

Proposed Project Coversheet

2008 New Media Fellowship

Paul Vanouse

Title: Latent Figure Protocol

Primary Genre: New Media

Additional Genre:

Role in Production: Artist (solo project)

Production Format: performance/installation

Proposed Running Time: NA

Brief Description

"Latent Figure Protocol" takes the form of a media installation that uses DNA samples to create emergent representational images. The installation is centered upon a live scientific experiment, the result of which is videotaped and repeated for the duration of the gallery exhibit. Employing a reactive gel and electrical current, "Latent Figure Protocol" produces images that relate directly to the DNA samples used.

In the first "Latent Figure Protocol" performances, a copyright symbol was derived from the DNA of an industrially-produced organism (a bacterial plasmid called "pET-11a"), illuminating ethical questions around the changing status of organic life and the ownership of living organisms. Future instances of the project will use the DNA of human subjects to create images based on issues such as DNA Fingerprinting and databanking, the reappearance of Eugenic notions in the popular media, and the genetic basis of identity.

Proposed Project - Project Narrative

2008 New Media Fellowship

Paul Vanouse

Project Narrative

Summary:

Latent Figure Protocol (LFP) takes the form of a media installation that uses DNA samples to create emergent representational images. The installation is centered upon a live scientific experiment, the result of which is videotaped and repeated for the duration of the gallery exhibit. Employing a reactive gel and electrical current, LFP produces images that relate directly to the DNA samples used.

In the first LFP performances, a copyright symbol was derived from the DNA of an industrially-produced organism (a bacterial plasmid called "pET-11a"), illuminating ethical questions around the changing status of organic life and the ownership of living organisms. Future instances of the LFP will use the DNA of human subjects to create images based on issues such as DNA Fingerprinting and databanking, the reappearance of Eugenic notions in the popular media, and the genetic basis of identity.

Conceptual background:

A "DNA fingerprint" is often mis-understood by the lay public to be a single, unique human identifier. Its complex banding patterns imagined as an unchanging sentence written by mother nature herself that corresponds to each living creature. However, there are hundreds of different enzymes, primers and molecular probes that can be used to segment DNA and produce banding patterns. These banding patterns that appear tell us as much about the enzyme/primer/probe as the subject that they appear to reproduce. My point is that the DNA image IS a cultural construct that is often naturalized.

Today, the fingerprint analogy is crucial to the implementation of national DNA databases and expanding a disciplinary agenda. Recent US projects such as the "Justice for All Act" fit this description by permitting the retention of DNA data from those simply accused of a crime. DNA provides much more personal information than do real fingerprints and is more vulnerable to speculative and discriminatory use by employers, health care providers, and the legal system.

The esoteric nature of DNA imaging and analysis has hampered discussion of the numerous issues raised by its implementation. Latent Figure Protocol project seeks to downgrade the unquestioned authority of the "DNA fingerprint", to the status of a "portrait" (an association aided by my own status as "artist" not "scientist").

LFP also confronts the notion of genetic destiny--the idea that DNA provides a template not only for our physical appearance but also for our place within society. For instance determining our income levels or our predilections toward criminality. Such ideas, common in the Eugenic era, have seen revived interest in the past ten years. LFP images will cheekily address this determinist viewpoint, literally reproducing the subjects' cultural significations via his/her own DNA.

Techno/Scientific:

The "wet-biological" techniques used in LFP were researched throughout 2006 and are based in restriction digestion of DNA samples and gel electrophoresis. The LFP imaging process relies cutting DNA to the sizes

needed to make the correct image. This is essentially doing molecular biology IN REVERSE. Usually scientists use imaging techniques to determine an organism's genetic sequence, whereas LFP utilizes known sequences in online databases to produce "planned" images.

Planning these images requires knowing what size DNA is required to move at the correct speed in each column of the image and what chemical enzymes will cut to these sizes. DNA moves through the gelatin at a rate inversely proportional to its size. To determine the proper band-size, I wrote a simulation program that first determines what ideal sizes DNA should be to produce the proper bands. This is made possible because many organisms have stable regions of DNA with little variance. Then the program exhaustively catalogues the sizes of DNA that would be made by each possible enzyme and simulates varied possible combinations of these enzymes. The program tries thousands of combinations for each lane of the image and ranks each combination according to each bands deviation from the ideal. Once the best combination is discovered, the program outputs the best combination of enzymes I should mix with DNA to make the image.

The imaging process (gel electrophoresis) is captured live by video cameras attached to the installation worktable. This is achieved through a novel combination of DNA stain, LEDs and tinted acrylic filters that allow the DNA's movements to be visible to the naked eye without eye protection, whereas typically in lab-work, the imaging process occurs only at the end of electrophoresis and requires UV light protection.

The biological and chemical materials include DNA, chemical enzymes, agarose gel, DNA stain, running buffer. None of these materials are listed as hazardous and can all be obtained legally.

Installation/Performance -what the audience sees:

Latent Figure Protocol is shown as a one hour performance after which the apparatus remains and a repeat of the actual experiment (captured by video cameras), is projected for the remainder of the exhibition. (Please view the LFP dvd enclosed.) Prior to the performance I process the DNA with enzymes so that it will run predictably. The installation components include a work-table made of acrylic, aluminum and stainless steel, two video cameras, a laptop computer, 500 volt dc power supply, custom transilluminator, acrylic gel rigs, and custom electronics.

