

The Database: An Aesthetics of Dignity

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Something Given

The term 'data' originated as the plural of the Latin word datum, meaning "something given."¹ In the world of experience, our datum is a culturally constructed, social context. This context, and the socio-ideological experience of individuals in the context of contemporary western societies, is defined by what Katherine Hayles has called the "materiality of informatics": "the material, technological, economic, and social structures that make the information age possible."² Hayles' "Informatics" includes "the late capitalist mode of flexible accumulation; the hardware and software that have merged telecommunications with computer technology; and the patterns of living that emerge from and depend upon instant transmission of information and access to large data banks."³

Data on its own has no meaning; data must be interpreted in order to take on meaning and become information. Data is a mark or trace that represents a portion of the real world; it is a representation that can be processed and transcribed into a readable language on a sustainable medium--a completed questionnaire, a taped interview, the recorded results of an experiment. Events or experiences that leave physical, virtual, or perceivable marks can be traced through data. Marks lose the status of data when they can no longer be interpreted because the code linking them to particular observations is unavailable.⁴ People, and computers, find or impose patterns on data--patterns that are seen as information, used to enhance knowledge, authorized as aesthetic or ethical criteria, and accepted as truth. Patterns mined from data may be structures observable through the senses (and therefore subject to aesthetic evaluation), or normative examples for behavior (subject to questions of ethics). Since actions or behavior can be said to have beauty beyond sensory appeal, aesthetics and ethics intersect. It is at this intersection that the question "How should we live?" is posed--querying methodology (how), desire (should), identity and community (we), and the conditions of existence (live). Together, ethics and aesthetics challenge the function, nature, ontology, and purpose of art. Historically, aesthetics has played a central role in the development of the ethics of the individual subject and, while the problem of "the nature of beauty" has been rendered irrelevant to some degree in postmodernist criticism, aesthetics may still be used as a tool to examine the relation between art and life. In aesthetics (and ethics), the question of beauty is linked to the question of subjectivity. Two approaches to the problem of beauty (or of morality) dominate: the objective, which asserts that beauty (or ethos) inheres in the object (or absolute) and that judgments concerning it may have objective validity, and the subjective, where the beautiful (or just) is identified or determined by the observer.

Unifying Functions

Both the objective approach *and* the subjective approach presuppose the status of the object, or work of art as a unified whole. In his 1979 essay "What is an Author," Michel Foucault asks, "What is this curious unity that we designate as a work?"⁵ What are the limits or boundaries of a work of art?

Of what is it comprised? Is it the product of an author? If so, then the question of who, or what is an author must arise. Foucault stipulates that a "work," in the modern era, is both defined and constrained by the name of the author -- the "author function." Foucault's "author function" is system of classification where the name of the author (as opposed to "signer," "guarantor," or "writer") identifies, elevates, and frames a text. The author function has to do with ownership and transgression. The author functions as the founder of a discourse, the owner of the property of a text and, as such, an individual subject, both privileged and psychologized, whose biography gives meaning to and takes meaning from the text.

When an individual is accepted as an author then what, of all that the individual wrote or produced or left behind, is part of the "work." Foucault follows this question to its logical conclusion:

When undertaking the publication of Nietzsche's works, for example, where should one stop? Surely everything must be published, but what is 'everything'? Everything that Nietzsche himself published, certainly. And what about the rough drafts for his works? Obviously. The plans for his aphorisms? Yes. The deleted passages and the notes at the bottom of the page? Yes. What if, within a workbook filled with aphorisms, one finds a reference, the notation of a meeting or of an address, or a laundry list: is it a work, or not? Why not?...⁶

and

If an individual were not an author, could we say that what he wrote, said, left behind in his papers, or what has been collected of his remarks, could be called a "work"? when Sade was not considered an author, what was the status of his papers? Were they simply rolls of paper onto which he ceaselessly uncoiled his fantasies during his imprisonment?⁷

The author function is a "characteristic of the existence, circulation and functioning of certain discourses within a society."⁸ Authorship evolved as discourses became transgressive and owners/writers/signers/identifiers of texts could be subject to punishment. "In our culture (and doubtless in many others), discourse was not originally a product, a thing, a kind of goods: it was essentially an act--an act placed in the bipolar field of the sacred and the profane, the licit and the illicit, the religious and the blasphemous. Historically, it was a gesture fraught with risks before becoming goods caught up in a circuit of ownership."⁹ "The author is a modern figure... the epitome and the culmination of capitalist ideology..."¹⁰ The individualization of the author provided a context for the objectification of the work as both unity and commodity.

The pre-modernist narrator was a mediator rather than author--a shaman whose role was performative rather than creative. His/Her story was an aggregate, its origin collective. The shaman/narrator performed *for* the community narratives *belonging to* the community. Did these narratives have the status of a work? Is, for example, One Thousand and One Nights a work? Or is it a database? The author function unifies a 'text' or a body of work so that the relation between a group of texts is fixed. The story-teller draws on and contributes to an evolving database--s/he searches,

selects, elaborates, contributes--there is no fixed relation, no unity, no single author--only stories that continuously unfold to reveal increasingly complex topologies. These fluid configurations, the fleeting figures and patterns they reveal, are the concern of ethics and aesthetics in the context of the materiality of informatics--not 'what constitutes a work?' or, 'who is to be identified and accepted as an author?' The insistence on the unity of a work is as problematic as the notion of the author's individuality,¹¹ or the idea of the uniqueness of the subject. Authorial individuality and authority is already, 'de-centered' by the fragmentation of the social world, by the relativity and relationality of the worldviews of any of its actors. The problem of representation in art, literature, and politics is analogous to the "propositions of relativity and quantum physics, that can make no statements about nature that are independent of the framework of the investigation."¹²

Uncertainty Fields

Quantum Physics is, to quote Nicholas Mosley in Hopeful Monsters "...the study of things that cannot exist using methods that are admitted not to refer to what they talk about..."¹³

Quantum physics locates the interaction of or exchange between two separate physical systems, for example, two bodies, to a 'field' that extends from one to the other. In physics, a 'field' is a region under some influence, such as gravitation. A system, like a body, consists of components, which are organized to facilitate the flow of information, matter, or energy. A system may be open or closed, (homeo)static or dynamic. "At arbitrary boundaries, a collection of interrelated components may be declared a system and may further be abstracted to be declared a component of a larger system. An open system can be influenced by events outside of the declared boundaries of a system. A closed system is self-contained: outside events can have no influence upon the system. Dynamic systems have components and/or flows that change over time."¹⁴

Physicist Werner Heisenberg¹⁵ posited the simultaneous absence and presence of matter where every object can be understood both as a localized point (finite, bounded, specific) and as a variably distributed wave function (spreading infinitely). Heisenberg's uncertainty principle is taken to mean that on an elementary level, the physical universe does not exist in a deterministic form, but rather as a collection of probabilities, or potentials. The Principle of Uncertainty states that at the quantum scale, both the location and the velocity of a particle cannot be known simultaneously because the act of observation (performed through electromagnetic instruments) itself introduces energy into the system of particles observed, thereby influencing them so that their behaviour cannot be known independently of the observer. This led to the debates about how deep uncertainty goes. Is uncertainty fundamentally a part of how nature works? In other words, are the behaviors of the particles themselves uncaused and unknown to them before they move.¹⁶

Outside the contexts of physics and computer science, 'field' is defined as "a complex of forces that serve as causative agents in human behavior"¹⁷ and a system is understood as "a complex of methods or rules governing behavior."¹⁸ Uncertainty is an inevitable part of the assertion of knowledge. Everything said is said to an observer; knowledge of reality is dependent upon the

perceptions of the observer. Observation or measurement affects the state of the object being observed--that is, objective measurement or observation from outside a system is not possible, and the act of observing makes the observer part of the system under study. The observer, whose observation is initiated in order to produce a representation of the system observed, is progressively incorporated into the system. The authority of representation, as such, is compromised. Uncertainty is thus implicated in the disappearance of the author/observer. His disappearance, or death, is produced and re-produced in a variety of narratives that originate in diverse discourses from semiotics to cybernetics. Cybernetics, and computational biology (or artificial life research)¹⁹ offer models for re-thinking representation and authorship in the epistemology of autopoiesis, and emergent systems called cellular automata. These models move beyond the interpretation of 'uncertainty' as the collapse of the separation between subject and object – the death of the author -- and posit multiple differentiations, and proliferating perspectives – *emergent dialogism*.

Dialogism -- Autopoietic systems, as articulated by second order Cyberneticians, Humberto Maturana and Manuel Varela, incorporate the observer as part of the system. Through recursive interactions with its own linguistic states, an autopoietic system may always linguistically interact with its own states as if with representations of its interactions.²⁰ An autopoietic system is self-reflexive, self-organizing, self-making. Such systems are "informationally closed,"²¹ responding to environmental stimuli based on their own, internal self-organization. An autopoietic system envelops the observer/subject within its field. What is seen by the subject is seen through the filter of the system-- from inside the system's perspective. In an autopoietic system, system and subject, perception and representation are collapsed, elided – there is no exterior. Subjectivity is system-dependent and systemic. There is no representation external to the experience of the system itself. As in Bakhtin's dialogic, polyphonic, multivocal model for narrative, in an autopoietic system there is;

first, not one entity or consciousness absorbing others into itself as objects but a whole formed by the interaction of many entities or consciousnesses none of which entirely becomes an object for the other, and --²²

second, an avoidance of objectification -- non participating third parties are not represented in any way – only participating voices speak within and through their own intersubjective experience.

Emergence - In Cellular Automata machines: a new environment for modeling, Thomaso Toffoli and Norman Margolus maintain that cellular automata "are the computer scientist's counterpart to the physicist's concept of 'field.'"²³ Cellular automata are self-evolving or emergent; cellular automata are systems that extend in space and evolve in time according to local laws. The automata is a field or frame, usually represented as a two or three-dimensional grid of cells or pixels. Each cell or pixel may 'behave' independently at each 'step' in time based on a table of rules and a given initial condition. The table of rules is a set of definitions for the behavior of each pixel or cell in relation to

the state of each neighboring pixel or cell. Given any initial condition, a global state emerges from the local interactions of discrete entities in an iterative and evolving system.

