces a protein in the veins only. The gene was isolated and sequenced from my blood. The petal pink background, against which the red veins are seen, is evocative of my own pinkish white skin tone. The result of this molecular manipulation is a bloom that creates the living image of human blood rushing through the veins of a flower.

Furthermore, the following picture of Kac watering Edunis, taken from his website, and his specific directions of how to care for the plant and collect its seeds, provide evidence that Edunis can be regarded as offspring.

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Kac claims that Edunia could be distributed socially and planted everywhere, and for this reason he created a limited edition of Edunia seed packs that contain actual Edunia seeds. Each of these seed packs are made of a set of six lithographs entitled “Edunia Seed Pack Studies.”

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Kac explains that,

the Edunia Seed Packs are hybrid objects that contain Edunia seeds. The embedded magnets keep the Seed Packs closed, while the viewer is invited to open them like books. In the text printed in the Edunia Seed Packs, in addition to Growing Notes I provide information about Exposure and Bloom Period. I also address the viewer directly: ‘A prolific bloomer, the Edunia is free flowering in the garden and weather tolerant. It is an annual that will grow ten to fourteen inches (25-30 cm) high with 4-inch red-veined wavy-edged blossoms. Good timing and uniformity in flowering guaranteed!’

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The concept of care-giving is a recurring topic throughout the work. Kac addresses the concept of care-giving by creating the offspring Edunia, and then constructing specific parameters for how the seeds should be collected, distributed, and displayed. Since each seed contains Kac’s DNA, these directions can be viewed as instructions for caring for his future offspring. Furthermore, like most BioArt, caring for a living piece of art produces unique curatorial problems that are not associated with other forms of art.

Logistically, creating, caring for, and trying to propagate Edunia presented Kac with unusual obstacles. As previously stated, Mary Abbe explains that, “Like all research involving the creation of transgenic organisms, Edunia had to be approved by the university's biological safety committee and conform to guidelines issued by the National Institutes of Health. That means, among other things, that no leaves, seeds or blossoms escape into the natural environment.” According to Abbe, this also meant that Edunia had to be destroyed at the end of the exhibition, although some of the seeds from Edunia were saved and became part of the Weisman Art Museum's permanent collection. Molecular biologist Neil Olszewski, whom Kac collaborated with to make Edunia, claimed that there was not anything to be concerned about. He is quoted by Abbe as saying, "Even if it got out, it wouldn't do anything in the environment and does not represent any kind of risk. [...] It achieves Eduardo's artistic gesture, but there are no bio-safety concerns." However, what the mandated destruction of Edunia does demonstrate is yet another form of the biopolitical power that, today, has seeped into every pore of society, and perhaps will eventually bring us all to Agamben is bare life.

598 Cf. Abbe, “Not Your Garden Variety Petunia, This Petunia Carries Artist’s DNA.” A8.
599 Abbe, “Not Your Garden Variety Petunia, This Petunia Carries Artist’s DNA,” A8.
Part Three – Günther Anders, Science, Computer Technology, & Individualization

A few branches of the vertebrate family tree led to dead ends. It remains to be seen whether that branch which resulted in the human being will also lead to a dead end. – Christa Wolf

In this section, Günther Anders’ argument that technology has its own agency will once again be use; however, a closer analysis of how science and computer technology affects, and in some cases, controls the individual’s DNA will be examined. Bioinformatics, microarray technology, and other recent developments will be explored in relation to the individualization of medicine and biopolitics. Furthermore, the growing counter arguments against this new technology will be examined. These include, the argument that the influence of environment should be considered when making medical decisions, as well as, the fact that the information proved by such technology as microarray, can often only allow scientists to give a statistical probability of developing a disease.

