

PAUL VANOUSE

Title *Latent Figure Protocol*

Genre **New Media: Live Scientific Experiment (interactive, performative, installation)**

Applicant's Role in **Production** **Artist (sole producer)**

Production Format

A series of live scientific imaging experiments—performative installations incorporating custom, interactive, computer-regulated scientific apparatus.

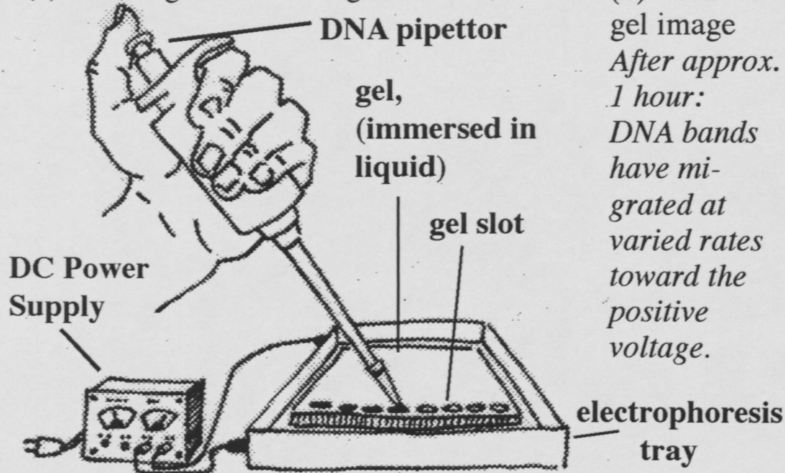
Brief Project Description (do not exceed space given below)

Latent Figure Protocol will utilize DNA sequencing technologies to create representational images in which there is a tension between that which is portrayed and the DNA materials (from the specific individual or specific species) 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, quasi-photographic representation. For instance, using a 16-lane electrophoresis gel, it is possible to generate an iconic image by treating each lane as a row of pixels analogous to how early computer images were built using ascii characters. Inserting DNA of known sizes into the beginning slot of each lane will allow for a sequence of DNA bands in each lane to migrate at different speeds when voltage is applied, thus creating a 2-dimensional grid of DNA bands resembling a low-resolution bitmap image. (see figure 1 in “Figures, Floor plan, etc” to explain this science)

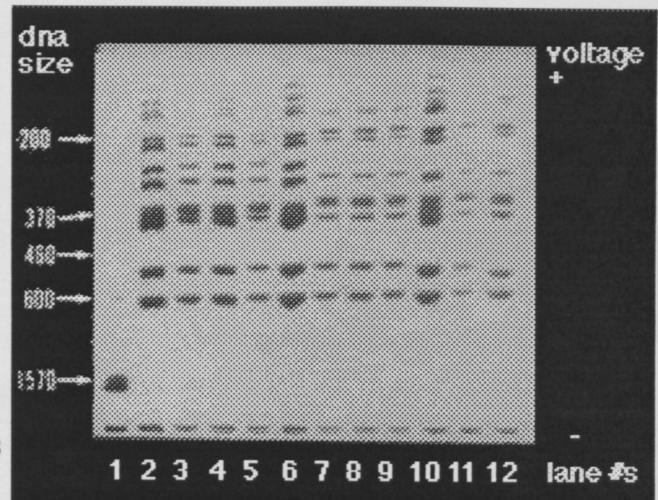
I will create several instances of works using a biological-computational protocol of my own invention (*The Latent Figure Protocol*). The subjects of these images will be reflexive of the subject from which the DNA was obtained and/or referential of the concept and issues of recombinant DNA in general. I will incorporate the actual scientific apparatus required to perform the imaging into the museums or other spaces of public display--not simply display photographs of the finished gel images. The imaging process will be performed live using an interactive, computer regulated electrophoresis rig. (and the apparatus and DNA images will remain viewable in installation form). This distinction is important to me as it reiterates the usage of biological science as an emerging medium of expression not merely the subject of representation.

1. STANDARD DNA ELECTROPHORESIS ILLUSTRATION & EXAMPLE

(a) inserting DNA into a gel

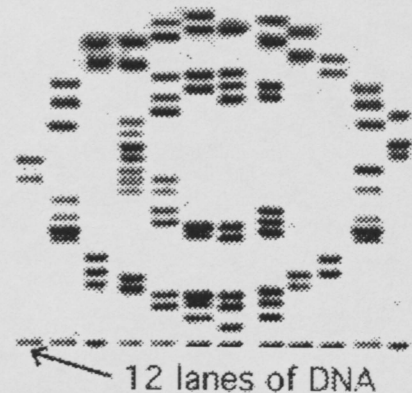


(b) standard gel image
After approx. 1 hour:
DNA bands have migrated at varied rates toward the positive voltage.