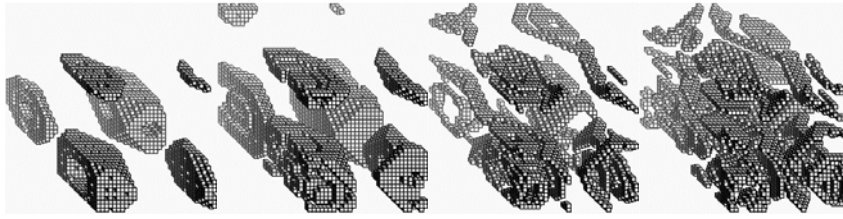


Figure 1 – development of a three dimensional cellular automata (*four frames or images arranged in sequence*)

Caption or note – Four time steps in the evolution of a cellular automata visualized using Tresvita v3.2 software created by Alexander Mieczyslaw Kasprzyk. Tresvita is shareware (available at <http://alife.ccp14.ac.uk/macsoft2/www/TresvitaDocs.html>). For this example the rule-set was sequential – requiring 4 minimum, 5 maximum, neighbors for survival and 5 min/max for growth. Seed density was 7 in a 30 x 30 x 30 grid.

Where subject and system collapse in autopoietic epistemology (causing perception and representation, which are dependent upon the organizing principal of the system, to be played out in self-reflexive re-iteration) in emergent systems like cellular automata, subjectivity is socialized, the system functions as a 'community.' The subject position posited by the cellular automata model is relational and associative--both distributed and discrete. A global perspective and a multitude of particularized, local perspectives exist in simultaneous interdependence. In cellular automata, the contradiction between individual autonomy and community collapses. Cellular automata embody an oscillating, productive, tension between the individual and the social -- there is no observer only inter-dependent agents or actors.

The problem of the role of the observer in physics and cybernetics is parallel to the problem of authorship and representation in art. As the relation of observer and observed is redefined so it may be possible to "re-examine the privileges of the subject" and the function of the author as suggested by Foucault, "...In short, it is a matter of depriving the subject (or its substitute) of its role as originator, and of analyzing the subject as a variable and complex function of a [system or] discourse"²⁴

Collaborative Systems

Foucault's re-examination of the privileges of the subject interrogates the conditions of possibility and the rules under which "something like a subject"²⁵ might appear and function in discourses/systems/texts. Here he poses a challenge:

I seem to call for a form of culture in which fiction would not be limited by the figure of the author. It would be pure romanticism, however, to imagine a culture in which the fictive would operate in an absolutely free state, in which fiction would be put at the disposal of everyone and would develop without passing through something like a

necessary or constraining figure...The author has played the role of the regulator of the fictive, a role quite characteristic of our era of industrial and bourgeois society, of individualism and private property, still, given the historical modifications that are taking place it does not seem necessary that the author function remain in constant form, complexity, and even in existence. I think that, as our society changes, at the very moment when it is in the process of changing, the author function will disappear, and in such a manner that fiction and its polysemous texts will once again function according to another mode, but still with a system of constraint – one which will no longer be the author, but which will have to be determined or, perhaps experienced.²⁶

The historical modifications and social changes that Foucault anticipates are manifest in the "materiality of informatics." We must try to re-imagine the pervasive systems and interfaces of "informatics," which have become the unacknowledged tools of the everyday as a datum, "something given" on which to build a space for polysemous texts and Bakhtinian polyphonies-- a space that will allow a plentitude of voices; a space for collective self-representation; a space where non-participating third persons are not represented in any way.²⁷

This free space, "in which fiction would be put at the disposal of everyone and would develop without passing through something like a necessary or constraining figure,"²⁸ is embodied (made possible) in "collaborative systems." I use the phrase, "collaborative systems," to describe public art produced in collaboration with local and online communities and structured on the model of the spatially and temporally distributed dynamics of cellular automata. Collaborative systems are both social and technological: "Any social organization can be thought of as a complex, evolving system insofar as it generates behavior that is unpredictable, non-linear, and capable of producing multiple outcomes."²⁹ Social systems, like cellular automata, are rule-based emergent systems. However, in social systems, as in collaborative systems, the initial condition of the system (the state or condition of the field or world at the first step of evolution) is contingent upon tangible, global conditions that are in flux, and its rule-table (directions for the behavior and interaction of its "cells") is, itself, emergent. Therefore, the rule-base of a collaborative system is dynamic and self-reflexive. A collaborative system may frame human participants, artificially intelligent agents, computer algorithms, and computer or community networks in the location of the individual "cells" within a field. Each "cell," entity, or human participant has agency--playing a role in the "inter-authorship"³⁰ of the system in response to the conditions of the field.

A collaborative system generates a material condition for the disappearance of the author function and fulfills Foucault's prediction regarding a "system of constraint--one which will no longer be the author, but which will have to be determined or, perhaps experienced."³¹ A collaborative system makes no reference to 'originality,' authenticity, or psychologizing identification with an author. Collaborative systems focus instead on how a discourse can circulate, who can productively appropriate a discourse of his/her own, "what are the places in it where there is room for possible subjects? and, who can assume these various subject functions?"³² In collaborative systems the

author function is supplanted by a 'subject function' where 'subject' is a variable: a quantity that can assume any of a set of values.

This variable 'subject-function' speaks with many voices. In a collaborative system, public information spaces and communications technologies are exploited in order to establish a framework (designed in dialogue with a community), in which collaborating participants can build databases of texts, sounds, and images from their own world of reference or experience and structure and interpret that data themselves. Through this collaborative process, the individual, private subject consciously engages a socio-political network, the socio-political merges into the private/personal and the subject emerges as a politicized participant in an inter-subjective network.

The Bahktin circle,³³ which combined the study of philosophy, social theory, and criticism with collective literary production is both a precursor and an influence on collaborative systems. The circle frames a field of discourse and patterns of thought emerge through collective articulation. For Mikhail Bahktin, meaning is derived from dialogue, which is grounded in a social context. He adheres to the idea that social and aesthetic forms are produced under particular circumstances. These provide a resource for an analysis of everyday life. There is no place for the heroic author or actor in Bahktin's analysis, rather he seeks out the voices of those excluded from 'history'--voices "that reveal the details of everyday life--in order to decode the social world."³⁴ Bahktin's theory of dialogism assumes that no individual ever writes, or authors, alone. "Writing" (imaging, speaking) is the result of our interactions with the world. "The Author is ... the ideological figure by which one marks the manner in which we fear the proliferation of meaning."³⁵ To write and construct new knowledge and meaning, the subject must be a variable--we must engage in a dialogic process where "the words and images of one individual are examined and primarily understood in relationship to the words and images of others."³⁶ This interaction requires an infrastructure like that of a database.

Database Aesthetics

A database is relational and non-hierarchical. It is a structure that persists while its content evolves and is displaced. The structure of the database comprises an initial condition for the evolution of a system. Evolution and displacement are fundamental to the dialogic process – through this process all the possible meanings of stories, statements, images and words interact, and possibly conflict, to affect and change their future meanings. Collaborative systems are dialogic spaces in which the acts of writing, imaging, storytelling, and political statement are a collective production, a process rooted in social interaction and dialogue that produces a narrative without authorial consistency. This notion of a multi-vocal, but authorless narrative, necessitates a radical rethinking of aesthetics, suggesting the possibility of an aesthetics of 'Database.'

'Aesthetics' has traditionally meant "'a theory or conception of beauty."³⁷ A "conception" of the "beauty" of a database is not located in the viewer's interpretation of a static form but in the dynamics of how a user inflects the database through interaction with its field or frame. A database incorporates contradiction; it is simultaneously recombinant and indexical, precise and scaleable, immersive and emergent, homogeneous and heterogeneous. It is a field of coherence and contradiction. The aesthetic

dimensions of the database arise when an agent traverses this field of unresolved contradictions. The database is comprised of nested subfields, which are activated, and given ontological status, by the agent's trajectory through its field. Continuously emergent ontological states resolve as new subfields from each interaction and are integrated into the field, changing and transforming the content and structure of that field and constituting not an 'art object,' but a continuously evolving and fluid system. These are the conditions of possibility of 'database aesthetics.'

An argument for the "conditions of possibility" of database aesthetics can be grounded in the analysis of systems found in the world. The following four "found" systems provide external evidence of and extended context for an aesthetics of the database.³⁸ Each example is an archive, artifact, or instance of a specific, social, economic, political, and/or cultural response to a materially and historically contingent, phenomenological field. The Paris catacombs, St. Chapelle, the insect collection of Anne and Jacques Kerchache, and the city of Venice itself are material/experiential manifestations of the impulse to order, classify, name, and systematize relations of meaning within specific social, cultural, and political contexts. Each in turn is evidence of a particular process or perspective. The Paris catacombs were created through a process of displacement, fragmentation, re-organization, and re-distribution that transferred the locus of identity from the individual body to its discrete parts and place of origin. The stained glass windows of St. Chapelle are a kaleidoscopic database of instructions embedded in a narrative designed to be traversed on multiple levels of temporal scale. Their overall pattern, reveals through shifts in time and light, subfields of social and moral particularity. There can be no one-to-one map of Venice because no absolute or fixed representation of its features is possible. Every feature of the city has been named and re-named from a continuously shifting and overlapping multiplicity of perspectives. Every map of Venice is larger than its territory. The Kerchache collection is a crystallization of formulations of power --in its aestheticization of 'nature' (a reification of relations of difference and similarity), and in its rational capitalist method – acquisition, accumulation, classification, and display. Each is an example of a unique system of representation, method, or perspective by which a social system organizes (organized) data in response to evolving phenomenological processes within a socio/economic, political, moral/religious, or scientific field.

Found System: Paris Catacomb

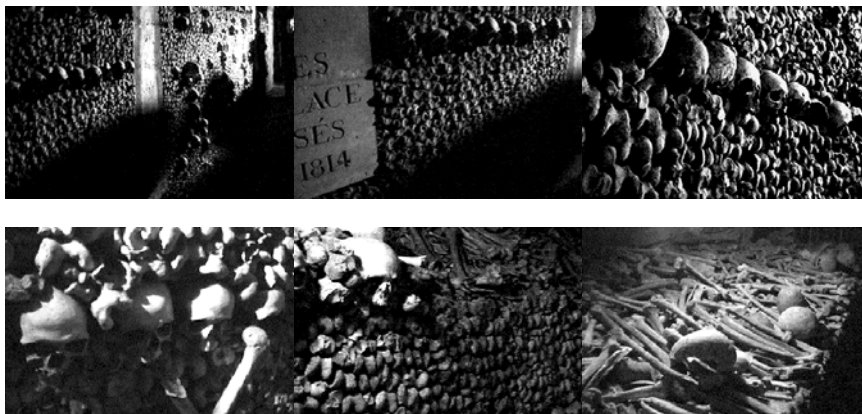


Figure 2. details of Paris Catacombs where seven million Parisians skeletons, long since disinterred from the churchyard graves their survivors left them in, are neatly stacked and aligned to form the walls of nearly one kilometer of walking passage.

photo credit Sharon Daniel

The Parisian catacombs constitute a massive database of the dead, embodied in an immersive environment. After a long, winding descent, narrow stone corridors suddenly transform into stacks and rows of human skulls and femurs ten feet in depth and rising eight, lining what appears to be an infinitely receding passageway. Shock registers in sudden breathlessness. Immersion here means immersion in a monumental volume of loss and decay. However, after this first bodily response, the response-type that is the locus of traditional aesthetics, ones perception shifts to the obsessive, repetitive, endless, stacking, ordering, patterning, and cataloging of human remains. These remains are organized and categorized; identified in groups by their location of origin in once consecrated graves. The algorithm used to construct the catacomb: exhume skeletons, reduce individual skeletons to skull and femur, remove fragments to catacomb, situate in subfield identified with graveyard of origin. Identity and location have been displaced by a general categorization of fragments that constitutes a field. Each particular body as organic whole is lost--its history and context subsumed in subfields.