Recent progress in human reproductive technology and gene therapy that use microarray technology along with other developments, such as, bioinformatics or computational biology, bring Anders’ argument that humans have become the raw material for machines clearly into focus. It also exemplifies Bauman’s argument relating to the exclusion of those that do not fit in society, those Bauman calls wasted humans. As these procedures or tests become ubiquitous in the West, they obtain a certain banality. This has led to the burgeoning market of the commoditization and affordability of sequence information, which, according to

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David C. Schwartz and Michael S. Waterman, will progressively intermingle science and computer technology together to “foster [the] development of completely new disciplines for tackling the even greater challenges that are now unthinkable.”\textsuperscript{601} Moreover, they argue that “as the cost of sequence information drops, its utility will grow as sequencing directly alters medical care, the type and safety of our food supply, and of course, now unfathomable applications.”\textsuperscript{602} The rush and demand for affordable genetic screening and the monetary return for developing new tests and obtaining patents has led to a lack of concern about how the human body is being coded and analyzed by machines. Moreover, it is the computation of this data, which is also done by machines, that has produced the statistical basis of biopolitical power that affects the individual and the collective life-worlds in dramatic fashion. This has led to a new visualization of Homo sapiens, created by technology, produced through the merger of science and computers that has redefined humans and controlled them through the biopolitical data gathered by machines. These novel procedures, such as microarray, have, in fact, led to ideas that were once held to be true, but has seen disproven. A simple example of this is that today, the myth that various separate human races exist, such as African versus European, has been shown to be unfounded. While, there still are individuals that would disagree with this, authors such as Ian Tattersall and Rob DeSalle present a convincing scientifically based argument in their book \textit{Race? Debunking a Scientific Myth}, that shows how race is a sociocultural construct.


They provide evidence that data from tracking genomics – DNA compare-isons and the study of genetic markers – is flawed and misleading. They argue that, during and since the last Ice Age, some 50,000 to 60,000 years ago, there has been a reversal of formerly isolated human groups, and this reintegration has continued through migration, invasion, and colonization, but has quickened because of globalization. Therefore, individuals in what has been viewed as a certain racial group often shares more DNA with supposed other racial groups then his/her own group.  

Sheldon Krimsky and Kathleen Sloan provide yet another angle to the debate about the collecting and use of genetic data. In their book, *Race and the Genetic Revolution*, they provide evidence that in both the United States and the United Kingdom individuals who are suspected of a felony are required to give DNA samples that are then stored in databases. These individuals mostly acquiesce to this process even if they are not convicted. Krimsky and Sloan argue that this has led to a disproportionate numbers of innocent people of color whose DNA is stored, thus placing them on a permanent list of suspects. They advocate for stronger government regulations in this “racial” form of biopolitical power. Thus, as so often is the case, there is an oscillation between the positive and the negative that new scientific advancements and computer technology can provide, which reshapes, not only the concept of what it means to be a human, but also how sociocultural perception is structured.

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The merger of science and computer technology, and the reshaping of the cultural life-world of all humans, due to this merger, has already been discussed. However, returning to Eugene Thacker’s argument, the complexities and omnipresence of this merger is brought into clear focus. Thacker argues, that the marriage of science and computer technology has led to a shift in how the basic molecule is approached and organized into systems that are not unlike those found in computer technology. As previously explained, he argues, that “For mainstream biotech, a molecule first exists, and then it does something; for systems biology, a molecule is first a process or interaction, and its static existence is only a secondary effect of its dynamic nature.”

This relatively new approach to biomedical and biological scientific research focuses on the complex interaction within biological systems of metabolic networks or cell signaling networks, which form a cybernetic system that examines properties of cells, tissues, and organisms functioning as a system. This has led to what Jeremy Rifkin argues is a system of information feedback and information processing [that] serve as a kind of all-embracing scientific description of how organisms anticipate and respond to changing conditions over time. The cybernetician views living organisms as in [...] formation. A living organism is no longer seen as a permanent form but rather as a network of activity. With this new definition of life, the philosophy of becoming supersedes the philosophy of being and life and mind become intricately bound to the notion of ‘processing’ change.