I begin the performance by inserting the DNA into an electrophoresis gel with a micropipettor, and turning on the power supply to start the DNA moving. This is viewable by audience members on a video projection behind me. Then I discuss and graphically illustrate how DNA imaging works by switching signals between the cameras and the laptop computer to video projectors so that audiences see both the live experiment and the simple illustrations. Other illustrations include a quote from an FBI director saying that he wants "the term, DNA Fingerprinting to invoke in the mind of the jury that it represents one individual to the exclusion of all others"--a statement that I deconstruct during the performance. The performance is designed to make people understand how DNA imaging works and to illuminate the issues, but not to explain the meaning of the image (i.e. copyright sign) that LFP produces--I want audience members to interpret that for themselves.

Following the performance, the apparatus remains, and the projections behind replay the actual experiment. In the future instance of LFP, the computer simulation programs will be exhibited too. The program will be usable by viewers--allowing them to select an image and an organisms DNA sequence from a directory and see how different enzyme combinations might produce the image from the DNA sample.

Current State of project and How Rockefeller funds would be used:

* The LFP has formerly only imaged the DNA of tiny organisms. In the final phase (2008 through 09) I want

to image human DNA. While much of the process (enzyme digestion) is similar, I will need to create a methodology incorporating an additional DNA processing step.

- * Imaging human DNA will highlight issues more pressing to a lay audience--such as the FBI's DNA databank, CODIS, which continually expands to include more citizens, or how HMOs and the criminal justice system may discriminate against those with certain genetic traits.

- * I want to perform the work to a wider public--currently LFP has only shown in arts venues. I believe that the work is fairly accessible now, but imaging human DNA will make it very accessible and well suited to venues such as the New York Public Library.

- * The computer program currently used to determine best enzyme combinations to cut the DNA were hastily written and not user friendly, nor easily distributable. I'd written the program as a prototype. I want to make the program more accurate, more user-friendly and exhibitable alongside the installation. Furthermore, the program will be more modular to facilitate open source distribution.

The total project budget is \$100K, 50K raised to date (see full budget).

Relationship to previous work:

I have been working in emerging media for fifteen years. My earlier work was focused on audience interactivity and responsive systems. I'm presently more focused upon emerging biotechnological sciences and performing actual experiments live in the space of public display. These wet processes are consistent with my practice in emerging media forms. I am interested in creatively "hacking" these technologies to force the arcane codes of scientific meaning "to speak" in a broader cultural language. LFP incorporates hybrid technological forms--wet biology, software programs and custom electronics.

Latent Figure Protocol builds on conceptual, critical and technological observations when completing the Relative Velocity Inscription Device, 2002, (enclosed). I became fascinated by the myriad ways in which DNA can be extracted, fragmented and imaged, and the misnomer of the term "DNA Fingerprint" to describe this process. The analogy is misleading because unlike a real fingerprint (from a finger--which is always the same for an individual), the DNA image can vary depending on which of hundreds of different biological enzymes are used to fragment our DNA into bands. LFP continues my focus on unexplored aspects of the DNA image itself. As far as I know no similar projects have previously been completed in the arts nor the sciences.

Paul Vanouse

Artist Statement

I have a situational and perhaps opportunistic art practice. I like learning about current events and things that will potentially impact the world and somehow responding. In most cases, the issues are very serious, but my solutions are often ironic if not funny. My work always has a public in mind. I create situations for this public that are dynamic and that differ from the public's expectations of art--whether through alternate means of interactivity, performativity, or utilizing less-recognized medium such as a scientific experiment. This work utilizes emerging media forms and varied spaces for unconventional public display to stimulate discussion in a constantly changing cultural milieu.

I work in Emerging Media forms--meaning that I utilize emerging technologies that have been isolated in their communicative potential and through creative re-use, mis-use and/or even ab-use turn them into communicative media forms. While many artists have resisted such a vague categorization, preferring to self-describe as "digital media artist", "computer artist", "biotech artist", "net artist", "electronic media artist", etc. I champion the term "Emerging Media" because it resists defining a practice based on a medium in favor of a broader strategy of techno-cultural investigation that is continuously re-defining its object.

My practice is rooted in interdisciplinarity and impassioned amateurism. While, specialization is an outgrowth of the rationalization and instrumentalization of labor, motivated amateurism and radical interdisciplinarity are strategies by which domain-specific knowledge and authority can be productively discussed, challenged and intelligently incorporated into other cultural fields.

Over the past several years, I have been specifically concerned with forcing the arcane codes of scientific communication into a broader cultural language. In "The Relative Velocity Inscription Device" (2002), I literally race DNA from my Jamaican-American family members, in a DNA sequencing gel, in an installation/scientific experiment that explores the relationship between early 20th Century Eugenics and late 20th Century Human Genomics. Specifically, the double entendre of race is intended to highlight the similarities and obsession with "genetic fitness" within these historical endeavors. Similarly my current endeavor the "Latent Figure Protocol" (in-progress since 2006), utilizes DNA sequencing technologies to create emergent representational images in which there is a tension between that which is portrayed and the DNA materials used to generate it. Not simply images of a sequence of DNA in a gel (like a standard DNA fingerprint), but rather a gel containing DNA sequences specifically chosen to create a recognizable image or icon. Both projects use DNA technologies differently than in typical lab work as I believe that artists working in emerging technologies should go beyond use of only pre-existing lab techniques and creatively "hack" in this domain.