In this example, database aesthetics works through displacement that resolves into a pattern, which constitutes an immersive, phenomenal space. The Paris catacomb was once a dynamic system that has ceased to evolve. It is a reflection of a specific historical/material circumstance and a complex of political and socio-economic priorities: state over individual; progress over history; place over person.

Found System: St. Chapelle



Figure 3 - sequenced detail of the chapel and canopy at St. Chappelle - photo credit Sharon Daniel

The chapel³⁹ as a whole is an information system with a nested or 'whole-to-part' structural organization. This structure was designed to regulate temporal and social experience. The walls of the upper chapel are formed by fifteen stained glass windows, which comprise the data-field of the chapel (see fig. 3). Each window is divided into subfields, or self-contained individual panels. No two panels are alike. This idiosyncratic differentiation is mediated by the ordering frame of the chapel's architecture, which produces the appearance of a coherent pattern. The aesthetic experience is one of oscillation between the impact of the architectural frame, or field, and the stimulus of the visual and narrative figuration, descriptions, and instructions in the individual panels of the windows, or nested subfields.

Each panel or group of panels has a narrative structure meant to didactically prescribe a moral code and outline a spiritual practice. Together, the panels function as an immersive rule table. Parishioners are meant to emulate the characters depicted in the stories, and structure their social interactions accordingly.

The experience of the chapel for a parishioner was time based; the illumination of the chapel's narrative database is subject to the cycles of night and day, and to the longer units of yearly seasonal change. The chapel is therefore a clock that temporally orders the lives of its members as well as a social and moral handbook that regulates their behavior.

Found System: Venice

The database for the "conditions of possibility" of the city of Venice is a field defined by excess and necessity, decadence, and survival. Here water, architecture, commerce, and tourism comprise a system that is both emergent and immersive: a physical and historical "collaborative system." The lagoon and canals frame the complex fields and subfields of the city while, simultaneously, the city frames their tidal flow. Venice is a body floating, suspended in its own fluids. Water contains and fills, encompasses and embodies it.

The vector that traverses the field of Venice is the loss of perspective. Venice is a manifestation in experience of the condition of schizophrenia. "When the links of the signifying chain snap, then we have schizophrenia in the form of a rubble of distinct and unrelated signifiers." ⁴⁰ There is no way to get one's bearings regarding the relation of past to present and present to future, name to place -- language. If, as a tourist, one wanders in the city then any street, campo, canal, or fondamente is the way (or means) and the end. The experience is immersive. There is no distance, no observer. There is no possibility of objectivity. No matter how many maps of the city one has it is impossible not to get lost. Every small alleyway, canal, campo, fondamente, has several names--or rather, each may be individually named and all the names may represent the same physical point but from different frames of reference or perspective locations. It is possible to consult many maps of Venice of varying degrees of scale, detail, and resolution, overlaying map upon map. Maps

representing different and multiple perspectives leave one always in some sense lost--as no one map or combination of maps coincides with one's own immediate subjective and physical location. "With the breakdown of the signifying chain, therefore, the schizophrenic is reduced to an experience of pure material signifiers, or, in other words, a series of pure and unrelated presents in time."⁴¹ To 'lose one's way' in the city would be oxymoronic--it is the condition of being in Venice, as such. After all, where is one attempting to go? One is constrained by the limit-frame of the 'world' or system, which both frames an empty space and re-constitutes a new field.

In this context, the movement of an individual is linked to the movements, constraints, and containments of light, sound, and water within the system of canals and fondamenta. This interdependency functions like a four dimensional mesh where the displacement of one node or intersection necessarily distorts the surface of the whole, collapsing and expanding the individual interstices accordingly. The construction of Venice was an expression of power--the desire to dominate nature for the sake of commerce and control. Composed of incompatible elements, the flickering insubstantiality of its fluid markers, names and traces, Venice teeters on the brink of submission -- power giving way to impossibility.

Found System: Nature Demiurge

Most exemplary of the connection between classification and the dominance of nature is the exhibition Nature Demiurge⁴². Insects from the collection of Anne and Jacques Kerchache were displayed at the Foundation Cartier pour l'art contemporain like a collection of precious jewels.⁴³ Identical, velvet-lined, vitrines embedded in the walls at eye level circumscribed the gallery in a single, luminous, line. Each elegant case contained a number of specimens from a particular species of insect. The specimens in each case were nearly identical. Upon close inspection subtle variations in pattern or color could be detected. The exhibition constituted a database of continuous differentiation--a play of difference along a spectra of metonymically arranged data. The focus of the exhibition as a whole was the demiurge: the pattern of patterning, the designing of design. Through a strategy of iteration, the collection of individual cases displayed the inescapable interweaving of the homogeneous and the heterogeneous.

In incremental steps the variety of pattern within the strict parameters of a 'world' or species was expressed. The range of difference was so small that field and subfield were nearly coextensive. Nested within each subfield, the metonymy operates at the level of individual specimens--for example, the iteration of difference in pattern across the individual wings of one butterfly. In one example, a species of butterfly whose wing pattern includes large and intricate 'eyespot,' (see fig. 4 and 5) the pattern formed a recognizable image which appeared to employ the representational devices of mathematical perspective and chiarascuro. Each eyespot was comprised of a two dimensional border encircling a form which appeared to be rendered in three dimensions. On each of the wing segments the 'rendered' form was similar in 'style' but unique in size and shape. This was true of each of the six specimens. Of the examples of this species exhibited, no two 'rendered'

forms were identical though their location, scale, and 'style' were similar. The 'style' of the rendering was equivalent to a hatched and shaded, volumetric and perspectival, charcoal drawing. The volumes thus 'rendered' were complex, organic, topologies resembling droplets of water. These fascinating and intricate designs in some sense, suggest conscious perception and subsequent description--intentional representation of a type attributed to an author. Together they formed a subfield that indicated the complexity of the rule-base of the system.



Figure 4 – Detail of a species of butterfly whose wing pattern includes large and intricate 'eyesspots.' The pattern forms a volumetric image which appears to employ the representational devices of mathematical perspective and chiarascuro. from *The Hand of Nature: Butterflies, Beetles and Dragonflies*

photo credit – Patrick Gries

Figure 5 – variations on Figure 4 - six specimens of the species. Of the examples of this species exhibited at the Cartier Foundation, no two 'rendered' forms were identical though their location, scale, and 'style' were similar. from *The Hand of Nature: Butterflies, Beetles and Dragonflies*.

photo credit – Patrick Gries

A database is a picture, an image of a system of meaning organized from a social perspective. While each of the preceding 'found' database examples emerged from a particular civic or religious institution's perspective, the collection of Anne and Jacques Kerchache illustrates larger, more encompassing perspectives – those of the enlightenment and scientific rationality. Here the dominance of man over nature is expressed through accumulation, classification, and aestheticization. The collection incorporates the aesthetics of the database – as an organized representation of an emergent field of differentiation -- but simultaneously reveals an ethics of dominance – as a pean to the demiurge, author, collector. The act or process of collection is a narrative of mastery and a master narrative; the impulse, scientific and/or aesthetic, is a product of power and privilege. The collector functions as author, one who possesses, names, and classifies. The collection is identified with the collector and this identification imposes a unity on the contents of the collection.

A collection is produced through processes of selection and differentiation--sorting , classifying, rejecting anomalies--making patterns. Recognizing the patterns is aesthetic. Appreciating the connections is aesthetic. Manipulating the patterns is an expression of power. In Nature?, artist Marta de Menezes imposes her aesthetic will on the development of eyespot patterns in the wings of butterflies. The following is a description of the work posted by Ars Electronica during its exhibition at the festival 2000 "Next Sex":

Nature? involves the interference with the developmental program of butterflies in order to generate live butterflies with wing patterns never seen in nature. Although the patterns are artificially determined, they are made of normal live cells--examples of something simultaneously entirely natural, but not designed by nature. In Nature? the artist only modified the pattern of one wing of *Bicyclus* and *Heliconius* butterflies. Through this asymmetry the similarities and differences between the unmanipulated and manipulated, between the natural and the novel natural are emphasized. The changes are not at the genetic level, and the germ line is left untouched. This form of art has a life span--the life span of a butterfly. It is a form of art that literally lives and dies. It is simultaneously art and life. Art and Biology.⁴⁴

For what are apparently purely aesthetic reasons⁴⁵ de Menezes performed micro surgical interventions on the cellular level which alter the pattern and color of 'eyesspots' on only one of two wings of a butterfly. These are non-genetic manipulations that do not cause changes in behavior or longevity. Menezes has exploited two methods of changing the pattern of a wing without intervening genetically. The first method involves transplanting small parts of the fabric from one area of a wing to another. The second operates at the cellular level; Menezes corrodes cells with a small needle thus affecting communication between the cells. Menezes' goal, as articulated in a paper presented at a conference titled THE AESTHETICS OF CARE?: The artistic, social and scientific implications of the use of biological/medical technologies for artistic purposes,⁴⁶ is to use biology as a new material and medium for a very traditional type of art practice. Like so much paint, the cell structure of a living thing is manipulated for a purely visual effect that can only be evaluated within the criteria of an ethics and aesthetics of dominance. Nature? has been spoofed by the *Artistic License* project [DELETE - ~~of~~ *Hubris Inc.*] whose trademark bears the imprint "because it is art." Hubris Inc. is also the umbrella for *ego.com* (whose logo include the phrase "its all about meTM"). *Artistic License* is a division of *Hubris Inc.*, which "proudly sponsors artists who work with emerging technologies to create high profile safe spaces where the public can come to appreciate [and accept] potentially threatening technologies."⁴⁷ The parody project butterfly technology (the online project description refers directly to Menezes with a now broken hypertext link) proposes the use of DNA modeling to produce butterflies for corporate office parks whose wing patterns are manipulated to display corporate logos.