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Thus, cybernetics, whether related to the structural system of a single cell, an individual, or a biosphere, alters previous concepts of time and space, through the malleability of the network’s activity. It is therefore, with the development of bioinformatics or computational biology, the effect of computers can be directly related to the creation of genome databases. Thacker argues, this type of database is created for a range of specific applications, from gene targeting in drug development, to genetic diagnostics for disease predispositions, to serving as a reference for genetic engineering research. The areas of agriculture, ‘pharming,’ health insurance, and health care are already being slowly transformed by such databases. From this perspective – computers as material-ization – the genome database is not just a map or encyclopedia, it is more like a human body.

This reconstitution of the body on the molecular-informatics level has set new parameters for the basic ontological inquiries into being, existence, and reality, and as Thacker argues, it has rewritten human’s “notions of property, subjectivity, and embodiment [which] have been trans-ferred to the domain of codes, databases, and patterns.” Furthermore, a true joining of computer technology and genetic engineering formed computational biology now known as bioinformatics, which produced technology such as microarray. In microarray technology, DNA is seen as a code that can be encoded into a database. Moreover, it is through the information gained in microarray technology that DNA can be viewed as not only a given code that can be decoded, but also a code that can be altered by recoded through such methods as gene line therapy. Therefore, as Thacker argues “From an ontological standpoint, bioinformatics wants […] the ‘portability’ that comes with

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607 Thacker, “Open Source DNA and Bioinformatic Bodies,” 32.
608 Thacker, “Open Source DNA and Bioinformatic Bodies,” 33.
conceptualizing DNA-as-code, and it wants the benefits of conceiving of code as material, able to beneficially affect ‘real’ bodies of patients. Information is both immaterial (we can create an online data-base), and material (the database will help your body heal).”609 Thus today, the merger of science and computer technology does seem to hold some benefits, but also should be cautiously approached with Anders’ arguments in the forefront. As previously stated, the collecting and storing of genetic data in online databases can also be viewed as another means to the growing control of biopolitical power that has been discussed throughout this dissertation. The information held in these databases will provide further statistical data to which an individual will be compared.

An example of the implication of such databases is show in Dena S. Davis’ explanation of the Dor Yeshorim computer program. Because of the fear of genetic disease within the Orthodox Jewish community, the community has created such programs as Dor Yeshorim. This allows people of marriageable age to anonymously test for genetic diseases. Then “when a person is considering marriage, she asks the other party for his Dor Yeshorim number and then calls the central bank and gives both their numbers. If neither or only one of the two people is a carrier, the caller is told that there is no impediment to the marriage. If both people are carriers for the same disease, the caller is advised ‘that another prospective spouse should be considered to avoid tragedy’.”610 Because of the combin-ing of computer and genetic technology in programs such as Dor Yeshorim, according to Davis, “since 2004, no child has been born with Tay-Sachs

609 Thacker, “Open Source DNA and Bioinformatic Bodies,” 34.
to a Jewish couple in North American. (This has the ironic result that more children are born with this disease in the general population, than in a population known to be at high risk.)

What this example also demonstrates is the combining of science and genetic technology has produced a growing segment of the population that has been conceived and altered through technology. According to Eduardo Kac, this development has “enabled human beings either to be born with new genetic configurations (e.g., children born via cytoplasmic material that have genetic material from ‘three parents’) or to have new genetic material added to their bodies without altering the germ line cells.” Additionally, with the practice of microarray technology, how an individual who is allowed to be born lives his or her life is altered by the information that is provided by microarray and other forms of screening technology. For example, if a gene is detected that might lead to heart disease and early death, that person could be raised from an infant as a vegan instead of someone who eats dairy and red meat. The individual could also be subjected to regular testing of his/her body mass index and instructed to partake in physical activity. The lifestyle and care the individual is given would be altered due to the technological screening process. Therefore, this technology could influence notions of personal identity, and also change cultural patterns. The combination of informatics and biological technology, according to Thacker, has already altered the term information, which had usually been thought of as disembodied and immaterial. Bioinformatics, instead, creates databases that are

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611 Davis, Genetic Dilemmas, 109-110.
models of potential compounds based on both data analysis and synthesized molecules, and also identifies key pathways through computational work forming cybernetic systems. This data is decoded and linked to an individual’s body, such as with prescription of pharmaceuticals or gene-based therapies that are derived from an individual’s disease profile. However, some scientists have begun to question the research and the practical use of individualization of drugs and gene-based therapies that derive from genetic screening.