The process of realizing these projects is as important as the "finished" works themselves. For instance working with biological materials involves building a laboratory, interacting with scientists and, of course, learning in earnest the principles necessary for realizing these diverse projects. Similarly, I had previously found that working with interactive computing required both a remaking of myself as an investigator of the subtext of interfaces and assumptions about control, and also re-imagining Artificial Intelligence for use

within a social context. My most ambitious early projects, such as "Consensual Fantasy Engine" (1995) and "Terminal Time" (2000), were built in collaboration with AI researchers. Both these projects were playful, applause-meter driven interactive cinema works that could create stories based on an audiences biases--the first creating alternate OJ Simpson chases and the latter creating alternate documentary histories of the world.

I certainly hope that my interests and tactics are contagious. I often perform within or alongside my work to offer a better entry point for audiences. I hope to inspire viewers to celebrate and partake in practices of amateurism and experimentation and to de-couple these practices from the recent techno-panic epitomized by the suggestion that US residents should keep supplies of duct-tape and plastic sheeting in case of bio-terror attack.

I strive to address complex issues raised by varied new techno-sciences (such as how they enter into existing social power structures) using these very techno-sciences as a medium. My artworks have included data collection devices that examine the ramifications of polling and categorization, genetic experiments that undermine scientific constructions of race and identity, and performative machines that playfully mirror fetishized techno-gadgets. I think of these hybrid entities as "Operational Fictions"--simultaneously real things and fanciful representations--intended to resonate in the equally hyper-real context of the contemporary electronic landscape.

Paul Vanouse

Title: Relative Velocity Inscription Device

Role in Production: Artist (solo project)

Panel Viewing Length: 06:15

Year of Completion: 2002

Media Format Submitted for Viewing: DVD (Movie)

Primary Genre: New Media

Additional Genre: biotechnology

Production Format: installation/live experiment

Description

"The Relative Velocity Inscription Device" (RVID) is a live scientific experiment in the form of an interactive installation that uses the DNA of my own bi-racial family of Jamaican descent. DNA samples include "brother" (me), "sister", "mother" and "father". The experiment takes the form of an interactive, multi-media installation, containing a computer-regulated, biological separation gel through which the four family members' DNA samples slowly travel. An early eugenic publication within the installation allows access to historical precursors of this "race," while a touch-screen display details the results of this particular experiment. The double entendre of race highlights the obsession with "genetic fitness" within the history of human genetics. The project merges contemporary DNA separation technologies with early 20th Century research in human genetics, particularly Eugenics.

Installation components:

Custom plexiglass and stainless steel laboratory equipment, custom power switcher, fluid cooler/recirculator, biological materials, video camera, 2 DVD players, touch-screen monitor, Macintosh computer, 3 video projectors, miscellaneous electronics.

Relation to proposed work:

My proposed, in-progress project, "Latent Figure Protocol" (LFP), builds on conceptual, critical and technological observations gleaned when completing RVID. Conceptually, both LFP and RVID destabilize the notion of objective evidence and undermine essentialist notions of identity. Technically, both use DNA analysis technology (gel electrophoresis), but LFP goes further by devising a novel protocol from which many modifications and instances may follow and which can be easily performed in a myriad of venues.

Special Instructions

This DVD should autostart and play in any DVD player. DVD has audio.

URLs

<http://www.paulvanouse.org/rvid.html>

Paul Vanouse

Title: Latent Figure Protocol

Role in Production: Artist (solo project)	Panel Viewing Length: 08:10
Year of Completion: in progress	Media Format Submitted for Viewing: DVD (Movie)
Primary Genre: New Media	This is the proposed project: X
Additional Genre: biotechnology	This is a work-in-progress: X
Production Format: performance/installation	

Description

Latent Figure Protocol, Proposed project, Work in progress, since 2006.

This DVD documents a performance and installation of the first instance of the "Latent Figure Protocol" (LFP), followed by a brief overview of the scientific and technological processes involved. The DVD concludes with a sped up, but otherwise unprocessed video feed from the first actual LFP experiment.

LFP uses DNA imaging technologies to create emergent representational images in which there is a tension between what is portrayed and the DNA (from the specific individual or species) used to generate it. Each image is generated live in a performance context. The techniques that I use are a subset of those used in what is often termed "DNA Fingerprinting". However, unlike a typical "DNA fingerprint", LFP uses DNA processed to create a recognizable, iconic representation.

"Latent Figure Protocol" is a set of procedures designed to prove to audiences that the barcode-like images that are referred to as "DNA Fingerprints" can vary greatly in appearance depending upon which of hundreds of different enzymes are used to segment the DNA. Thus, LFP is a proof of the constructedness rather than naturalness, of the DNA Fingerprint. The project was designed to bring clarity to the esoteric nature of DNA imaging and analysis that has hampered discussion of the numerous issues raised by its implementation in the social milieu.