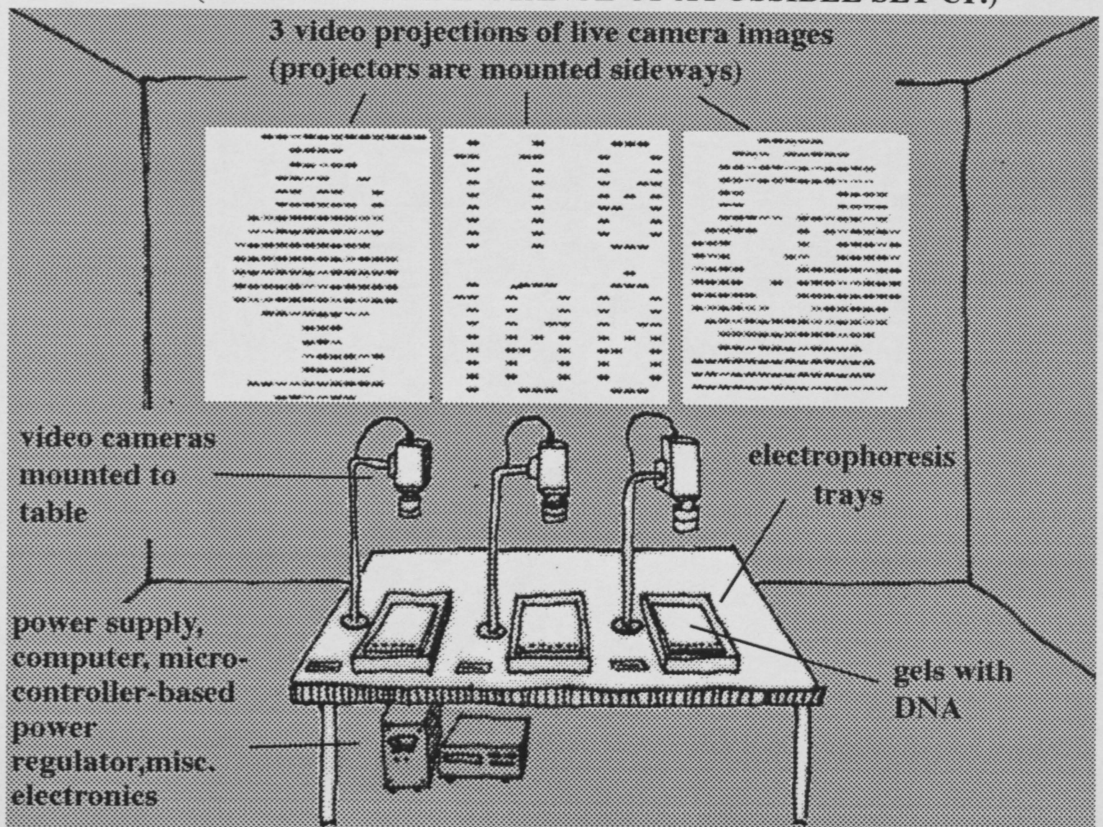
2. EXAMPLE OF AN ELECTROPHORESIS IMAGE CREATED USING THE LATENT FIGURE PROTOCOL:

Image shows a 12-lane sequencing gel (DNA fingerprint). DNA is inserted into the 12 lanes at the bottom and travels upward (as individual bands) at varied speeds as voltage is applied and form a recognizable icon. Note, this is a fictional image I created in Photoshop to better illustrate the concept.



3. INSTALLATION FLOOR PLAN (SHOWING ONE INSTANCE OF A POSSIBLE SET-UP.)

One instance of a possible Latent Figure Protocol installation/performance. The diagram doesn't show how I (and an audience) will be physically present during a 1 hour performance in which I first insert the DNA and after 1 hour the final images are formed. These images are re-played throughout the term of the installation. Conceptually, this instance examines the late modern moment at the time of the discovery of DNA and the binaries of cold-war, digitalization and the computational implications of DNA.



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If you are sending more than one sample, please copy this page. Sample(s) must be cued: indicate how long each sample should be viewed for a COMBINED viewing time of no more than 15 minutes. If slides are included in this application, please list the title and year of the work on this form.

Title *The Relative Velocity Inscription Device*

Year 2002

Technical Information

Original Format	Format Submitted for Viewing	Preferred OS
<input type="checkbox"/> Software	<input type="checkbox"/> Software	<input type="checkbox"/> Windows
<input type="checkbox"/> Web	<input type="checkbox"/> Web	<input type="checkbox"/> Mac
<input checked="" type="checkbox"/> Installation	<input checked="" type="checkbox"/> VHS	<input type="checkbox"/> Unix
<input type="checkbox"/> Other _____	<input type="checkbox"/> Other _____	<input type="checkbox"/> Other _____

Web Information (answer only if sample work is in Web format)

☐ URL _____ (if more than one please list them below)

☐ Browser requirement(s) _____

☐ Plug-in requirement(s) _____

☐ This sample requires broadband connection (fast Internet connection)

☐ A local copy of the sample work has been included with the application

Special Information For Viewing: 6 min

Description of Work (use an additional sheet if necessary)

1. *The Relative Velocity Inscription Device*, 2002, interactive installation, by Paul Vanouse. 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.

RVID is a live scientific experiment using the DNA of my own multi-racial family of Jamaican descent. The experiment takes the form of an interactive, multi-media installation, containing a computer-regulated, biological separation gel through which 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 project compares contemporary DNA separation technologies with early 20th Century research in human genetics, particularly Eugenics, conducted on the island of Jamaica in 1929. (conceptual / aesthetic issues cont. next page)

Racial categories were constructed based on external characteristics of groups (typically natives in imperial colonies). Skin color--is the most frequent delimiter. As human genetics moves from the study of the skin/body to the study of micro-bodies; from forms to underlying codes; critics have warned of subtler forms of scientific racism such as genetic or molecular racism. Perhaps the ultimate molecularization of racial stereotyping was voiced by James Watson, discoverer of the DNA double helix. In a lecture at UC Berkeley in 2000 Watson discussed an experiment in which a group of male students were injected with melanin, the substance produced by genes that makes our skin dark. Watson claimed that the students quickly became sexually aroused--developing erections. We are left to assume that even as the scientifically unpopular concept of race has been removed from skin color, a stigmatization of individual black-identified traits may follow. *Perhaps it is not the black body that is deemed prone to promiscuity, but blackness itself.* The very signifiers of race, rhetorically dislodged from their referents but still encoded within every cell in our bodies, could be personified as sexual deviants awaiting the opportunity to express themselves against our will and irrespective of environment.