When the Human Genome Project (HGP) began, one of the initial scientific projections, the common variant hypothesis was that by sequencing the human genome, certain disease-causing mutations would be identified. This, Stephen S. Hall explained, in the journal *Scientific American*, meant, “that many familiar human maladies might be explained by the inheritance of a relatively small number of common gene variants.” The hypothesis was, “the disease-related genetic variants and the proteins they encode, as well as the pathways in which they played crucial roles, could then become potential targets for drugs.” This would have meant that once these markers were identified, an individual could be screened and if s/he had these markers s/he could be given specific drugs to target and fix that mutation. While this has not come to fruition, related studies, specifically the genome-wide association studies (often called GWAS, or “gee-waz”) have, through studying DNA known as single-nucleotide polymorphisms, or SNIPs (pronounced “snips”), uncover common gene variants important to diseases such as

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schizophrenia, type 2 diabetes, Alzheimer’s and hypertension. 616 Ultimately, what these various attempts to find these markers have proven is that finding markers for diseases, and producing individualized drugs, is more complex than what was initially theorized. Today, many scientists believe “rare mutations in genes probably contribute more to disease than do the gene variants linked to common SNIPs.” 617 This, according to Hall, has led to the studying of DNA that was once dismissed as “junk.” It is now believed “some DNA stretches produce small bits of RNA that can interfere with gene expression. […] And chemical ‘tags’ on DNA that do not change its sequence – that are thus ‘epigenetic’ – can also influence gene expression and can be modified by environmental factors over the course of a lifetime. This environmentally modified DNA may even be passed on to offspring.” 618 This also proves the argument presented at the end of chapter two, that human evolution is complexly related to environmental factors in which both humans and their environment are reacting to one-another through calculated molecular changes. What is different today, from, for instance, Hub Zwart and Bart Penders’ study of dairy herders and the development of lactose tolerance, is that environmental factors have been increasingly controlled by science and computer technology. 619 This ranges from the growing problem of biological waste and discarded computers, that become toxic computer trash, to new technological innovations that alter how humans interact, the lifestyle that is led, and the food that humans eat. The waste, as Bauman argues, encompasses humans and is

616 Cf. Hall, “Revolution Postponed,” 64.
producing a growing population that is comprised of wasted humans. According to Anders’ argument, that as humans created machines that far exceed humans’ imagination, emotion, and responsibility, they have produced a discord among what humans are able to produce, and imagine, as well as control. This far exceeds René Descartes’ demonstrating that animals and the human body can be studied as complicated machines, or as Justin Leiber explains, Julien Offray de La Mettrie “argued that man, like other animals an evolutionary product of nature, is a machine, controlled by neurological mechanisms in the brain.” However, as Leiber wrote, in the opening to Julien Offray de La Mettrie’s *Man A Machine and Man A Plant*, “Rightly or wrongly, we are beginning to think of ourselves as biological thinking machines. We are also trying to make artificial thinking machines. Perhaps because of this, we are coming to grips with our affinities with, and responsibilities toward, our fellow animal and plant machines as well.” La Mettrie’s argument, articulated in *Man a Machine: and Man a Plant* – that the principal parts of man and plants are the same, influenced Eduardo Kac in the making of the *Natural History of the Enigma*. Kac explains on his website, that along with La Mettrie’s writing, the “preliminary sequencing of the human genome and that of a plant from the mustard family (Arabidopsis thaliana, in the journal Nature, December 14, 2000) have extended the artist's and the philosopher’s analogies beyond their wildest dreams, into the deepest recesses of the human and plant cells. Both have revealed homologies between human and plant genetic

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622 Leiber, introduction, 7.
sequences.” These findings were of course realized only through the combination of science and computer technology, and has led to the manipulation of genes, which is clearly demonstrated by Kac’s creation of Edunia and other forms of chimeras previously discussed. What Kac’s work in relation to Anders’ argument brings to light is, what this burgeoning world of genetic screening, genetic manipulation, and subsequent genetic alteration has demonstrated is that humans do not really have as much control over their life-world as they would like to think. Likewise, if humans are not more careful, they might just end-up in Giorgio Agamben’s position of bare life at the hands of the new advancements that are created through science and computer technology, which increasingly seem to have their own agency.