In the video, a copyright symbol is derived from the DNA of an industrially-produced micro-organism, illuminating ethical questions around the changing status of organic life and the ownership of living organisms. Future instances of the LFP (what I am requesting Fellowship funding for) will use the DNA of human subjects and create images tied to issues such as DNA Fingerprinting and databanking, the reappearance of Eugenic notions in the popular media, and the genetic basis of identity. I expect this will make the work even more accessible and meaningful to audiences. Fellowship funds will also be used to improve upon the custom software used in the project so it can be more easily shared and distributed.

It is expected that current phase of the project continue through 2007, with next phase production beginning in early 2008 and completing late in 2009. The project will be exhibitable throughout and I expect to be exhibiting many different instances for several years.

Special Instructions

DVD should autostart. DVD has audio.

URLs

<http://www.paulvanouse.org/lfp.html>

Paul Vanouse

Title: Active Stimulation Feedback Platform

Role in Production: Artist (solo project)

Panel Viewing Length: 05:00

Year of Completion: 2005

Media Format Submitted for Viewing: DVD (Movie)

Primary Genre: New Media

Additional Genre:

Production Format: interactive installation

Description

The "Active-Stimulation Feedback Platform" (ASFP) is a highly interactive electronic artwork about networks and flows, consent and resistance, desire and aversion. It is a global simulation, extruded from the computer onto a physical interactive platform, a circle 12 feet in diameter, densely covered with arcade-style push buttons. Viewer / participants interact with the simulation by walking, crawling and rolling across these buttons. Their movement's trigger and bias playback of audio samples ("yes" or "no") recorded from 2000 people worldwide.

Relationship to proposed project:

The proposed project, Latent Figure Protocol, has less direct similarity to ASFP as to RVID (sample 1), but there is a similarity in how I am actually physically present, performing the work during openings. There is also similar sense of designing an open-ended mechanism. In the case of LFP, it is a protocol that can be used to make completely different live images with different conceptual significance at each exhibit, while in ASFP, the platform can be used to simulate completely different public opinion datasets.

Special Instructions

DVD should autostart. There is no audio for the first approximately 20 seconds, and then intermittantly throughout (about half of the 5 min. DVD has audio).

URLs

<http://www.paulvanouse.org/asfp.html>

Paul Vanouse

Title: Paradise Reconfigured

Role in Production: Artist (solo project)

Panel Viewing Length: 03:50

Year of Completion: 2000

Media Format Submitted for Viewing: DVD (Movie)

Primary Genre: New Media

Additional Genre:

Production Format: interactive installation

Description

"Paradise Reconfigured" explores intersections between "objective" science and religious narrative, using the 1995-97 "Visible Human Project" (originally titled "project Adam") as its subject. The Visible Human project created a digital anatomy dataset by physically cross-sectioning a male and a female cadaver. The juncture between big science, religion and government is especially ironic here if one considers the following: government takes life; big science quantifies and objectifies life; and religion, by the invocation of the Creation Myth, naturalizes the entire questionable machine.

Participants interact with the work by touching areas of the window glass, which uses custom opto-electronic sensors to alter the narrative portrayed on wax-embedded monitors and exterior speakers. Narratives are based upon appropriated writings from the Western literary cannon, such as Old Testament, Shakespeare and Milton as well as contemporary cultural and scientific literature. The project playfully proposes how the Old Testament story of Creation might continue in order to rectify the seeming conflict between the distinct literary traditions of ancient Judeo-Christian thought and contemporary scientific rationalism as implied by the Visible Human Project.

Relationship to proposed project:

"Paradise Reconfigured" highlights some of my earlier work exploring representation in contemporary biological sciences that eventually led up to projects like "Latent Figure Protocol" requiring actual "wet biological" experimentation. "Paradise Reconfigured" was my second work addressing the Visible Human Project (the first was called "Items 1-2000", 1996). As with all the supplementary samples, I've enclosed this work to show some of the progression of my ideas as well as how my work with interactive electronics and narrative gradually shifted to my practice of today.

Special Instructions

DVD should autostart. It has audio.

URLs

<http://www.paulvanouse.org/srr.html>

Paul Vanouse

Title: Terminal Time

Role in Production: Co-producer, co-director (3 person collaboration)

Year of Completion: 2000

Primary Genre: New Media

Additional Genre:

Production Format: interactive cinema

Panel Viewing Length: 07:00

Media Format Submitted for Viewing: DVD
(Movie)

Description

Terminal Time, 2000, Interactive Cinema. Created by Paul Vanouse, Michael Mateas, Steffi Domike.

Terminal Time is a history "engine:" a machine which combines historical events, ideological rhetoric, familiar forms of TV documentary, consumer polls and artificial intelligence algorithms to create hybrid cinematic experiences for mass audiences that are different every time. Through an audience response measuring device connected to a computer, viewing audiences respond to periodic questions reminiscent of marketing polls. Their answers to these questions allow the computer program to create historical narratives that attempt to mirror and exaggerate their biases and desires. It was the intent of the project to show how the familiar form of the documentary history often masks the ideological construction of its narrative and to highlight how interactive technologies often extract data from users to target market to them. Thus rather than a system that was based on the Microsoft slogan "where do you want to go today", Terminal Time offered viewers "the History they deserved."