Figure 6 – In *Nature?*, artist Marta de Menezes imposes her aesthetic will on the development of eyespot patterns in the wings of butterflies. Menezes_nature.jpg found at <http://www.lalieuunique.com/SAISON/0203/2/MartadeMenezes.html>



Figure 7 – screenshot of opening page of “Artistic License” the website is spoof that represents a fictional corporation which “proudly sponsors artists who work with emerging technologies to create high profile safe spaces where the public can come to appreciate [and accept] potentially threatening technologies.” De Menezes’ work is included in a parody project called “butterfly technology” http://online.sfsu.edu/~art511_i/public_html/jamesmaster/jamesproject1f/pages/about.html

Nature? is an extreme example of the practice of the aesthetic of dominance, one that may be offensive or reprehensible. I use it as an example to trouble the question of the author in the context of database aesthetics and to discuss the potential for the aesthetics of database to become entangled with an aesthetics of dominance. If the database is seen as a purely formal, as opposed to social, it can certainly be seen as a field for the play of dominance. For example, from a purely formal or structural perspective Menezes might see the cell structure she manipulates simply as a database which might be traversed and reconfigured for her own aesthetic pleasure or as a means to participate in a narrative about the relation between art and science. There are master narratives implicit in the origin of each of the found systems that I have used as examples of the conditions of possibility of database aesthetics -- complex and co-extensive contradictions.

A database can represent the operative or dominant cultural perspective of given society-- mapping and visualizing its rule table and recording the patterns that result. Naming, classifying, and categorizing have been acts of domination and ownership since the Bible. Recognition of difference (and similarity), rationalization, and discrimination are an integral part of western culture. Taxonomies, entomological or otherwise, impose order according to presumed natural relationships. Anthropological taxonomies of race, class, gender, origin, culture, and difference-on-down-the-line, are instruments of political and social othering that secure the meta-categories of us and them.

Sorting, classifying, rejecting anomalies, making patterns--these are protective mechanisms--methods of observation that affirm the assumptions of the observer. By acknowledging the role of ideology and desire in the process of ethnographic observation and cultural representation "Clifford's and Marcus's collection, Writing Culture, showed us that 'evidence' can be taken as discourse, and specifically, that the ethnographer engages in rhetoric and other weapons of persuasion--metaphor and metonymy, tropes and so on..."⁴⁸ Classification, description, categorization are central to the formulation of knowledge – "the troubled, experimental knowledge of a self in jeopardy among others."⁴⁹[inside cover of Writing Cultures] But, "...Might there not be an anthropology in which the observer is seen as part of what he observes: in which his observing is taken into account as affecting what he observes? ...might there not be some anthropology to do with change? If we stand back from the part of ourselves that is part of what we see...might there not be freedom for change?"⁵⁰ Database aesthetics can provide a free space, a field for dynamic interaction, however, the field may be framed and the data may be organized around existing narratives of cultural domination and patterns of objectification.

Social Aesthetics

To avoid making and reproducing patterns of aestheticization or objectification in the field of the database, the aesthetics of the database must be practiced or applied in conjunction with a commitment to cultural democracy and linked to an "aesthetics of dignity."⁵¹ My argument here, in part, is that the aesthetic dimensions and processes of the database, a 'pragmatic' approach to praxis (asking 'what can art do?' in reference to social/political realities) and a recognition of the value of voices that do not belong to authors, taken together, may serve as a point of departure for 'social aesthetics' to emerge.

The Quilts of Gee's Bend displayed in a recent exhibition at the Whitney Museum of Art in NY present an interesting example. These quilts were created by a group of women who live in the isolated, African-American hamlet of Gee's Bend, Alabama. Like many American quilters, the women transformed a necessity into a work of art--but their innovative, minimalist approach to design is unique. "The compositions of these quilts contrast dramatically with the ordered regularity associated with Euro-American quilt making. The sixty quilts in the exhibition, created by forty-two women spanning four generations, provide a fascinating look at the work of twentieth century artists who have lived and worked in solitude."⁵² Gee's Bend is located in southwest Alabama, about 30 miles southwest of Selma, on a sliver of land five miles long and eight miles wide, a virtual island surrounded by a bend in the Alabama River. Bounded by the river on three sides the community of about 700, descendants of slaves on the former Pettway plantation, has always been an isolated enclave. Geographically cut-off from the world, the women in the community created quilts from whatever materials were available, in patterns of their own design.⁵³ The programs of the New Deal in the 1930s and 40s helped the families survive, modernize, and, finally, take ownership of the property they had cultivated for generations but the community continued to have little contact with the outside world. Until the late 1960s, there was not even a paved road. During the civil rights

movement the Freedom Quilting Bee, a quilt-making cooperative that employed the women of Gee's Bend, brought the quilters' work to eastern department stores and they gained widespread recognition.

But marketing the quilts meant reproducing identical examples of the same quilt, which was inconsistent with the process and approach of the women in Gee's Bend.⁵⁴ Their process was often collaborative, social, transformative--a process of voices emerging through conversation, improvisation and dialogue.

"One time me and I think it was about five of us started to quilting from one house to another. Quilt one or two for one person, go to the next house, do the same thing. Way back yonder. From house to house, quilting quilts...I didn't start young. I just tried to survive. You learn to do things from other people. You see them do it, you learn. If you aint' you don't want to learn. I can't piece by no pattern... I get some blocks sometimes other peoples put together, give them to me, and I put them blocks in my quilts. I put somebody's blocks, my cousin Edna, and an old lady Annie, lived up there, put them in, put some variety in..." Sue Willie Seltzer⁵⁵

Historically, quilting has provided generations of women with an outlet to express their creativity, their convictions, and their skill. The quilts of Gee's Bend are the result of an unusual degree of cultural continuity and collaboration. Here one can see evidence of the development of a visual language across three and sometimes four generations of women in the same family or works that bear witness to visual conversations among community quilting groups and lineages.

"These women learn from one another but strive to be themselves. The quilts are both the signatures of individuals and banners of a community"⁵⁶

"After I was married, my mother-in-law, Jennie, taught me how to... just follow my imagination. I had not made that sort of stuff, 'cause I thought they was ugly, but when my mother-in-law learned me how to make them beautiful, I didn't want to make nothing else. I watched her tear up old dress tails and make a quilt any kind of way she wanted to...Jennie Pettway told me, 'You don't have to worry yourself trying to make ... any of those things you got to follow a pattern for. Just take what you know and do what you want to.' And that's what I did, and I do it yet, and it's a good way, too. It was when my mother-in-law told me I didn't have to follow nobody's ideas that I learnt myself to follow my head." Arlonzia Pettway - "acknowledging her mother in law, Jennie Pettway as an artistically liberating influence"⁵⁷

Closely linked to family well-being, a sense of identity for the individual quilters, and the cultural continuity of their community, a Gee's Bend quilt represents a focus on such everyday concerns as salvaging discarded fabric, recycling old clothing, and finding ways to keep the families warm and comfortable. For these women the process of quilting is about communication and connection which fills both emotional and material needs.

"I got good ideas from my mother-in-law, Henrietta. Me and her sewed together. When I had children I had to do better. Made quilts out of old dress tails, shirt tails, that's the way I did so the children would be covered up." Allie Pettway⁵⁸

In his Forward to the complete catalogue, "Gee's Bend: the Women and Their Quilts," Peter Marzio, Director of the Museum of Fine Arts in Houston describes the quilts as "...works of art that just happen to be made for utilitarian purposes." His position is problematic. I am disturbed by his modernist reading of the quilts -- his comparison to DeKooning and Pollock -- his statement that the quilts "look brilliant in an exhibition gallery" -- his assertion that the art museum functions as an "honest broker of beauty." ⁵⁹ Of course, the quilts are works of art and they do look brilliant in the blank white space of an exhibition gallery. But they do not need to be authorized by major mainstream arts institutions to function as works of art, and should not be confused with modernist avant garde painting in a de-contextualizing formalist analysis -- looks-like-is-like⁶⁰ -- especially as their most important function as works of art is exactly the function they serve in the community they came from. As one of the women explained, a quilt "represents safekeeping, it represents beauty, and you could say it represents family history."⁶¹ While the designs appeal to a sophisticated modernist/minimalist sensibility the aesthetic employed in the creation of these quilts was born entirely from the social world and material environment of the women who made them. ⁶² They are the result of a historically evolving communal practice that has produced a social aesthetic. The quilters of Gee's bend already speak with force and power as artists in their own social world. Their speech isn't dependent upon having an audience at the Whitney and the Corcoran. The traveling exhibition is a gift to the 'us' of mainstream culture -- allowing us to hear and see. Providing us with a social model of individualism in consonance with community. We must not make the mistake of aligning the aesthetics of the quilts with the aesthetics of rupture employed by the modernist avant garde merely because there is, on the surface, a formal similarity. We devalue the quilts and their makers if we don't value them in terms of social aesthetics.

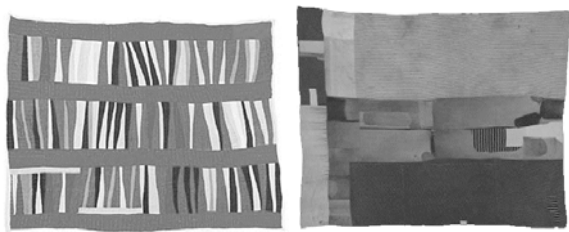


Figure 8 – bars.jpg
'Bars and String-Piece Columns'
1950s, cotton, 95x76 inches, by Jessie T. Pettway (b. 1929)

Photo: Steve Pitkin/Pitkin Studios Copyright: 2003
Provided by: Tinwood Alliance collection, Atlanta, Ga. <http://www.tinwoodmedia.com/geesmain.html>

Figure 9 – art426.jpg
Work-Clothes Strips
Rachel Carey George
c. 1938
Denim (wool trousers, mattress ticking, and cotton)
The Collection of the Tinwood Alliance

Figure 10 – youngstrips.jpg
'Strips', circa 1975, corduroy, 95x105 inches, by Annie Mae Young (b. 1928)
Photo: Steve Pitkin/Pitkin Studios Copyright: 2003
Provided by: Tinwood Alliance collection, Atlanta, Ga.

Social aesthetics are 'style-less.' Style, which is an attribute of the personal, is secondary to co-operation and intervention. Social aesthetics does not operate on the plane of uniqueness but in the realm of community and in terms of audiences to be addressed. Notions of value are derived from the social world of the participating community and focused on transformative process, not product. I would like to appropriate this notion of social aesthetics, first articulated by William Olander and Craig Owens in the catalogue for Art and Social Change USA in 1986,⁶³ and expand it to address public art that critically engages the 'materiality of informatics' by employing information and communication technologies.

Aesthetics of Dignity

Hayles' "Informatics" is an infrastructure that is of, by, and for the technologically enfranchised socio/economic/political elite, but no one in reach of globalized capitalism, however far outside the infrastructure, is exempt. Informatics provides an environment in which there is "continuing pressure to substitute information for direct experience with material conditions..."⁶⁴ Certainly, wherever the interpretation of available data is privileged over embodied experience and the consumer is the only acknowledged citizen the material conditions of the technologically and economically disenfranchised may be ignored, their social role de-valued, and their rights systematically erased.