Conclusion

The original thesis statement for this dissertation was laid out in one direction of research, where an argument would be made that throughout the past forty years, genetic advancements have been used to remap humans’ understanding of the body, and the interaction between the self and the Other. In each chapter, one such advancement was to be discussed. Furthermore, it was to be argued that this new understanding had altered the nuclear family structure, gender roles, and care-giving. To demonstrate this, a specific piece of artwork would be chosen for each chapter. The artwork would serve as a vehicle to discuss various sociocultural aspects that were closely tied to the respective genetic advancement of a given decade. While the broad scope of this dissertation has facilitated an examination of

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some of the genetic advancements over the past forty years in relation to the family structure, gender roles, and care-giving, as well as also allowing for the examination of specific works of art, the dissertation took on new meaning under the guidance of Michael Stone-Richards. His suggestion to organize the information through the theories of Edmund Husserl’s life-world, Michel Foucault’s biopolitical power, and Günther Anders technological agency was insightful, and hopefully translates to a current and thought-provoking read.

Even though the first two chapters revisit the well-known works *Post-Partum Document*, and the *AIDS Memorial Quilt*, the hope is that a new interpretation that relates not only to sociocultural settings, but also to scientific advancements, has been revealed. In chapter one, the argument was made that there are specific connections that can be found between Husserl’s concept of life-world and Julia Kristeva’s theory of the pre-linguistic stage. Moreover, it was also demonstrated that these connections related to Mary Kelly’s *Post-Partum Document*, which was situated in the middle-class setting of the 1970s. Foucault’s structures of power – juridical, disciplinary, and bio-political – were also related to Kelly’s work, and the second-wave of feminism, to specifically address the changing dynamics of the family structure, gender roles, and care-giving in the 1970s. Lastly, Günther Anders’ arguments about technology were applied to the genetic advancements of in vitro fertilization, and humans’ ability to control gene manipulation. In chapter two, the discussion builds upon the arguments presented in chapter one, however, in chapter two, the way the individual orientates his/herself within the life-world was used to establish patterns between the
scientific understanding of the human genome and the HIV/AIDS pandemic. These patterns were also used to establish a reoccurring metaphor of mapping that was found in Cleve Jones’ *NAMES* Project AIDS Memorial Quilt, as well as the life-world, and the rewriting of and caring for the body in the 1980s. Additionally, Foucault’s con-ception of power structures was once again employed to demonstrate the social resistance that did not dismantle the power system, but rather, altered it to incorporate the changing ideologies of the 1980s, including the argument that gender roles are performed within a given sociocultural setting. It was also shown how the shifting understanding of the cartography of the body, in relation to genetic research and HIV/AIDS, advanced the concept of gender performantivity. This was interlaced with Anders’ argument of technological agancey.

In chapters three and four two lesser known works of art were written about, Patricia Piccinini’s, *The Mutant Genome Project* and Eduardo Kac’s, *Natural History of the Enigma*. These two works incorporate elements of genetic engineering that developed out of the combination of science and computer technology, and also facilitated the discussion to move into the current century. One key point that was made in chapter three was, by the 1990s, the world had shifted to an understanding of globalization in which the pre-given life-world was shaped both in a subjective and intersubjective manner by a merging of science and computer technology. Furthermore, it was argued that the life-world was increasingly shaped by the genetic engi-neering of humans, animals, and plants, and that this led to an heightened presence of systems of power and a redefining of
bio-graphical and biological degrees of freedom. The various aspects of the reshaping of the life-world and control that science and computer technology have over the human body also led to the argument that the nature of care-giving has been altered. In particular, Piccinini’s work, and the practice of creating “designer babies” was scrutinized in relation to Anders’ argument that technology has its own agency, and the manipulation of genes, whether plant or animal based, has become the raw material of this technology.