Relationship to proposed project:

"Terminal Time" was a massive collaborative endeavor spanning 1997-2000. As with all the supplementary samples, I've enclosed this work to show some of the progression of my ideas as well as how my work with interactive cinema and narrative gradually shifted to my practice of today. As noted in my artist statement, I see emerging media practice as rooted in developing new communicative forms--in the case of Terminal Time it was exploring Artificial Intelligence as a cultural medium that could be used to simulate cultural processes like creating cultural myths, histories, beliefs.

Another similarity is an interest in mass-audiences, non-traditional spaces of public display and informal types of interaction--creating situations where viewers are not isolated. "Latent Figure Protocol" is designed to be portable, flexible, and open to varied public performative situations.

Special Instructions

DVD should autostart. The DVD has audio.

URLs

<http://www.terminaltime.com>

Additional Uploaded Document(s)

2008 New Media Fellowship

Paul Vanouse

The following files were uploaded, but were not included in this document:

Proposed Budget

Complete Budget (exceeding grant amount)

Resume

Paul Vanouse
LATENT FIGURE PROTOCOL RENEW MEDIA BUDGET

***Latent Figure Protocol* : RENEW MEDIA BUDGET**
EXPENSES *

	Expenses	Subtotal
Personnel		
Artist Fee/salary, Paul Vanouse	15,000	
Technical Assistant--Computer database programming, etc.	3,000	
Technical Assistant--Molecular Biology student	2,000	
		20,000
Equipment		
Computer Software (for genomic database analysis)	1,000	
Desktop PCR unit (for amplifying the amount of DNA)	2,200	
Glassware and materials storage containers	500	
Miscellaneous electronic equipment	1,000	
		4,700
Materials / Supplies		
Computer Storage and Archiving media	500	
Varied restriction enzymes (for use in fragmenting DNA)	1,000	
Electrophoresis Chemicals (agarose, buffer solution, etc.)	800	
DNA amplification chemicals	1000	
Miscellaneous DNA stains and expendable materials	500	
electrical supplies, hardware	500	
		4,300
Travel		
DNA donors travel/lodging to Buffalo, NY	2,000	
		2,000
Miscellaneous / Services / Other		
Fabrication and other project assistance	1,000	
laboratory fees	1000	
Administrative costs and fees (A & O)	500	
		2,500
Project Promotion		
DVD duplication and cover printing services	500	
Conference travel and fees	1000	
		1,500
PROJECT EXPENSES		35000

* Full project expenses and income covered in Full Budget supplement.

Paul Vanouse
LATENT FIGURE PROTOCOL FULL BUDGET

**Latent Figure Protocol : FULL BUDGET
EXPENSES**

	Expenses	Subtotal
Personnel		
Artist Salary, Paul Vanouse (33% time avg. @ 40K/year * 3 ye:	40,000	
Technical Assistant--Computer scientist	5,000	
Technical Assistant--Biology student	5,000	
		50,000
Equipment *		
Desktop high-speed centrifuge and vortex	2,000	
Desktop PCR unit (for amplifying the amount of DNA)	2,200	
Freezer and desktop autoclave	1,500	
3-channel programmable power supply	700	
3 video cameras (Elmo HC7501)	1500	
Glassware and material storage containers	1000	
Computer Software (for genomic database analysis)	1,000	
Macintosh computer, software and peripherals (in-kind)	5,000	
Miscellaneous electronic equipment	1,500	
		16,400
Materials / Supplies		
Computer Storage and Archiving media	500	
Varied restriction enzymes (for use in fragmenting DNA)	2,000	
Electrophoresis Chemicals (agarose, buffer solution, etc.)	1,250	
DNA amplification chemicals	1000	
Miscellaneous DNA stains and expendable materials	1000	
installation materials, electrical supplies, hardware	1500	
studio / lab renovation materials	500	
		7750
Travel		
Vanouse travel to Perth, Australia to Symbiotica Residency	2,000	
DNA donors travel/lodging to Buffalo, NY	2,000	
Lodging (apartment rental) in Perth, Australia (4 months)	2,000	
miscellaneous travel and travel expenses	1000	
		7,000
Miscellaneous / Services / Other		
Studio rental for main production (\$300 x 12 months)	3600	
Fabrication of 4 small acrylic electrophoresis rigs	1000	
Fabrication of crating and packaging containers	500	
Miscellaneous fabrication and project assistance	2,000	
Specialty printing and imaging services	500	
postage, shipping, general supplies	1000	
laboratory fees	1500	
Administrative costs and fees (A & O)	2500	
		12600
Project Promotion		
DVD duplication and cover printing services	500	
Conference travel and fees	1500	
Photographic services and mini catalog printing	3000	
Miscellaneous promotional costs	1250	
		6250
TOTAL PROJECT EXPENSES		100000

* 5K of equipment cost is in-kind donation

INCOME

	income	subtotal
Income received:		
Creative Capital Emerging Fields Grant (2006-present)	\$30,000	
New York State Council on the Arts project grant (05/06)	\$15,000	
In-kind (computer equipment)	\$5,000	
		\$50,000
Projected Income		
Creative Capital Follow up + promo funding (2008)	\$10,000	

Paul Vanouse
LATENT FIGURE PROTOCOL FULL BUDGET

Exhibition honoraria	\$5,000	
Renew Media / Rockefeller 2008 Fellowship	35,000	50,000
TOTAL INCOME (RECEIVED AND PROJECTED)		100,000
(minus) TOTAL PROJECT EXPENSES		100,000
BALANCE (RECEIVED AND PROJECTED INCOME - EXPENSES)		0