Because political and economic power are increasingly dependent upon access to and presence within the global information culture, the voices of the 'underserved,' are becoming less and less audible. This dangerous trend could be reversed if communities of interest across the socio-economic spectrum had access to information technologies and the ability to represent themselves, and their positions, in information space. Any adequate statement on the modern condition requires a plentitude of voices speaking directly from a multitude of contexts about their own socio-ideological situations. This could be achieved through a radical appropriation of informatics as a means to the ends of cultural democracy. As Catherine Stimpson points out in her introduction to Jane Kramer's "Who's Art is it?," an essay about John Ahearn's controversial public art commission in the south Bronx, it is difficult to "do cultural democracy." "Doing Cultural Democracy demands . . . the incessant recognition of the moral, cognitive and cultural lives of others ..." ⁶⁵ In this dialogic imaginary everyone would have:

1. a right to public speech

2. a right to pride in her historical and cultural traditions
3. the responsibility to engage in exchanging and mixing narratives--(departing from ones own perspective to engage that of others)
4. the courage to allow diversity, "no matter how blasphemous, painful, corrupt, bigoted, and stupid . . ." ⁶⁶
5. the burden of engaging in the nearly impossible struggle to locate the point at which pain, bigotry and stupidity become intolerable and to whom, and
6. the responsibility to develop a common political language "that has no shared moral, religious or artistic system . . . but binds together by binding to cultural diversity."⁶⁷

To 'do cultural democracy' now, in the context of the materiality of informatics, means:

- distributing control over the processes of the database--the accumulation and interpretation of information, the naming and classification of data, for the collective construction of a new social semiotics, and
- building and/or annexing social and technological infrastructures that can enable communities to become the co-designers and creators of programs and systems that facilitate their own reclamation, re-integration and sustainability.

By 'doing cultural democracy' we can fill the space left empty by the death of the author--not to rejuvenate or even democratize the author function--but to assert the place of the participant as a subject. The participant's statement is a subjectifying, empowering but simultaneously, anonymous act. It does not make reference to 'originality.' It does not encourage psychologizing identification or suture. The participant's statement is a self-articulation that unfolds in a polyphony of speaking subjects. The name-of-the-author is erased. Thus, "All discourses, whatever their status, form, value, and whatever the treatment to which they will be subjected, [will] then develop in the anonymity of a murmur."⁶⁸ "What does it matter who is speaking?" someone said, 'What does it matter who is speaking?'"⁶⁹ Foucault quotes Beckett to establish this "indifference" as a matter of ethics regarding the death of the author.

One of the "themes" of the death of the author, for Foucault, is "writing's" relationship with death, or rather, writing as an effort to elude death. He offers the example of the Arabian Nights. "The theme and the pretext of Arabian narratives--such as The Thousand and One Nights--was also the eluding of death: one spoke, telling stories into the early morning, in order to forestall death, to postpone the day of reckoning that would silence the narrator. Scheherazade's narrative is an effort, renewed each night to keep death outside the circle of life."⁷⁰ Scheherazade was not an author--she spoke in order to sustain her life and save the lives of others. Her storytelling was a political act. The Thousand and One Nights has no single author, only 'compilers' of editions and versions--it is a database, a frame tale, ~~[or]~~ stories within a story. The frame tale is a conceit for the organization of a set of smaller narratives, popular tales, which have also been collectively authored, evolving over

time and giving voice to many anonymous narrators. Many of Scheherazade's tales are also frame tales--nested subfields in the field of a narrative database. The figure of Scheherezade is that of a performer or participant who traverses this field, spinning and weaving a single story out of many. Her storytelling produces a non-authorial, collective subject whose life/lives are saved through this process of subjectification.

The Medea Project: Theater for Incarcerated Women⁷¹ is a contemporary Arabian Nights. The project is a collective effort to save lives by soliciting and telling stories. Rhodessa Jones, Founder and Artistic Director, uses "self-exploration" techniques with an ensemble of professional actresses and incarcerated women to develop and stage performances derived from the prisoners' own stories. The texts of Medea Project performances are derived from the real life experiences of the women performing on the stage. During the Medea Project workshop process, the inmates, like Scheherazade, are given nightly writing assignments. They are asked to analyze a key element of a myth Jones has chosen for the performance in relationship to their [own] lives.⁷² For Jones, mythology provides a point of departure for exploring the "cultural narratives and the social rituals that directly contribute to women's incarceration."⁷³ The women read their narratives aloud to the group each day. "The ensemble uses the prisoners' language, their stories, songs, prayers and lies, to shape a script." ... Storytelling can be a con game, a trick used against one's foes. It can also be the beginning of a different drama--a way to imagine, if not live out, a new life."⁷⁴

The Medea Project uses theater to encourage each woman to examine her participation in her own incarceration and explore a wide range of cultural issues and attitudes that perpetuate incarceration and recidivism--including fear of others, drugs, prostitution, poverty and single parenthood. "Jones works with women in jail, not prison. San Francisco County Jail serves as a temporary holding cell for women who are awaiting trial and cannot post bail or for inmates who are serving sentences shorter than twelve months. This means that the Medea Project works with a highly transitory population. In the three to four month period that the Medea Project is working on a production, the entire cast can change several times over. In fact, the cast is never finalized until the day of the performance."⁷⁵ By the end of the workshop process, any participant can incorporate and embody any of the multiple voices that are ultimately heard in the performance. This is significant in terms of the role of the participant subject--the story is not restricted or linked in any fixed way to one writer/performer but is truly collective. "Medea Project public performances transcend the realm of ordinary aesthetic production. ...these performances, in which inmates' autobiographical narratives are staged for both audience members and law enforcement officials, are acts of juridical and political testimony. In this setting the women become the morally and legally recognized source of (self) narration and re-symbolization, and in so doing they create the conditions under which a claim to dignity is possible. It is this claim to dignity, ...that enables these women to challenge principles of distributive justice."⁷⁶ -- and to save their own lives. (is "and to save their own lives" part of the quote or your addition? It is my addition

The Medea Project is just one example of a paradigm shift in art practice from the aesthetics of object defined by the author function to an activist 'aesthetics of dignity' that employs both

database aesthetics and social aesthetics. This new paradigm is defined by the participant-subject (who is subjectified through individual and collective story telling) and the context-provider (who establishes framework in which the "participant-subject" may emerge and make a "statement" or "articulation" in concert with other participant-subjects--thus producing collective statements out of individual, non-authorial voices).⁷⁷ This can be accomplished through participatory theater like the Medea Project and John Malpede's LAPD (Los Angeles Poverty Department) and in public information space through the design of collaborative tools and community networks. Together these tools and networks form collaborative systems through which, the context-provider (artist, software designer, activist, organizer) assists communities in collecting their stories, solicits their opinions on politics and social justice, and builds the online archives and interfaces ~~[that will]~~ required to make this data available across social, cultural and economic boundaries.

In my own art practice the development of collaborative tools and community networks has taken many forms from large-scale, database-driven collaborative systems for online communities such as Subtract the Sky,⁷⁸ to environments for learning/community/identity that address specific groups of participants in their own social contexts, like Need X Change.⁷⁹ Each of these projects engages the philosophy of an 'aesthetics of dignity' by combining database aesthetics with social aesthetics.

Subtract the Sky is a tool that provides individuals and communities with an online environment for collective and emergent methods of mapping. The project takes its name from a method used in astronomy. Astronomers must eliminate the light of all the stars they don't wish to see in order to capture the light of a single star. Effectively, astronomers must define what 'sky' means for every observation. In other words, there is no single meaning for 'sky'; instead, there are many, given the perspective of the observer and the techniques of observation. To 'subtract the sky,' in this case, is to interpret data from a subjective perspective. Here, the phrase is used as a poetic metaphor for the process of collecting, authoring and contributing data. Subtract the Sky invites participants to become cartographers, enabled with the tools they need to produce an archive of maps that trace their own histories and re-map their own social and political worlds.

Mapping is inter-subjective communication: the visualization or representation of data and information. The term 'map' applies both to a clear representation, one capable of communicating inter-subjectively, and the act of analysis required to create such a representation. A map has no single author. To map is to locate, to assign a correspondence. A map fulfills the functions of both record and statement---it is a history of the subject's, or mapmaker's, relation to that which is mapped and an act of communication with others who will interpret and use it. To map is to locate---but position is always 'relative to . . . ' associative and perspectival. Intersubjective communication occurs when the meaning of data or information is accessible to, or established for, two or more subjects. In intersubjective communication, values and truths are inseparably intertwined. Interpretations and representations are produced dialogically---in cooperation with a "text" or data set. None of the participants is assumed to be a *subject presumed to know*---i.e. an unquestionable *authority*---so objective knowledge is displaced by shared subjectivity. To accurately map social and

cultural experience requires infrastructures and interfaces that facilitate intersubjective communication, favor dialogue over monologue and allow representations and interpretations to emerge and evolve---an infrastructure like the database.

Subtract the Sky participants may map any subject from their own individual perspective or in collaboration with their own community(ies) and thus challenge dominant or normative representations of the world.] The definition of "map" in this context is inclusive across a broad spectrum, from geographical maps employing Geographical Information Systems (GIS) data and Global Positioning Systems (GPS) data to purely conceptual maps. In other words, maps contributed to the database need not have any geographical reference but may be representations of concepts, emotional trajectories, political strategies, biological processes, historical traces, etc., ad infinitum. Subtract the Sky participants map their worlds by contributing and classifying new data (images, texts and sounds), creating new categories and associations between data objects, and re-interpreting existing data, using a real-time visualization of Subtract the Sky's evolving database. This interface provides a map of the current state of the database that dynamically expresses changes made by participants collaborating across the network in real time.

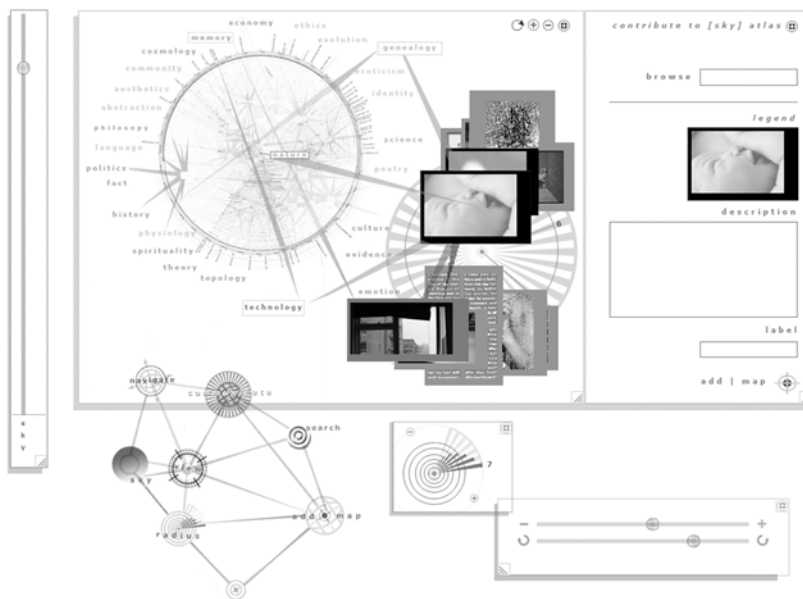


Figure 11 – *Subtract the Sky* search interface screen shot

Participants may view this map from several different perspectives---through the filter of classification and categorization, by tracing connections in a map of the community of users or network of contributors, or by creating a map or visualization of associations between nodes in the database for their own use that is tied to their own participant/contributor identity.