In order to address this tense space of contemporary genomics, situated between the utopian pole of Post-Race and the historic racist pole of Eugenics, I utilized an early publication by biologist Charles B. Davenport called Race Crossing in Jamaica. Davenport sought to disprove the theory of hybrid vigor by showing the ultimate inferiority of Black/White hybrids. The study used a detailed methodology, which tabulated over one hundred examinations upon hundreds of human subjects. One of the factors that particularly intrigued me was the subject of performance, i.e. tests of strength and motor control. It was clear that these tests were biased by external, non-genetic factors, such as mood and occupation. Conversely, contemporary genomic studies, insure a digital precision--a genetic trait is either present or absent with no ambiguities. All that would be necessary is to design the correct examination for the micro-body and its value could be determined unambiguously. As my own family contains black/white hybrids of Jamaican descent, the subjects were easily selected--mother, father, sister and brother (myself).

A few aspects of the work could not be performed live, including drawing blood, extracting DNA from the blood and amplifying DNA from selected regions of skin color genes. *However, all other phases of the process take place live in the space of public display.* Since Gel Electrophoresis uses DNA fragments that (when stained) are visible to the naked eye, this technology was perfect for public display in that it is performed at a scale at which viewers can actually see what is happening. It was essential that viewers witness:

- a.) The experimental process itself--the DNA slowly moving through the polarized gelatin.
- b.) Its abstraction into data--the camera periodically imaging the gel and computerized image-processing algorithms locating each sample and tracking which sample finishes first.
- c.) Records of previous races--the viewer can access, via touch-screen, the results of all previous races, which are updated automatically as the experiment runs.

Each of these processes occurs live. *The gallery is not merely an incubation chamber in which a process is occurring, nor is it merely a display space to post the results of this experiment, but an fully automated laboratory where all phases can be viewed and evaluated.*

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Title *Paradise Reconfigured*

Year 2000

Technical Information

Original Format

☐ Software
☐ Web
☒ Installation
☐ Other _____

Format Submitted for Viewing

☐ Software
☐ Web
☒ VHS
☐ Other _____

Preferred OS

☐ Windows
☐ Mac
☐ Unix
☐ Other _____

Web Information (answer only if sample work is in Web format)

☐ URL _____ (if more than one please list them below)

☐ Browser requirement(s) _____

☐ Plug-in requirement(s) _____

☐ This sample requires broadband connection (fast Internet connection)

☐ A local copy of the sample work has been included with the application

Special Information For Viewing: 4 min

Description of Work (use an additional sheet if necessary)

2. *Paradise Reconfigured*, 2000, interactive installation, by Paul Vanouse. Participants interact with the work by touching areas of the window glass. Custom opto-electronic sensors--interfaced to a computer--detect touching through the window and alter a visual narrative portrayed on three wax-embedded monitors and an audio narrative played on exterior speakers.

The piece explores intersections between "rational" science and biblical creation narrative, using the 1995-97 Visible Human Project as its subject. (The V.H.P. created a digital anatomy dataset by physically cross-sectioning a male and a female cadaver. Initially, the man was called "Adam" by project scientists, but the name had already been trademarked by another corporation. Thus the drier title, "Visible Man", was adopted instead.) 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.

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Title *Terminal Time*

Year *2000*

Technical Information

Original Format

☐ Software
☐ Web
☐ Installation
☐ Other *interactive
cinema*

Format Submitted for Viewing

☐ Software
☐ Web
☐ VHS
☐ Other _____

Preferred OS

☐ Windows
☐ Mac
☐ Unix
☐ Other _____

Web Information (answer only if sample work is in Web format)

☐ URL _____ (if more than one please list them below)

☐ Browser requirement(s) _____

☐ Plug-in requirement(s) _____

☐ This sample requires broadband connection (fast Internet connection)

☐ A local copy of the sample work has been included with the application

Special Information For Viewing: *6 min*

Description of Work (use an additional sheet if necessary)

3. *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, of the last 1000 years of world history, that attempt to mirror and often exaggerate their biases and desires.

Terminal Time produces an "uncomfortable" history that encourages the audience to reflect on the naturalizing tendency of the documentary form, the rhetoric of utopian navigation surrounding the computer, and the extremes of rigid ideological reasoning. Each history is approximately 30 minutes long including periodic computerized polling of the audience.

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Title *Interactive Works by Paul Vanouse*

Year **1995-2003**

Technical Information

Original Format

☐ Software
☒ Web
☒ Installation
☒ Other *SDR*

Format Submitted for Viewing

☐ Software
☐ Web
☐ VHS
☐ Other *DVD*

Preferred OS

☐ Windows
☐ Mac
☐ Unix
☐ Other *ALL*

Web Information (answer only if sample work is in Web format)

☐ URL _____ (if more than one please list them below)

☐ Browser requirement(s) _____

☐ Plug-in requirement(s) _____

☐ This sample requires broadband connection (fast Internet connection)

☐ A local copy of the sample work has been included with the application

Special Information For Viewing:

Description of Work (use an additional sheet if necessary)

This is a DVD that has an interactive menu allowing panelists to view additional works if desired.