Paul Vanouse
LATENT FIGURE PROTOCOL FULL BUDGET

Latent Figure Protocol : FULL BUDGET
EXPENSES

	Expenses	Subtotal
Personnel		
Artist Salary, Paul Vanouse (33% time avg. @ 40K/year * 3 ye:	40,000	
Technical Assistant--Computer scientist	5,000	
Technical Assistant--Biology student	5,000	
		50,000
Equipment *		
Desktop high-speed centrifuge and vortex	2,000	
Desktop PCR unit (for amplifying the amount of DNA)	2,200	
Freezer and desktop autoclave	1,500	
3-channel programmable power supply	700	
3 video cameras (Elmo HC7501)	1500	
Glassware and material storage containers	1000	
Computer Software (for genomic database analysis)	1,000	
Macintosh computer, software and peripherals (in-kind)	5,000	
Miscellaneous electronic equipment	1,500	
		16,400
Materials / Supplies		
Computer Storage and Archiving media	500	
Varied restriction enzymes (for use in fragmenting DNA)	2,000	
Electrophoresis Chemicals (agarose, buffer solution, etc.)	1,250	
DNA amplification chemicals	1000	
Miscellaneous DNA stains and expendable materials	1000	
installation materials, electrical supplies, hardware	1500	
studio / lab renovation materials	500	
		7750
Travel		
Vanouse travel to Perth, Australia to Symbiotica Residency	2,000	
DNA donors travel/lodging to Buffalo, NY	2,000	
Lodging (apartment rental) in Perth, Australia (4 months)	2,000	
miscellaneous travel and travel expenses	1000	
		7,000
Miscellaneous / Services / Other		
Studio rental for main production (\$300 x 12 months)	3600	
Fabrication of 4 small acrylic electrophoresis rigs	1000	
Fabrication of crating and packaging containers	500	
Miscellaneous fabrication and project assistance	2,000	
Specialty printing and imaging services	500	
postage, shipping, general supplies	1000	
laboratory fees	1500	
Administrative costs and fees (A & O)	2500	
		12600
Project Promotion		
DVD duplication and cover printing services	500	
Conference travel and fees	1500	
Photographic services and mini catalog printing	3000	
Miscellaneous promotional costs	1250	
		6250
TOTAL PROJECT EXPENSES		100000

* 5K of equipment cost is in-kind donation

INCOME

	income	subtotal
Income received:		
Creative Capital Emerging Fields Grant (2006-present)	\$30,000	
New York State Council on the Arts project grant (05/06)	\$15,000	
In-kind (computer equipment)	\$5,000	
		\$50,000
Projected Income		
Creative Capital Follow up + promo funding (2008)	\$10,000	

Paul Vanouse
LATENT FIGURE PROTOCOL FULL BUDGET

Exhibition honoraria	\$5,000	
Renew Media / Rockefeller 2008 Fellowship	35,000	50,000
TOTAL INCOME (RECEIVED AND PROJECTED)		100,000
(minus) TOTAL PROJECT EXPENSES		100,000
BALANCE (RECEIVED AND PROJECTED INCOME - EXPENSES)		0

EDUCATION

- 1996 Masters of Fine Arts, Carnegie Mellon University, Pittsburgh, PA.
1990 Bachelor of Fine Arts, State University of New York at Buffalo, Buffalo, N.Y.

RESEARCH POSITIONS / FELLOWSHIPS

- 2006 Foreign Expert, Sichuan Fine Arts Institute, Chongqing, China.
2005-06 Artist Residency, SymbioticA / Honorary Research Fellow, School of Anatomy & Human Biology, University of Western Australia, Perth.
1996-03 Research Fellow, Studio for Creative Inquiry, Carnegie Mellon University, PA.
1997 Visiting Scholar, Center for Research and Computing in the Arts, UC San Diego, CA.

TEACHING POSITIONS

- 2004-pres Associate Professor, Department of Visual Studies, University at Buffalo, NY.
1999-04 Assistant Professor, Department of Visual Studies, University at Buffalo, NY.
1997 (su.) Visiting Assistant Professor, Art, West Virginia University, Morgantown, WV.
1997 Lecturer, Department of Visual Arts, University of California San Diego, CA.
1996 Adjunct Assistant Professor, Department of Art, Carnegie Mellon University, PA.

SELECTED EXHIBITIONS

- 2007 *Location Shifts*, Firehouse Gallery, Burlington, VT.
Still, Living, BEAP, (Biennial of Electronic Art Perth), Perth, Australia.
ARS Electronica, OK Center, Linz, Austria.
Bios 4, Centro Andaluz de Arte Contemporáneo, Sevilla, Spain.
In the Presence of the Body, Rensselaer Polytechnic, Troy, NY.
FILE RIO, Telefonica Museum, Rio de Janeiro, Brazil.
Human Nature II, SoFA Gallery, Indiana University, Bloomington, IN.
2006 *Zeitgeist 20th Anniversary Retrospective*, Zeitgeist, New Orleans, LA.
Living Culture, Eyebeam, New York, NY.
PED.Chongqing, Tank Loft, Contemporary Art Center, Chongqing, China.
2005 *DNA (do not assume...)*, Fine Arts Center, Bowling Green State University, OH.
Put Your Blue Genes On, NGBK, Berlin, Germany.
XY, Maryland Art Place, Baltimore, MD.
Torontotroll, Toronto, Canada.
Beyond Western New York, Big Orbit Gallery, Buffalo, NY.
2004 *YouGenics*, Betty Rymer Gallery, School of the Art Institute of Chicago, IL.
Biodifference, Biennial of Electronic Art Perth (BEAP), Perth, Australia.
Gene(sis), Block Museum of Art, Northwestern University, Chicago, IL.
International Cultural Heritage and Informatics Conference, Haus Der Culturen Der Welt, Berlin, Germany.
ISEA 2004 (International Symposium on Electronic Art), Tallinn, Estonia.