Participants may search the project database (or the Web) by category (contexts) or keyword (descriptions). They may add selected images, texts and sounds found in their search results to their personal view of the database then build maps by creating links between new data objects and/or connecting them to existing objects, keywords or categories.

Subtract the Sky also provides tools that will allow participants to collaboratively author images, texts, and sounds, over the network, using source data from the database and/or their own data. Participants may then contribute their maps to the database, categorize their map, and describe it with keywords. The classification system consists of highly contested terms like nature, culture, aesthetics, public, private. The maps contributed under these categories and the key words participants use to described them will gradually accumulate, inflecting the meaning of the terms themselves and creating new associations for them--re-locating and re-mapping language, multi-vocally.

Subtract the Sky is a tool. It is designed to give voice to communities and individuals on issues of relevance within their own social world. It is available to any participant with access to the Internet but will also be used in specific contexts as a tool for constituencies who don't normally have access to communications technologies and whose voices are not often heard in information space. For Example, Subtract the Sky will be used as a tool in the context of a project I have initiated called *Need_X_Change*.

While Subtract the Sky is an open system designed to facilitate communication and collaboration between participating subjects from any point on the internet, Need X Change is an example of a collaborative system designed to enable participants in their own social context and to produce new forms of understanding between specifically defined communities. I introduce this example in order open a discussion of just some of the ethical questions and contradictions that can arise in attempts to embrace the aesthetics of dignity. Need X Change is a social and technological interface--a work of technology assisted community-based public art designed to help the staff and clients⁸⁰ of Casa Segura, an HIV prevention and needle exchange clinic in Oakland attain social and political 'voice,' through self-articulation, activism in their local community, and participation in the global information culture. Through this work, which in this respect follows the example of the Medea project, needle exchange clients (a community of homeless, injection drug users) "become the source of self narration and re-symbolization, and in so doing they create the conditions under which a claim to dignity is possible."⁸¹

Practical Ethics

Needle exchange programs are a controversial, but proven, method of reducing needle-related HIV risk behaviors among injection drug users. Though critics claim that Casa Segura's needle exchange attracts drug dealers and users, encourages drug use, and increases incidences of dealing and other related crimes in the Fruitvale neighborhood where it is located, statistics show that this is not the case. Asked why people become injection drug users, Rand Corporation sociologist Ricky Bluthenthal, answers "For most folks it's a pretty tortured path, and it certainly isn't based on the fact

that you have a program that's taking used syringes from current users and replacing them with clean ones. I'd be interested to meet the person who said they started using because there was a needle exchange program in their neighborhood."⁸² Needle exchange programs are part of a therapeutic strategy called 'harm reduction.' Harm reduction is a type of practical ethics: a process of de-escalating moral conflicts to the point of non-violent resolution, reducing potential for harm, and educating as required so that each participant in a given circumstance can effectively see the other's point of view. Practical ethics is central to cultural democracy. I share the philosophy behind 'harm reduction' therapy, which is based on a recognition of the value and dignity of all individuals, their experiences, and their perspectives. I begin by asking "what do you think--what is your experience" of those who are rarely, or never, asked. Each participant in the project tells his/her own story in her own words, using her own images, texts, and sounds. I work one on one with participants to teach them basic computer literacy and web publishing. Most of the participants have never used a computer and, though they say they have 'heard about' the Internet, they have never been online before. They are subject to the force of the materiality of informatics without having the opportunity to touch or test it--it is a kind of glass ceiling, a pervasive ghost. Imagine every instance of "http://www..." on a sign or set of instructions as a statement in a vaguely foreign language. As their web sites evolve, I ask each participant to collaborate on the design of a billboard or transit poster using images and texts from their site. These public displays will advertise the web site and initiate communication between Casa Segura's clients and the larger community. In the next phase of the project, members of a neighborhood organization that has contested the location of Casa Segura's safe house and weekly needle exchanges at remote tent sites in their area will be asked to participate. During this phase, the neighbors and 'clients' (or participants) will be able to meet and work together at the computer lab.⁸³

One Example: A _____

In this context I am working at the margins of mainstream society with individuals who operate according to exigencies far removed from the comfort zones of middle class America. This work is akin to ethnography in the sense that participants are encouraged to tell their own stories without mediation. But I make no pretense to objective evaluation, and have no intention of leaving my subjects in the 'pristine' state of 'nature.' This work is activist, and is meant to change the material and social conditions of those with whom I work, not to preserve them as they are. My goals are: to avoid representation (a primary agent of domination) and not to attempt to speak for others, but to allow them to speak for themselves. This work provides an alternative context for self-articulation and collective speech to an extremely marginalized community.

Roughly two years ago I started attending the Tuesday night needle exchange in Fruitvale every week. It took nearly a year of weekly contact to develop a working relationship with A____, a forty-two year old heroin addict. A____ is a substance abuser with mental illness, commonly referred to as 'dual diagnosis,' meaning someone with one diagnosis of mental illness and a second diagnosis of substance abuse disorder. As Lonny Shavelson explains in Hooked, his excellent book on failures

and challenges of the drug rehabilitation system, the trademark of dual diagnosis clients like A_____ is "disorder."⁸⁴ A_____ lost her social service insurance and Medi-Cal because she failed to keep required appointments. Insisting that a dually diagnosed client like A_____ keep a complex sequence of appointments, on time, to have an opportunity to get access to treatment is "like ordering swimming students to float on their first day of class--they are likely to drown--making further instruction difficult."⁸⁵ Without Medi-Cal A_____ is unable to afford her prescribed mental health medications or methadone. Without free methadone doses she resorts to prostitution to support her drug dependency. She is an easy target for police given her prison record, her history as an addict and prostitute, her mental health problems, and her homelessness. Our work is often interrupted while she is incarcerated for one reason or another.

In order to work with A_____ and others in similar circumstances, I must help her engage the institutional infrastructures that can address her immediate, material needs. I must try to help her save her own life. I have stipended her with grant funds and helped her reconstruct her social service network by offering her transportation, attending appointments with her, speaking on her behalf in court and coordinating her work on the project in order to facilitate appointments with mental health and case workers at Casa Segura. So far, A_____ has written, designed, and published approximately fifteen web pages. The project she has defined for herself is three fold: first, to make a political statement about the nature of addiction and in support of harm reduction therapy, second, to relate the story of her life, and third, to keep an online journal as part of her attempt to stabilize her mental health.

Infrastructures

Building a collaborative relationship in this context requires developing social, institutional, and technological infrastructure. A special set of authoring tools is needed for the project to succeed. A_____ and several other participants have published a number of web pages after learning to use a standard WYSIWYG html application and image editor. This has required considerable effort for A_____ given the extremity of her circumstances. Many of Casa Segura's clients are not able to make the sustained commitment required to benefit from this type of training. Most live on the edge of desperation, like A_____, in need of housing and food as well as methadone treatment and/or clean needles, and some, like J_____, a seventy-three year old heroin addict, are relatively stable and committed but not necessarily capable of learning how to use complex, proprietary software. I have successfully used existing technology (for example, free weblog interfaces provided by blogger.com⁸⁶) and some simple form templates built on the ZOPE open source content management system <<http://zope.org>>) to keep some participants active who cannot follow through with training.⁸⁷ I am testing several different form templates, including a manifesto template, and an auto-biographical time-line template. *Subtract the Sky* will provide a personal cartography or mapmaking environment that I hope will help participants focus on their own priorities and articulate their own perspectives. A special set of intuitive and non-prescriptive tools is needed to give this user community a voice in information culture. The principal question is this: how to design interfaces that will solicit direct and

meaningful response from inexperienced users without over-determining the results. This problem is simultaneously technical, aesthetic and political. I am convinced that some sort of frame is necessary to identify a field of potential – an open space allowing and provoking meaningful responses from participants who are so unaccustomed to having their perspectives valued or even queried. I hope that Subtract the Sky can provide this frame. However, I am concerned that the technological interfaces and the power relations implicit in the social and institutional context may combine to repress or prescribe, to enforce normative values and impose master narratives. (For example, participants are called “clients” by Casa Segura staff, which represents a particular type of institutional relationship. Many of these “clients” have difficulty accepting the possibility of collaboration and self-articulation and strive to give “appropriate” responses instead of direct or honest ones. I see these individuals as “participating subjects” and try to get them to see me as just another participating subject.)

Building social and technological infrastructures for cultural democracy is a complex challenge. Need X Change provides a kind of case study that embodies some of the complexities, questions conflicts and contradictions inherent in this challenge. I would like to address only two of these in closing: first, to pose the question of context or appropriate technology, and finally to return to the problem of aesthetics.

The Question Concerning Technology

Is the Internet 'appropriate technology' with which to enable this community? First, as noted above, Need X Change was designed to empower participants by helping them to achieve social and political citizenship through self-representation within the global information culture-- to engage and annex “informatics” for a new collective participant-subject. Self-articulation is only one step in attaining 'citizenship.' Many of the clients of Casa Segura live on the street, have no form of official identification because they have no fixed address, and thus have no access to basic civic and social services. They are invisible in the context of the “materiality of informatics.” This absence in the virtual world has serious implications in the physical world. The complex struggle over civil liberties and social rights in electronically mediated information space is materially different from the one on the street.

Second, access isn't everything. There are ethical issues to resolve. The political assumptions embedded in the design of digital tools reinforce the boundaries between the technologically and economically enfranchised and disenfranchised. I hate the idea of training homeless, dually diagnosed, needle exchange participants to use proprietary programs like Microsoft Word in which the spell-checker resolutely insists on changing “underserved” to “undeserved.” This is an example of the political sub-text of digital design. It was, in part, in response to this problem that I initiated the BorderTechnologies Server Distribution Project⁸⁸ that includes the interfaces and ZOPE-based templates I am using at the exchange tent sites. BorderTechnologies is a practical and intellectual endeavor, which challenges the historical separation between high tech development in digital media art and political activism. The Server Distribution Project focuses on the development and distribution of a general set of tools that will allow the design and construction of systems and interfaces to be

carried out by artists, organizations and their participant/collaborators. The goal of this development project is to build a server and set of graphical authoring tools that can be offered, free of charge, to enable communities and non-profit organizations to design and build their own information systems in public, online environments.