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Title *8 slides of previous works*

Year *1995-2003*

Technical Information

Original Format

☐ Software
☐ Web
☒ Installation
☒ Other *performane*

Format Submitted for Viewing

☐ Software
☐ Web
☐ VHS
☐ Other *8 slides*

Prefered OS

☐ Windows
☐ Mac
☐ Unix
☐ Other _____

Web Information (answer only if sample work is in Web format)

☐ URL _____ (if more than one please list them below)

☐ Browser requirement(s) _____

☐ Plug-in requirement(s) _____

☐ This sample requires broadband connection (fast Internet connection)

☐ A local copy of the sample work has been included with the application

Special Information For Viewing:

Description of Work (use an additional sheet if necessary)

I'm enclosing these 8 slides as supplementary materials if the panelists would like to see more work. Most, but not all of the projects these slides represent are also on the supplementary DVD that I included, excepting the *Cult of the New Eve* project (2000).

slide descriptions on next page.

Paul Vanouse, Supplemental sample continued

Slides 1-2

Items 1-2000, 1996, interactive installation. 600 pound wax block, live performer, Macintosh computer, barcode scanner, 2 monitors, misc. electronics.

The work seeks to contextualize work in anatomical imaging, using the Visible Human project as an example, with the social issues of American medicine. Participants interact with the work through a stainless-steel barcode scanner (wielded like a scalpel), slicing horizontally across a wax-embedded performer (laying atop a 600 pound wax block) to reveal the hidden target organ on the room's monitors.

Slides 3-4

Paradise Reconfigured, 2000, Interactive installation. Paul Vanouse (described in "sample work" form)

Slides 5-6

Cult of the New Eve, 2000, performance and public intervention. A collaboration between Paul Vanouse, Faith Wilding and the Critical Art Ensemble. The Cult of the New Eve reacts to modern biotechnology as manifested in its promises of salvation by practicing a New Eve Cult aimed to unmask the utopias. In varied performances, an intermeshing of electronic information systems with performative theatre practice, the cult members explore and provoke the discourse of life science.

Slides 7-8

The Relative Velocity Inscription Device, 2002, interactive installation, Paul Vanouse. (described in "sample work" form)

Paul Vanouse
New Media Fellowship Proposal

ARTIST STATEMENT:

My artwork explores the intersections of "big-science" and contemporary culture, explicating questions and concerns about how these domains relate to the individual as subject. What is our relationship to machines and machine-like processes, and how do they effect our relationship to others and even to our own bodies? How do broadcast media, telecommunications and bio-technology impact our desires and needs, and, conversely, how do these subjective impulses impact the meanings, operations and development of such information systems? Such are a few of the broad issues informing my work.

I strive to address complex issues raised by varied new technologies through these very technologies. My artworks include data collection devices that examine the ramifications of polling and categorization, genetic experiments that undermine scientific constructions of race and identity, and temporary organizations that playfully critique institutionalization and corporatization. These "Operational Fictions" are hybrid entities--simultaneously real things and fanciful representations--intended to resonate in the equally hyper-real context of the contemporary electronic landscape.

The process of creating these works is as important as the "finished" works themselves--for instance working with biological materials involves building a laboratory, interacting with scientists, accessing materials often restricted to specialized domains and, of course, learning in earnest the principles necessary for realizing these diverse projects. Similarly, I have found that working with interactive computing has required an understanding and philosophical re-thinking of "Artificial Intelligence" for use within a social/cultural context.

Radical interdisciplinarity and impassioned amateurism power my art practice. Specialization is an outgrowth of the rationalization and instrumentalization of labor. Highly-motivated amateurism and "true" interdisciplinarity, on the other hand, are strategies by which domain-specific knowledge and authority can be productively discussed, challenged and intelligently incorporated into other cultural fields.

Terms such as "installation", "performance", "multi-media" and "digital-media" are valid attributes, although they are not of use to me in defining my own practice. Rather, my multi-layered works merging form, medium and content witness a fundamentally conceptual art-practice. I believe that no medium is transparent, and thus all components of a work must be utilized as intentional signifying elements. My work utilizes emerging technologies and varied spaces for unconventional public display to stimulate discussion in a constantly changing cultural milieu.

(1) SUMMARY:

Latent Figure Protocol will utilize DNA sequencing technologies to create representational images in which there is a tension between that which is portrayed and the DNA materials used to generate it. I will create several instances of works using a biological- computational protocol of my own invention. The experiments will be performed live in each exhibition venue and the interactive apparatus and DNA images will remain viewable in installation form.

(2) DESCRIPTION:

Latent Figure Protocol will utilize DNA sequencing technologies to create emergent representational images in which there is a tension between that which is portrayed and the DNA materials (from the specific individual or specific species) 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, quasi-photographic representation. For instance, using a 16-lane electrophoresis gel, it is possible to generate an iconic image by treating each lane as a row of pixels analogous to how early computer images were built using ascii characters. Inserting DNA of known sizes into the beginning slot of each lane will allow for a sequence of DNA bands in each lane to migrate at different speeds when voltage is applied, thus creating a 2-dimensional grid of DNA bands resembling a low-resolution bitmap image. (see figure 1 in “Figures, Floor plan, etc” to explain this science)

The subjects of these images will be reflexive of the subject from which the DNA was obtained and/or referential of the concept and issues of recombinant DNA in general. A simple example would be to create an iconic image of the universal copyright symbol (©) using DNA from a transgenic crop such as Bt maize--such an image might connote the tensions surrounding not only private ownership of GMOs, but also the status of organic life in general. I am planning to create a series of projects using this protocol and varied methods of installation and live performance in which to show and demonstrate the work. (see figure 2)

I will incorporate the actual scientific apparatus required to perform the imaging into the museum or other space of public display--not simply display photographs of the finished gel images. The imaging process will be performed live using an interactive, computer regulated electrophoresis rig. This distinction is important to me as it reiterates the usage of biological science as a medium of expression not merely the subject of representation.