- Join Us*, Grand Arts, Kansas City, MO.
- 2003 *El Delito Del Cuerpo*, Havana, Cuba.
The Good, the Bad, Who's the Ugly?, ESC im labor, Graz, Austria.
Re:Cycle, McMaster Museum of Art, Hamilton, Ontario.
Terminal Time, ESC im labor, Graz, Austria.
Paradise Reconfigured, Plymouth State University, Plymouth, NH.
Inéditos 2003, La Casa Encendida, Madrid, Spain.
ZCCA-Lisbusin (and its Left Lithuanian Wing), Galeria Arsenal, Bialystok, Poland.
The Space Between, Davis Museum, Wellesley College, Wellesley, MA.
Provocations, Weblab, Orlando, FL.
- 2002 *FIX 02, Belfast Biennial of Performance Art*, Catalyst Art Center, Belfast, N. Ireland.
Ejercicios Laboratorios, Centro de Desarrollo de las Artes Visuales, Havana Cuba.
Bienal de Arte, Museo Nacional de Bellas Artes, Buenos Aires, Argentina.
St@rt_Up, Te Papa Museum, Wellington, New Zealand.
Terminal Time, Powerhouse Museum, Sydney, Australia.
Gene(sis), Henry Art Gallery, Seattle, WA.
- 2001 *Digital Deviance*, Magasin, Centre National d'Art Contemporain de Grenoble, France.
Art Futura 2001, Centre de Cultura Contemporània de Barcelona, Spain.
Media Tonic, Pittsburgh Filmmakers. Pittsburgh, PA.
PED, Research Center for Art and Culture, University at Buffalo, NY.
- 2000 *Trust Me*, New Museum of Contemporary Art, New York, NY.
Cult of the New Eve, ESC, Graz, Austria.
Paradise Reconfigured, CEPA Gallery, Buffalo, NY.
Digital Salon, School of Visual Arts, New York, NY.
SIGGRAPH 2000, New Orleans, LA. USA.
Future Heritage Expo, Center Brussels 2000, Brussels, Belgium.
L'Oeuvre Collective, Les Abattoires Museum, Toulouse, France.
Demo or Die, Squeaky Wheel Media Center, Buffalo, NY.
Terminal Time, Media Lab, Massachusetts Institute of Technology, Boston, MA.
FILE, The Museum of Image and Sound, Sao Paulo, Brazil.
Art In Motion, University of Southern California, Los Angeles, CA.
- 1999 *Society for Media Religion and Culture conference*, University of Edinburgh, Scotland.
Carnegie Museum of Art, Pittsburgh, PA.
Andy Warhol Museum, Pittsburgh, PA. USA.
American Association of Artificial Intelligence (AAAI) Symposium on Narrative Intelligence. Cape Cod, MA. USA.
Sonic Circuits, Landmark Theater, Saint Paul, MN. USA
International Cultural Heritage and Informatics Meeting 99, Washington, DC. USA.
Intercore, Saint Clara Hospital, Rotterdam, Netherlands, Organized by CEL.
Net_Condition, Zentrum für Kunst und Medientechnologie, Karlsruhe, Germany.
- 1998 *Consensual Fantasy Engine II*, Walker Art Center, Minneapolis, MN.
SIGGRAPH 98: Touchware, Orlando, FL.

- Impakt Festival*, Utrecht, Netherlands.
Ars Interruptus, Navarra's Video Festival, Pamplona, Spain.
Beyond Interface, Museums and the Web Conference, Toronto, Canada.
Flaming Creatures, (performance), The Andy Warhol Museum, Pittsburgh, PA.
SAGAs Writing Interactive Fiction, Munich Film and Television School, Germany.
Consensual Fantasy Engine II, University of Metz, Metz, France.
- 1997 *International Conference on Hypermedia and Interactivity in Museums 97*, The Louvre Museum, Paris, France.
Re-Inventing the Box, Betty Rymer Gallery, School of the Art Institute, Chicago, IL.
ISEA 97 (International Symposium on Electronic Art), Chicago, IL.
- 1996 *Copenhagen Film+Video Workshop Festival 96*, Copenhagen, Denmark.
International Film Festival Rotterdam, Rotterdam, Netherlands.
- 1995 *ISEA 95 (International Symposium on Electronic Art)*, Montreal, Canada.
Santiago Bienal of Video and Electronic Art, Museum of Contemporary Art, Chile.