The Nature of Beauty

A context-provider committed to an activist aesthetic of dignity must ask after Foucault: how a discourse can circulate--who can productively appropriate it for her own--"what are the places in it where there is room for possible subjects?" and "Who can assume these various subject functions?"⁸⁹ It does, in this sense, "matter who is speaking."⁹⁰

In what you have just read I have traversed a field of data and activated a set of associations: the death of the author and the role of the observer; the aesthetics of the database; parallels among complex, social and collaborative systems; social aesthetics in the context of the materiality of informatics; the emergence of the collective-narrating-participant-subject; and the philosophy of an activist aesthetics of dignity. I hope these associations emerge as a new ontology of aesthetics changing and transforming the structure of that field.

Now I want to return to the question: what aesthetic criteria can be used to evaluate systems and infrastructures (like the Medea Project, Need X Change, and Subtract the Sky) that support cultural democracy? Are the criteria of an aesthetics of dignity 'saving lives' in some form? In other words, 'Is it art or is it social work?' I would like to quote. Rhodessa Jones here, who has been known to say, that "great art should also be great social work."⁹¹

¹ American Heritage Electronic Dictionary, 3rd Edition, Houghton Mifflin Company, 1993

² Hayles, N. Katherine, "The Materiality of Informatics," in *Configurations 1.1*, eds., Wilda C. Anderson, James J. Bono, and Kenneth J. Knoespel (Baltimore, MD: The Johns Hopkins University Press and the Society for Literature and Science, 1993), pg. 149.

³ Ibid, pg. 149.

⁴ Wikipedia: the free encyclopedia, online at <http://www.wikipedia.org/wiki/> article on "data" influenced this description. Wikipedia is a multilingual collaborative project to create a complete and accurate open content encyclopedia online. The project was begun on January 15, 2001 and the collective is currently working on 135564 articles in the English version.

⁵ Foucault, Michel. "What is an Author," in The Foucault Reader. Ed. Rabinow, Paul Rabinow, ed. (New York: Pantheon Books, 1984), 103.

⁶ Ibid, 103.

⁷ Ibid, 103-104.

⁸ Ibid, 108. On page 104 of this text, Foucault also notes that an adequate theory of the work does not exist.

⁹ Ibid, 108.

¹⁰ Barthes, Roland. "The Death of the Author," in Image/Music/Text, Steven Heath, ed. and trans., (New York: Hill and Wang, 1977), 142-143.

¹¹ Foucault, Michel. "What is an Author," in The Foucault Reader, Paul Rabinow, ed. (New York: Pantheon Books, 1984), 104.

¹² Stanley Aronowitz, "Literature as Social Knowledge: Mikhail Bakhtin and the Reemergence of the Human Science" in Dead Artists, Live Theories, and Other Cultural Problems (New York: Routledge, 1994), 161.

¹³ Nicholas Mosley, Hopeful Monsters (Elmwood Park, Illinois: Dalkey Archive Press, 1990), 249.

¹⁴ Wikipedia: the free encyclopedia, online at <http://www.wikipedia.org/wiki/>. Wikipedia is a multilingual collaborative project to create a complete and accurate open content encyclopedia online. The project was begun on January 15, 2001 and the collective is currently working on [DELETED NUMBERS THAT DIDN'T MAKE SENSE HERE] articles in the English version.

¹⁵ Werner Heisenberg was part of the Copenhagen school of quantum physics and discoverer of the Principle of Uncertainty. the 'hidden variable' hypothesis which claims that some hidden variable remains to be discovered which will ultimately explain away Heisenberg's dilemma; or around the belief that there is no hidden variable awaiting discovery but that uncertainty is fundamentally a part of how nature works. In other words, the behaviors of the particles themselves are uncaused and unknown to them before they move.

¹⁶ Refers to the 'hidden variable' hypothesis which claims that some hidden variable remains to be discovered which will ultimately explain away Heisenberg's dilemma; or around the belief that there is no hidden variable awaiting discovery but that uncertainty is fundamentally a part of how nature works. In other words, the behaviors of the particles themselves are uncaused and unknown to them before they move.

¹⁷ Merriam-Webster OnLine, (Springfield: Merriam-Webster, Inc. 2003), <http://www.m-w.com>.

¹⁸ Ibid.

¹⁹ Artificial life is the study of artificial systems that exhibit behavior characteristic of natural living systems: self-organization, adaptation, evolution, co-evolution. This includes biological and chemical experiments, computer simulations, and purely theoretical endeavors. Processes occurring on molecular, social, and evolutionary scales are subject to investigation. In the field of computer science, Artificial Life researchers model evolutionary and emergent behavior using genetic algorithms within graphical environments. For more information on Artificial Life Research refer to Artificial Life: The quest for a new creation, by Steven Levy (Penguin). Exploring Emergence, an 'active essay' by Mitchel Resnick and Brian Silverman of the Epistemology and Learning Group at MIT's Media Laboratory at <http://lcs.www.media.mit.edu/groups/el/projects/emergence/index.html> presents examples of emergent behavior and cellular automata models.

²⁰ Hayles, N. Katherine. "Making the Cut," in Observing Complexity: Systems Theory and Postmodernity, William Rasch and Cary Wolfe, eds. (Minneapolis: University of Minnesota Press, 2000), 153. (a general reference to Humberto R. Maturana and Francisco J. Varela. *The Tree of Knowledge: The Biological Roots of Human Understanding*. Boston and London: New Science Library, 1987.)

²¹ Ibid, 158.

²² This interpretation of Bakhtin's dialogic narrative relies on a general discussion of Bakhtin in Landow, George, "Hypertext and Critical Theory," from Hypertext, (Baltimore: Johns Hopkins University Press, 1992).

²³ Thomaso Toffoli and Norman Margolus, Cellular Automata Machines: A New Environment for Modeling (The MIT Press, Cambridge, MA: The MIT Press, 5th Edition 1991), 5.

²⁴ Michel Foucault, Michel, "What is an Author," 118.

²⁵ Ibid, 119.

²⁶ Ibid, 119.

²⁷ Stanley Aronowitz, "Literature as Social Knowledge," 156.

²⁸ Michel Foucault, "What is an Author," 119.

²⁹ Stephen Willats, Concerning Our Present Way of Living. (London: WhiteChapel Art Gallery and Westerham Press Ltd., 1979) 1.

³⁰ My thanks to artist Bill Seaman for this term.

³¹ Michel Foucault, "What is an Author," 120.

³² Ibid, 120.

³³ For more information, see <http://www.geocities.com/CollegePark/Campus/8297/bakhtin.html> and <http://www.utm.edu/research/iep/b/bakhtin.htm>

³⁴ Stanley Aronowitz, "Literature as Social Knowledge," 140-141.

³⁵ Michel Foucault, "What is an Author," 119.

³⁶ Jeong, Allan. Quote from "Theoretical Frameworks for Learning with Group Discussion & Collaboration". This online text (no longer available) provided a summary of social constructionism as a theoretical framework that informs much of the research and the practice of collaborative learning, including an explanation of Bakhtin's dialogic process, "The theory of dialogism assumes that no

individual ever writes alone because writing is the result of our interactions with the world. To write and construct *new knowledge and meaning*, we must engage in a dialogic process where words of an individual are examined and primarily understood in relationship to the words of others. Fundamental to the dialogic process is that all possible meanings of words interact, and *possibly conflict* to affect and change future meanings of words. Socializing the writing context contributes to this dialogic process by bringing voice to thought."

³⁷ Merriam-Webster OnLine, (Springfield: Merriam-Webster, Inc. 2003), <http://www.m-w.com>.

³⁸ I refer here to the type of aesthetic object made famous by the French painter and conceptual artist, Marcel Duchamp, which he named, "found object." Found objects are anything found in the world, often considered unauthored, and definitely not created by the artist who uses such objects, and simply designated as works of art by the artist. My term of "found systems" follows in this same tradition.

³⁹ Sainte-Chapelle was commissioned by St. Louis (Louis IX) in 1242 to be a Royal chapel and a shrine for the relics of Christ's Passion--including the Crown of Thorns. Over 6,400 square feet of stained glass occupy the walls of the upper chapel. To justify his claim to the royal throne, St. Louis used Sainte-Chapelle and the holy relics as prominent symbols of his authority. This is most evident in the content and placement of several of the stained glass windows. The windows are arranged starting from Genesis in the northwest corner of the chapel, and all but one lancet depicts a biblical story. Genesis, Exodus, Numbers, Joshua, Judges, Isaiah and the Jesse Tree, the Childhood of Christ (St. John), The Passion, St. John the Baptist, Daniel, Ezekiel, Jeremiah and Tobias, Judith and Job, Ester, Kings, and the final lancet depicts the history of the Relics of the Passion. At the west end a rose window depicts the Apocalypse. The unusual thing about the windows is that the placement of the book of Numbers is directly over the King's stall (and out of sequence with the books of the Old Testament). Every scene from Numbers depicts the coronation of a prophet or king. The story of the relics demonstrates St. Louis' right to the throne in that by allowing Louis to have custody of "the complete set" the Pope indirectly was blessing his authority.

⁴⁰ See Frederick Jameson, Postmodernism, or, The Cultural Logic of Late Capitalism (Durham: Duke University Press, 1991), following explanatory quote found online at <http://xroads.virginia.edu/~DRBR/JAMESON/jameson.html#return13>. "When that relationship breaks down, *when the links of the signifying chain snap, then we have schizophrenia in the form of a rubble of distinct and unrelated signifiers*. The connection between this kind of linguistic malfunction and the psyche of the schizophrenic may then be grasped by way of a twofold proposition: first, that personal identity is itself the effect of a certain temporal unification of past and future with one's present; and, second, that such active temporal unification is itself a function of language, or better still of the sentence, as it moves along its hermeneutic circle through time. If we are unable to unify the past, present, and future of the sentence, then we are similarly unable to unify the past, present, and future of our own biographical experience or psychic life. With the breakdown of the signifying chain, therefore, the schizophrenic is reduced to an experience of pure material signifiers, or, in other words, a series of pure and unrelated presents in time."

⁴¹ Ibid.

⁴² "Nature Demiurge" June-July, 1998 Foundation Cartier pour l'art contemporain.