One of the first performance/interactive installations I am planning is historical in theme: examining the late-modern era of the discovery of DNA in 1952 and the complex of big-science, cold-war and the rise of “the binary”—between 1952 and 1965 witnesses the binary oppositions

of the cold war, the birth of the computer and the computational implications of DNA relative to human biology (the idea that “life is code”). I plan to use the DNA of sons/daughters of 1.) a high-profile manhattan project scientist, 2.) Che Guevarra, and 3.) a high-profile 1950s computer scientist. This series will involve a one-hour performance in which I insert DNA into 3 different electrophoresis gels the DNA then migrates to create 3 different images at the end of the hour. A video camera connected to a projector will make the experiment clearly visible to viewers. Following the experiment the scientific apparatus will remain, the video projection will show a repeat of the experiment and the actual gels will be fixed and mounted. (see figure 3 in “Figures, Floor plan, etc”)

(3) IMPORTANCE / WHY I WANT TO DO THE PROJECT:

- Conceptually, I am interested in using DNA imaging materials that are intended to be read "scientifically" (i.e. to obtain the genetic sequence of an organism) and through rigorous rewriting/recombination to force it to be read "culturally" (i.e. as a representational image). I want to create highly-charged, ambivalent artifacts belonging to the realms of both culture and science. The short history of genomics already undermines this nineteenth century dualism (science/culture) as the process of "scientific" mapping is intimately related to the process of creating a "technological" innovation or a "creative" and patentable product or technique.
- The project destabilizes the notion of objective truth/evidence as is implied by familiar DNA sequencing uses such as DNA fingerprinting—the protocol playfully undermines both essentialist notions of identity and biologically-determinist senses of biological destiny.
- I believe that artists working in emerging technologies should go beyond use of only pre-existing lab techniques and creatively “hack” in this domain. To the best of my knowledge, such a use of DNA imaging has never been completed in the arts or the biological sciences.

(4) TECHNICAL / FEASIBILITY:

The technologies and materials that I am utilizing for this project are familiar to any biologist, are safe and of low toxicity. Essentially what I am doing is reverse-engineering genome datasets and carefully selecting DNA processing enzymes to produce an outcome that I predefine. I have discussed my planned methodology with Drs. James LaFountain and Jerry Koudelka, University at Buffalo Biology professors who believe the techniques I describe will successfully complete the project. I have become intimately familiar with such processes when building “The Relative Velocity Inscription Device” (2002). Additionally, I have located and made contacts with two sons of the famous icons described above. I intend to do initial experiments (perfect the protocol) at the Symbiotica Art and Biology laboratory in Perth,

Australia (we have already discussed this). Following this I will know the optimum, minimal equipment setup required to complete most future work in my studio. The protocol follows:

1. Decide what subjects' DNA to use and what images to create with the subjects' DNA
2. Obtain blood or tissue sample from the given subject--individual or species
3. Extract DNA using centrifuge followed by ethanol precipitation
4. Use publicly available (on-line) genome databases to determine what restriction enzymes to apply to what part of the subjects DNA to produce the right size DNA fragments and thus the right bands in the electrophoresis gel. (This is the part that is scientifically novel.)
5. Run PCR amplification to obtain enough of the DNA fragments.
6. Freeze refined samples so that they can be stored indefinitely before performances.

(5) USE OF WORK:

I believe that one of the tasks of contemporary art is to transform the "neutral" space of galleries and museums into an alternative genre of public display. For instance, my previous work *The Relative Velocity Inscription Device*, transforms artspace into an automated scientific laboratory, and my *Cult of the New Eve* collaboration transforms artspace into quasi-religio-scientific recruitment center. Similarly, *LFP* will create a performative counter-spectacle in the form of an enlightenment-era theater of science. I plan to distribute the work to museums, galleries and festivals, in some of which I have an exhibition history, but also given the varied methods to display the work to seek even wider international audiences.

(6) SCHEDULE / BUDGET NARRATIVE (also see accompanying budget)

The total cost of producing the project is \$35,000, which will be used for one programmer familiar with bioinformatics (to assist in writing a computer program that will help me better utilize genome databases), for materials and equipment, and also for travel.

To date, I have confirmed the feasibility of the project and researched new DNA staining chemicals to determine the most inexpensive and non-toxic way to realize the project. I have also begun initial programs to help utilize genome databases and located / made contact with two sons of the famous icons (described previously top of page 2). I will continue these activities and confirm individuals to donate DNA throughout the winter of 2004-2005.

Grant period activities include: hacking online genome databases and perfecting the biological protocol (summer-winter 2005); obtaining DNA from individuals or species of relevance (throughout); equipping my studio/laboratory and preparing DNA and interactive apparatus for performances (spring 2006); confirming, planning and preparing for specific performances and exhibitions (spring 2005—with exhibitions to take place starting fall 2006).