SELECTED GRANTS AND AWARDS

- 2007 Prix Ars Electronica, Honorary Mention, Hybrid Arts.
2006 Creative Capital, Emerging Forms, Project Grant.
2005 New York State Council on the Arts, Project Grant.
2004 Interdisciplinary Research and Creative Activities Grant, University at Buffalo.
2003 New York Foundation for the Arts, Fellowship.
2002 Vida5.0 International Competition on Art and Artificial Life, Madrid, Spain, Second Prize.
2000 New York State Council on the Arts, Project Grant.
Sun Microsystems, Academic Equipment Grant. Principal Investigator.
- 1998 Pennsylvania Council on the Arts, Individual Artist Fellowship.
Pennsylvania Council on the Arts, Interdisciplinary Arts Grant.
A.W. Mellon Educational and Charitable Trust, Special Projects Grant.
- 1997 National Science Foundation, Informal Science Education grant, Co-Investigator.
- 1995 Pennsylvania Council on the Arts, Interdisciplinary Arts Grant.
(Nominated for Rockefeller Fellowship in 1998, 2004, 2005)

SELECTED PUBLICATIONS

- 2007 *Race, the Jamaican Body and Eugenics/Genomics*, Alfred Hornung, ed., Autobiography and Mediation (Heidelberg: Winter Verlag, 2007).
The Relative Velocity Inscription Device, Signs of Life: Bio Art and Beyond, Ed. Eduardo Kac, MIT Press.
Patients, Patents and Protocols, Filter Magazine, Issue 65, 2007.
- 2006 *Discovering Nature Apparently: Analogy, DNA Imaging and the Latent Figure Protocol*, Tactical Biopolitics, Ed. DaCosta and Philip, MIT Press (forthcoming).
Contemplating the Semi-Living Artist, Strange Attractions, Ed. Antoanetta Ivanova, Novamedia Ptd Ltd, Melbourne, pp. 70-74.
- 2005 *Mechanism Independent*, a minima: actual art publication, Spain, vol 10, 2005.
- 2004 *From The Relative Velocity Inscription Device*, photoessay, Mandorla, Spring 2004.

- 2002 *Race, Inter-Race and Post-Race in the Study of Human Genetics*, Afterimage, Sept./Oct. 2002
A Recombinant History Apparatus presents Terminal Time, Vanouse, Mateas and Domike, Narrative Intelligence, John Benjamins Press.
- 2000 *Terminal Time: an Ideologically-Biased History Engine*, Mateas/Vanouse/Domike, Proceedings of the AAAI, Symposium on Narrative Intelligence.
- 1997 *Audience Interactivity: A Case Study in Three Perspectives*, (Fisher, Vanouse, Dannenberg), Proceedings of 6th Symposium on Art and Technology, New London, CT.

SELECTED BIBLIOGRAPHY

- 2007 Digital Performance: A History of New Media in Theater, Dance, Performance Art and Installation, Steve Dixon, MIT Press.
- 2006 Getting Under the Skin: Body and Media Theory, Bernadette Wegenstein, MIT Press.
- 2005 *Gegen Gen-Rassismus: an interview with BioTech Artist Paul Vanouse*, Carsten Does, Jungle World, (Germany), Sept. 28, 2005.
Pensei que isto era uma Galeria de Arte, Megan Schlipalius, Nada, (Portugal), June 2005, no. 5.
Art et Biotechnologies, DVD compilation, Louise Poissant et Ernestine Daubner, University of Quebec Press, 2005.
- 2004 *A race against Race: Paul Vanouse's Relative Velocity Inscription Device*, Anna Kesson, RealTime, (Australia) Aug/Sept 2004.
Aspects of Machine Vision in the Arts, Marc Bohlen, Computer Graphics and Multimedia, ed. John DiMarco, Idea-Group Publishing, 2004.
- 2003 *Art of the Encyclopedic*, Kristen Gallagher, After Image, Aug/Sept., 2003.
Bridging the Gap, Christopher Millis, Boston Pheonix, April 18, 2003, ill.
- 2002 *Interact to your heart's content*, Josie McNaught, Dominion Post, Wellington, NZ, August, 2002.
The Wonders of Genetics Breed a New Art, Steven Henry Madoff, New York Times, May 26, 2002.
News: Gene(sis), Melissa Dunn, Flash Art, March-April, 2002.
- 2001 Information Arts, Steven Wilson, ed., Leonardo series, MIT Press.
Paradise Reconfigured review, Kristen Gallagher, Art Papers, May/June, 2001.
The Descent of Man, Episode 4: Moral Technologies, Broadcast on The Science Show, ABC Radio National, Produced by Tom Morton, Australia.
- 2000 *The Cybernetics of Performance and New Media Art*, Patrick Lichty, Leonardo Electronic Almanac, Fall 2000, ill.
- 1999 *Postcolonial Media Theory*, Maria Fernandez, Art Journal, Fall 1999.
Crossing creative boundaries, Mary Thomas, Pittsburgh Post Gazette, Sept. 13, 1999.
- 1998 *Paradoxes of Progress*, Audrey Mandelbaum, The New Art Examiner, Feb., 1998, ill.
- 1997 *Interactive Art the Leaves the PC Behind*, Mathew Mirapaul, The New York Times on the Web, Sept. 18, 1997, ill.
Din Hemme-Lighed Finder Mage, B.T. Copenhagen, Denmark, Sept. 13, 1997.