⁴³ Composed of sixty-nine boxes, Jacques Kerchache's insect collection is part of a tradition that dates back to the Renaissance, when, "spurred on by the great voyagers and navigators, collectors created curio rooms in which fauna, flora, minerals, fossils, skulls, shells, and insects were classified and arranged. Claude Levi-Strauss rightly observed: 'A bird, a beetle, a butterfly invite the same rapt contemplation that we reserve for a Tintoretto or a Rembrandt.'" Kerchache, Jacques. *The Hand of Nature: Butterflies, Beetles, and Dragonflies*. Thames and Hudson, 2001.

⁴⁴ Description of project "Nature?" on Ars Electronica website at <http://www.aec.at/festival2000>.

⁴⁵ See "Ein Kunstwerk, das lebt und stirbt!" an email interview with Marta de Menezes by Simon Hadler at http://www.kultur.orf.at/000904-4098/4085txt_story.html.

⁴⁶ Marta Menezes, "The Laboratory as an Art Studio," presented in August 2002 at a symposium, "The Aesthetics of Care? The artistic, social and scientific implications of the use of biological/medical technologies for artistic purposes." The papers, with titles such as "The Workhouse Zoo Bioethics Quiz," "Recombinant Aesthetics," "Cute Robots / Ugly Human Parts," and "Test Tube Gods and Microscopic Monsters" may be read in the proceedings of the symposium, sponsored by Symbiotic A: The Art and Science Collaborative Research Laboratory and The Institute of Advanced Studies, University of Western Australia. Menezes' butterfly wing paper is on page 53 of the PDF document

linked here.

http://www.tca.uwa.edu.au/publication/THE_AESTHETICS_OF_CARE.pdf

⁴⁷http://online.sfsu.edu/~art511_i/public_html/jamesmaster/jamesproject1f/pages/about.html

⁴⁸ Stanley Aronowitz, "Literature as Social Knowledge," 142.

⁴⁹ Clifford, James and Marcus, George, eds., *Writing Culture: The Poetics and Politics of Ethnography* (Berkeley, University of California Press, 1986), coverleaf.

⁵⁰ Nicholas Mosley, *Hopeful Monsters* (Elmwood Park, Illinois: Dalkey Archive Press, 1990), 293.

⁵¹ Sara Warner, *Mythic Proportions: The Medea Project Theater for Incarcerated Women and the Art of Creative Survival*, dissertation abstract from Chapter Four, "Creative Survival: An Activist Aesthetic of Dignity," Rutgers University, 2003.

⁵² <http://www.whitney.org/information/press/102.html>

⁵³ Ibid.

⁵⁴ The Quilts of Gee's Bend at the Corcoran Gallery of Art website,

http://www.corcoran.org/exhibitions/Exhib_current.asp?Exhib_ID=69

⁵⁵ Seltzer, Sue Willie, quoted by John Beardsley, from "Arrival: Quilts and Community," in *Gee's Bend: The Women and Their Quilts*, ed. William Arnett, (Atlanta: Tinwood Books, 2002) pg. 441.

⁵⁶ Marzio, Peter, Forward to *Gee's Bend: The Women and Their Quilts*, ed. William Arnett, (Atlanta: Tinwood Books, 2002) pg. 9.

⁵⁷ Pettway, Arlonzia, quoted by John Beardsley, from "Arrival: Quilts and Community," in *Gee's Bend: The Women and Their Quilts*, ed. William Arnett, (Atlanta: Tinwood Books, 2002) pg. 249.

⁵⁸ Pettway, Allie, quoted by John Beardsley, from "Arrival: Quilts and Community," in *Gee's Bend: The Women and Their Quilts*, ed. William Arnett, (Atlanta: Tinwood Books, 2002) pg. 272.

⁵⁹ Marzio, Peter, Forward to *Gee's Bend: The Women and Their Quilts*, ed. William Arnett, (Atlanta: Tinwood Books, 2002) pg. 9.

⁶⁰ The same mistake made by the Museum of Modern Art's 1984 "Primitivism" show. For more on this topic see Clifford, James, "Histories of the Tribal and the Modern," in *Primitivism and Twentieth Century Art: A Documentary History*, ed. By Jack Flam with Miriam Deutch, (Berkeley: University of California Press, 2003).

⁶¹ The Quilts of Gee's Bend at the Corcoran Gallery of Art website,

http://www.corcoran.org/exhibitions/Exhib_current.asp?Exhib_ID=69

⁶² There is, no doubt, a connection here to modernism's appropriation of traditional African artifacts. While the quilters are not likely to be overly influenced by modernist aesthetics their audience is.

⁶³ William Olander, "Social Aesthetics," in *Art and Social Change, U.S.A* (Oberlin, OH: Allen Memorial Art Museum, Oberlin College, 1983).

⁶⁴ Hayles, N. Katherine. "The Materiality of Informatics," in *Configurations 1.1*, (Baltimore: The Johns Hopkins University Press and the Society for Literature and Science, 1993), 150.

⁶⁵ Catherine R. Stimpson in Introduction to Jane Kramer, *Who's Art is it?* (Durham: Duke University Press, 1994), 31.

⁶⁶ Ibid, 31.

⁶⁷ Ibid, 31.

⁶⁸ Michel Foucault, "What is an Author," 119.

⁶⁹ Ibid, 101. "Beckett nicely formulates the theme with which I would like to begin: 'What does it matter who is speaking,' someone said, 'what does it matter who is speaking.' In this indifference appears one of the fundamental ethical principles of contemporary writing (écriture). I say 'ethical' because this indifference is not really a trait characterizing the manner in which one speaks and writes, but rather a kind of immanent rule, taken up over something completed, but dominating it as a practice."

⁷⁰ Ibid, 102.

⁷¹ General information about the Medea Project was gleaned from the project website at

<http://www.culturalodyssey.org/> and from exposure to several video tapes, particularly Larry Andrews' documentary of the Medea Project workshop process.

⁷² Warner, Sara, "'Do You Know What Bitch is Backwards?': Mythic Revision and Ritual Reversal in the Medea Project: Theatre for Incarcerated Women," *Dialectical Anthropology*, Special Edition on Mythology, Summer 2001, Volume 26, Issue 2, (Dordrecht (NL): Kluwer Academic Publishers, www.kluweronline.com) essay published online at

<http://complit.rutgers.edu/swarner/html/publications.html>, 167.

⁷³ Sara Warner, *Mythic Proportions*, 1.

⁷⁴ Rena Fraden and Angela Davis, Imagining Medea: Rhodessa Jones and Theater for Incarcerated Women (Chapel Hill and London: University of North Carolina Press, 2001), 48.

⁷⁵ Sara Warner, "'Do You Know What Bitch is Backwards?': Mythic Revision and Ritual Reversal in the Medea Project: Theatre for Incarcerated Women," 162.

⁷⁶ Sara Warner, *Mythic Proportions*, 2.

⁷⁷ Sharon Daniel, "Systems and Subjects: Redefining Public Art," Victoria Vesna, Margot Lovejoy and Christiane Paul, eds. (Cambridge: MIT Press, forthcoming).

⁷⁸ Subtract the Sky is a collaboration with theorist Mark Bartlett and with the assistance of Puragra Guhathakurta, and the project development team John Jacobs, Victor Dods, Adam Hiatt and Olga Trusova. Software development has been supported, in part, by the Fondation Daniel Langlois, The Banff Centre for the Arts, and The University of California, Santa Cruz. <http://www.subtractthesky.org>

⁷⁹ Need X Change is a collaboration with the staff and 'clients' of the HIV Education and Prevention Project of Alameda County and Casa Segura, the "safe-house." The project has been supported by the Creative Work Fund of the Columbia Foundation and the University of California Institute for Research in the Arts. <http://needxchange.org> is a work in progress.

⁸⁰ 'Clients' is the descriptor preferred by the staff of Casa Segura when referring to individuals who use their services. I see these individuals as 'participating subjects' and try to get them to see me as another participating subject.

⁸¹ Sara Warner, *Mythic Proportions*, 2.

⁸² Bluthenthal was quoted in an article by Kyra Platoni in the East Bay Express in the spring of 2000, (Emeryville (CA), eastbayexpress.com).

⁸³ Because Casa Segura provides needle exchange, it is politically embattled and continuously attacked by its district city council representative and others interested in the 'economic development,' or gentrification, of the Fruitvale neighborhood of Oakland where it is located. There can be no better example of this fact than the arson perpetrated against the safe house on New Year's Eve in 2000. This horrible act of violence, thought by many to have been sanctioned, if not solicited, by the district city council representative, demonstrates how serious the problem is. Since the fire, Casa Segura has struggled to find a new home. Currently the staff and the Need X Change computer lab are located in administrative offices ten miles from the site where most participating clients live. Needle exchanges are held weekly in tents in a cul-de-sac under Highway 880 in Fruitvale near the old safe house building, which has never been repaired. It has been extremely difficult for participants to make and keep appointments to work at the lab in its current location. Originally, our plan was to set up the lab in a walk-in environment at the safe house. Hopefully, this will be possible in the future. In the meantime, I will be working with a laptop server at the exchange sites.

⁸⁴ Lonny Shavelson, Hooked: Five addicts challenge our misguided drug rehab system (New York: The New Press, 2001), 52

⁸⁵ *Ibid*, 52.

⁸⁶ <http://blogger.com>

⁸⁷ <http://bordertechnologies.org> This project involves the development of a server which includes an open source content management system (Zope--see www.zope.org) and a simple database authoring tool for MySQL. Customized extensions of the Content Management system with plug and play scripts and a simple, automated database design tool will make it possible for participating collaborators to develop their own database structures and display the content dynamically, online without programming or design skills. I am currently developing and testing this system with students and student projects at University of California, Santa Cruz and for Need X Change. With the help of UC undergraduate computer-science students, John Jacobs and Lloyd Trevor Hilaal, I have converted an old project server into a test server for student projects. We have set up the Zope Content Management System (an open source environment built on Python that facilitates the development of sites with dynamically generated content) and developed a web-based authoring interface for a MySQL database connected to the Zope server. The database tool allows nonprogrammers to set up and design their own databases which can be accessed by the Zope system. Using the student projects as beta-prototypes, we have developed templates that allow non-programmers to program through Zope. These templates make it possible to design interfaces to contribute to, as well as to search and display data dynamically. The long-term goal of this development project is to prototype a server and set of authoring tools that can be offered, free of charge, to enable communities and non-profit organizations to design and build their own self-representations and information systems in public, online environments. I consider this development and dissemination project a work of public art in

itself. Also, see use of the server for JustVoice at <http://www.justvoice.org>.

⁸⁸ <http://bordertechnologies.org>

⁸⁹ Michel Foucault, "What is an Author," 119.

⁹⁰ Ibid., 101.

⁹¹ Quote from video documentation shot by Sara Warner of Medea Project performance, "Can We Get There By Candlelight?" <http://complit.rutgers.edu/swarner/movies/mp.mov>.