Paul Vanouse

Rockefeller Foundation Proposal

Latent Figure Protocol : FULL BUDGET

	Expenses
Personnel	
Artist Fee, Paul Vanouse	5,000
Technical Assistant—Computer scientist with background in bioinformatics	5,000
Technical Assistant—Biology PhD or medical student with background in DNA separation	2,500
Equipment *	
Desktop high-speed centrifuge	2,000
Desktop PCR unit (for amplifying the amount of DNA)	3,000
Mini sub-zero freezer	1,250
3-channel programmable power supply	750
2 video cameras (sony SSC-DC14)	750
Color Quad Splitter Video Compressor (to save multiple video frames on 1 vcr)	500
Glassware and material storage containers	500
Computer Software (for genomic database analysis and also external libraries)	1,000
DVD burner and basic DVD burning software	300
Miscellaneous electronic equipment including basic stamp microcontroller	500
Materials / Supplies	
Computer Storage and Archiving media (CD-ROM, DVD-ROM, Video Tapes, etc)	250
Varied restriction enzymes (for use in fragmenting DNA)	1,000
Electrophoresis Chemicals (agarose, buffer solution, etc.)	1,000
DNA amplification chemicals including RNA for DNA amplification	750
varied DNA stains	500
installation and construction materials, electrical supplies and hardware	250
miscellaneous expendable materials	500
Travel	
Vanouse travel to Perth, Australia to Symbiotica laboratory Residency	1,500
DNA donors travel to Buffalo, NY or Perth, Australia	1,500
Lodging (shared apartment rental) in Perth, Australia (3 months)	1,000
miscellaneous travel and travel expenses	750
Miscellaneous / Services / Other	
Fabrication of 3 small acrylic electrophoresis rigs	500
Fabrication of crating and packaging containers	450
Miscellaneous fabrication (camera mounts, custom equip and installation parts)	1,000
Specialty printing and imaging services	250
postage, shipping, general supplies	250
laboratory fees	500
TOTAL PROJECT EXPENSES	35,000
<u>AMOUNT REQUESTED FROM ROCKEFELLER FOUNDATION</u>	<u>35,000</u>

* I am utilizing several pieces of equipment that I already own for the project including: Macintosh computer, video camera, video equipment, electronics, biology equipment, etc. thus they are in-kind and will be utilized, but not part of this budget.

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.
1989 Summer study, Lord Rumsey Scholarship, Abidjan, Ivory Coast.
1988 Semester Exchange, Wolverhampton Polytechnic, Wolverhampton, U.K.

SELECTED EXHIBITIONS

- 2004 *YouGenics*, Betty Rymer Gallery, School of the Art Institute of Chicago, 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.
International Symposium on Electronic Art (ISEA 2004) 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.
PED.Tonawandas, Carnegie Art Center, N. Tonawanda, NY.
Inéditos 2003, La Casa Encendida, Madrid, Spain.
ZCCA-Lisbusin (and its Left Lithuanian Wing) in Bialystok, Galeria Arsenal, Bialystok, Poland.
The Space Between, Davis Museum, Wellesley College, Wellesley, MA.
Provocations, Weblab, Orlando, FL.
- 2002 *FIX 02, 5th Belfast Biennial of Performance Art*, Catalyst Art Center, Belfast, Northern 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.
Metapet, Remote Lounge, New York, NY.
- 2001 *Digital Deviance*, Magasin, Centre National d'Art Contemporain de Grenoble, Grenoble, France.
Art Futura 2001, Centre de Cultura Contemporania de Barcelona, Barcelona, Spain.
Media Tonic, Pittsburgh Filmmakers. Pittsburgh, PA.
Digital Insight, Fuller Museum of Art, Brockton, MA.
ReWriting Landscapes, Chatham College, Pittsburgh, PA.
PED, Research Center for Art and Culture, University at Buffalo, 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.
Systems, The Brewhouse – Space 101, Pittsburgh, PA.

- Digital Salon*, School of Visual Arts, New York, NY.
- FUSION!*, Miller Gallery, Carnegie Mellon University, Pittsburgh, PA.
- 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.
- Subdivided...Reconfigured...Reunited*, Megahan Gallery, Allegheny College, Meadville, PA.
- F I L E (Festival Internacional de Linguagem Eletronica)*, The Museum of Image and Sound, Sao Paulo, Brazil.
- Art In Motion*, University of Southern California, Los Angeles, CA.
- 1999 *Annual Conference of the Society for Media Religion and Culture*, University of Edinburgh, Edinburgh, Scotland, UK.
- Carnegie Museum of Art, Pittsburgh, PA.
- Andy Warhol Museum, Pittsburgh, PA. USA.
- Three Rivers Film Festival, Pittsburgh, PA. USA.
- American Association of Artificial Intelligence (AAAI) Fall 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./Arlington, VA. USA.
- Intercore*, Saint Clara Hospital, Rotterdam, Netherlands, Organized by CEL.
- Net_Condition*, Zentrum fur 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.
- Athens International Film and Video Festival*, Athens, OH.
- Flaming Creatures*, (performance), The Andy Warhol Museum, Pittsburgh, PA.
- Consensual Fantasy Engine II*, SAGAs Writing Interactive Fiction, Munich Film and Television School, Munich, 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.
- Consensual Fantasy Engine II*, Allegheny College Chapel, Meadville, PA.
- International Symposium on Electronic Art (ISEA97)*, Chicago, IL.
- 1996 *Copenhagen Film+Video Workshop Festival 96*, Copenhagen, Denmark.
- MFA Thesis Exhibition*, Gallery 937, Pittsburgh, PA.
- International Film Festival Rotterdam*, Rotterdam, Netherlands.
- Environ/mentality*, Brew House Space 101, Pittsburgh, PA.
- 1995 *International Symposium on Electronic Art (ISEA95)*, Montreal, Canada.
- Santiago Bienal of Video and Electronic Art*, Museum of Contemporary Art, Santiago, Chile.