Chapter four, was organized around Kac’s creation of the plantimal, Edunia, which was made by engineering the DNA of a petunia plant to contain Kac’s DNA. The juxtaposition of genetic engineering technology, such as microarray and Kac’s work led to a discussion of the element of fantasy in the life-world, and the argument that there is a perception of individualization that currently pervades society. Foucault’s systems of power were once again discussed, and Giorgio Agamben’s theory of homo sacer was also used to argue that any individual could find him/herself in bare life, and that science and computer technology play an increasing role in this phenomenon. Moreover, the increasing use of genetic screening and the invention of chimeras brought the concept of care-giving in the new millennium to the forefront. The use of genetic screening, various genetic advancements, and the development of chimeras, also led back to Anders’ argument that technology has its own agency, and humans have become the raw material for machines. Hence, while the original thesis statement was addressed and answered, the process of research and discovery led to a richer dialogue than was originally sought. This included a discussion of genetics, a phenomenology of
the human body, the interaction of the self and the Other, and the changing performativity of the family structure, gender roles, and care-giving that has unfolded over the last forty years.

It is the hope of the author, to continue to build on this existing research and embark on future projects that include the act of care-giving in BioArt. This would draw on much of the knowledge the author has gained from this dissertation, however, more directly examine how various artists care for and market their creations. Another, related topic of interest, once again based on the knowledge gained by the author over the past few years, is how care-giving is related to social networks. Research for this project would be expanded to include masquerade, and a further examination of cybernetics. Many new avenues can be forged with the knowledge that has been gained, and while these divergent paths might seem disconnected at times, they are, in fact, like a ribosome in nature, and can be traced back to a beginning point of research. This, the author hopes, will make it possible for her, in time, to be able to reflect upon the claim that this document was the beginning point of future research, artistic inspiration and professional growth.

Appendix: Author’s Note

How a PhD candidate reaches the decision of what to spend the next few years researching and writing about is a personal journey that, at least for me, poignantly reflects my life on many levels. Even though the time spent on this arduous undertaking has often left me doubting myself and riddled with guilt for the time and money I have devoted to this degree, the two main impetuses for my
dissertation topic have consistently been my father and my daughter. It was through the research process of genetics that I was able to form a closer connection with my father, John J. Dunn as he battled cancer and ultimately succumb to the disease on July 13, 2012. He was a renowned research scientist who, among other discoveries, was famous for his work on sigma factors, which in the early 1970s was a necessary discovery in the development of Recombinant DNA. The other driving force for the examination of family structures, gender roles, and care-giving has been my daughter Emma. My daughter was born on August 23rd 2005, and to my delight and amazement began mimicking speech within her tenth week. At twelve months though, I felt there was no difference between her speech development and that of other children her age. By twenty-four months, she began to fall behind on many of the normal benchmarks of speech development. When she turned three years old, she was tested and diagnosed with a speech delay and an articulation problem, and soon after entered speech therapy. This not only left me questioning my mothering skills, and with an immense feeling of guilt for pursuing a PhD while raising a young child, but also began my inquiry into what my role was within the development of her pre-linguistic and symbolic stage. This question was further complicated as her speech acquisition was turned over to two speech therapists we visited twice weekly. At age seven she still receives speech therapy and struggles with other aspects of her Specific Language Impairment disability. It has been my greatest frustration but also my greatest joy to struggle with her and watch her achieve the benchmarks of elementary school. She is a smart, loving, gregarious child who I have no doubt will triumph in the end. These
personal sojourns of my daily life have permeated my creative process of both writing and creating visual arts. What I have gained from the writing of this dissertation is a more profound understanding of my life-world, how it is shaped by science and computer technology, and how this knowledge can be translated into my actions of care-giving and my creative endeavors.

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