Atlanta Festival of the Arts, Atlanta, GA.

The Consensual Fantasy Engine, Beehive Theater, Pittsburgh, PA.

GRANTS AND AWARDS

- 2004 Interdisciplinary Research and Creative Activities Fund, grant.
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.
Commission for interactive installation: *The Relative Velocity Inscription Device*, Henry Art Gallery, Seattle, WA.
1999 *Consensual Fantasy Engine on-line*, Walker Art Center, Minneapolis, MN.
Commissioned web-based project for Digital Arts Study Collection.
1998 Pennsylvania Council on the Arts, Individual Artist Fellowship.
Pennsylvania Council on the Arts, Interdisciplinary Arts Grant.
Pennsylvania Humanities Council, Planning Grant.
A.W. Mellon Educational and Charitable Trust, Special Projects Grant.
Howard Heinz Endowment, Small Arts Grant.
1997 National Science Foundation, Informal Science Education grant, Co-Investigator.
1995 Pennsylvania Council on the Arts, Interdisciplinary Arts Grant.
1994 Pennsylvania Council on the Arts, Interdisciplinary Arts Grant.

TEACHING POSITIONS

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

RESEARCH POSITIONS / FELLOWSHIPS

- 1997 Visiting Scholar, Center for Research and Computing in the Arts, University of California San Diego, La Jolla, CA.
1996-2003. Research Fellow, Studio for Creative Inquiry, Carnegie Mellon University, PA.

SELECTED PUBLICATIONS

- 2004 *From Surface to Depth: Invasive Sciences, Race and the Jamaican Body*, Evelyn Hawthorne and Paul Vanouse, *Are All the Women Still White? Globalizing Women's Studies*, co-editors Janell Hobson, Ime Kerlee, under review at NYU Press.
2003 *The Relative Velocity Inscription Device*, *Biotechnology, Art and Culture*, Ed. Eduardo Kac, MIT Press. (forthcoming).
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*.

SELECTED BIBLIOGRAPHY

- 2004 *A race against Race: Paul Vanouse's Relative Velocity Inscription Device*, Anna Kesson, *RealTime*, Aug/Sept 2004.

- 2003 Review of "Art of the Encyclopedic", Kristen Gallagher, After Image, Aug/Sept., 2003.
Bridging the Gap, Christopher Millis, Boston Pheonix, April 18, 2003, ill.
Genesis, Robin Held, ed, CD-ROM exhibition catalog, Henry Art Gallery, Seattle, WA. 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.
Cool People, Buffalo Spree, May-June 2002, ill.
Interview, Marcie Sillman, KUOW Public Radio, Seattle, WA. April 3, 02.
The Art of Human Genomics: Project Focuses on Race, Brad Broberg, Puget Sound Business Journal, March 22-28, 2002.
- 2001 Information Arts, Steven Wilson, ed., Leonardo series, MIT Press.
Paradise Reconfigured review, Kristen Gallagher, Art Papers, May/June, 2001.
- 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.
Manipulating history, Kristen Hays, Sept 16, 1999, ill.(AP), reprinted: Times News, Lehighnton, PA; News, Danville, PA; Standard Observer, Irwin, PA; Republican, Kane, PA; St. Marys, PA; ERA, Bradford, PA; Indiana Gazette, Indiana, PA; Dominion Post, Morgantown, WV.
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.
- 1996 *The Consensual Fantasy Engine*, Cyber Flash, Canal+, Television Broadcast, N° 102, Paris, France, Jan. 23, 1996. (Interview.)
En Rejse Ind I Fantasimaskinen, Benn Q. Holm, Det Fri Aktuelt, Copenhagen, Denmark, June 13, 1996, ill.

SELECTED ARTIST LECTURES AND PANELS

- 2004 Keynote Lecture: *From Surface to Depth, Disciplinary Bodies*, Cornell University, Cornell, NY.
Activism, Feminism, Formalism, Biennale of Electronic Art Perth, Perth, Australia.
Artist Lecture, International Symposium on Electronic Art, Tallinn, Estonia.
Amateurism, Globalism, Geography and Genes, Center for Land Use Interpretation, Troy, NY.
Artist Lecture, Grand Arts, Kansas City, MO.
Interdisciplinarity and Collaboration, Networks, Art and Collaboration conference, University at Buffalo.
- 2003 *Skinning our Tools: Designing for Culture and Context*, Banff New Media Institute, Banff, Canada.
Artist Lecture, Teachers' Institute in Contemporary Art, School of the Art Institute of Chicago, Chicago, IL.
The Relative Velocity Inscription Device, Visual Studies in a State of Emergency Symposium, Cornell University, Ithaca, NY.
From Surface to Depth, Caribbean Literature Conference, University of Miami, FL.
- 2002 Artist Lecture, *Encuentro*, Instituto Superior de Arte, Havana, Cuba.

- Artist Lecture, Museo Nacional de Bellas Artes, Buenos Aires, Argentina.
Why Should I Get a New One if the Old One Ain't Broken? (panelist and co-chair with Nell Tenhaff), International Symposium on Electronic Art, Nagoya, Japan.
 Artist Lecture, Department of Art, Brown University, Providence, RI.
 Artist Lecture, TePapa Museum, Wellington, New Zealand.
- 2001
 Invited Artist Presentation, Digital Flaherty Seminar, Troy, NY.
 Artist lecture, York University Department of Art, Toronto, CA.
 Plenary Lecture, Annual Meeting of the Society for Literature and Science, Buffalo, NY.
- 2000
 Tactical Media workshop, ESC, Graz, Austria.
Demo Salon (panelist), Demo or Die festival, Squeaky Wheel, Buffalo, NY.
- 1999
 Ptolémée 99, *exposition de l'art électronique*, Cité des Sciences, Paris, France.
 Artist Lecture, L'Ecole de Louvre, Paris, France.
- 1998
Scope as Trope: Vision, Control and Spatial Erotics (chair and panelist) International Symposium on Electronic Art, Manchester, UK.
Terminal Time, Public Showing conference, Center For Twentieth Century Studies, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin.
 Artist Sketch, SIGGRAPH 98, Orlando, Florida.

LIST OF SELECTED PREVIOUS WORKS:

Full descriptions and images of most of these works can be viewed on my website:

www.contrib.andrew.cmu.edu/~pv28 OR

www.contrib.andrew.cmu.edu/~pv28/electart.html (please view)

Performance Test, 2003, An event in which Paul Vanouse races the DNA of two competitors well-known to local audiences in a one-hour, live performance. The performance also involves a short science lesson in which Vanouse explains how DNA images are created and their significance. Documentation for these performances has only been compiled in web-form (see above). The performances have taken place at *ZCCA-Lisbusin (and its Left Lithuanian Wing)*, in Bialystok, Poland (2003) and at *ISEA 2004* in Tallinn, Estonia.

The Relative Velocity Inscription Device, 2002, interactive installation, Paul Vanouse. (described in "sample work" form)

PED, 2001, Site-specific, interactive installation/performance, by Paul Vanouse, Millie Chen, Andrew Johnson. 10 bicycles, custom electronics, modified portable tape-players, etc.

The work explores issues of guidance, and control as well as land use, public policy and suburbanization--specifically the relationship between a large-scale, suburban research university and the declining city of Buffalo. Participants may borrow bicycles and embark on a free tour along any of 10 pre-painted paths throughout the university. Each bicycle is outfitted with speakers and a tape player that plays a 10-12 minute lecture (specific to each path) that plays as the bicycle is pedaled (the tape players are "pedal-activated" so that one only hears the lecture while pedaling and traversing the landscape).

Cult of the New Eve, 2000, performance and public intervention. A collaboration between Paul Vanouse, Faith Wilding and the Critical Art Ensemble. The Cult of the New Eve reacts to modern biotechnology as manifested in its promises of salvation by practicing a New Eve Cult aimed to unmask the utopias. In varied performances, an intermeshing of electronic information systems with performative theatre practice, the cult members explore and provoke the discourse of life science.

Paradise Reconfigured, 2000, Interactive installation. Paul Vanouse (described in "sample work" form)

Terminal Time, 2000, Interactive Cinema. Paul Vanouse, Michael Mateas, Steffi Domike (described in "sample work" form)

***The Security Bra™*, 1998**, performative wearable electronic media.

The Security Bra™, combines sensual elegance with practical personal security features. Utilizing ultra-sonic and micro-computer technology, the bra constantly probes the wearer's immediate frontal vicinity, detecting approaching persons or even static objects within an 8 foot range.

***The Persistent Data Confidante*, 1997**, www.textgenomics.com, net.art.

The Persistent Data Confidante is a www site allowing for the anonymous transfer of secrets and confessions. The work asks users for a secret after which they receive one previously contributed from another user. They are then asked to rate the secret they have received. Each secret's "popularity" or intrigue increases its probability of being re-told in the future -- thus the best secrets will "live-on" while the more banal will "die-off."

***Items 1-2000*, 1996**, interactive installation. 600 pound wax block, live performer, Macintosh computer, barcode scanner, 2 monitors, misc. electronics.

The work seeks to contextualize work in anatomical imaging, using the Visible Human project as an example, with the social issues of American medicine. Participants interact with the work through a stainless-steel barcode scanner (wielded like a scalpel), slicing horizontally across a wax-embedded performer (laying atop a 600 pound wax block) to reveal the hidden target organ on the room's monitors.

***The Consensual Fantasy Engine*, 1995**, interactive cinema, Paul Vanouse and Peter Weyhrauch.

Society's tele-presence impacted on the actions of the police and possibly OJ Simpson's own actions during the chase of 1994. Our responses to the barrage of information will set up lasting metaphors and prejudices—tainting our understanding of future world events. The work explores how we have a substantial stake in the creation of such meanings. The work creates a 30 minute customized "Hollywoodesque" story for each new audience targeted to their responses (via applause meter) to questions during the story. The "engine" is capable of producing millions of different stories using its database of movie clips and artificial intelligence narrative evaluation functions built by the authors.

***Follower*, 1995**, interactive coin-operated installation / video game.

The installation work begins as fast-paced, arcade-style adventure, with an abstracted enemy, and gradually gives way to visceral photographic images, and recent US military history, such as the Iran-Contra affair and the Panama Invasion. The work is viewed via projection. Interaction takes place via a coin-op / trackball console built entirely from salvaged arcade game parts and consoles.