SWITCH

Volume 14
Number 1 *Institutions*

Article 1

6-14-2000

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Recommended Citation
Angel, Wendy (2000) "Virtual Environments and The Internet," *SWITCH*: Vol. 14 : No. 1 , Article 1.
Available at: https://scholarworks.sjsu.edu/switch/vol14/iss1/1

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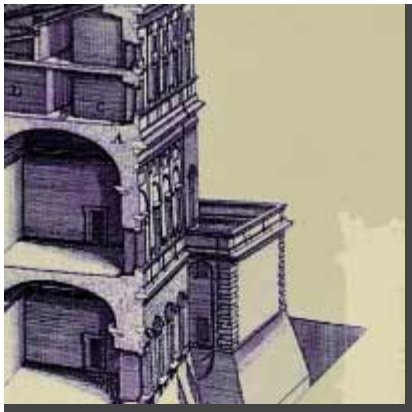


Virtual Environments and The Internet

Wendy Angel on Jun 14 2000 **issue 14**

What does game-like thinking combined with immersion in 3D environments do to our brains, to our minds and to our culture? Why might virtual environments be interesting to artists? And what are virtual environments doing with the Internet?

Slick implies
a certain type of legitimacy
and virtual reality
is slick like wet ice.

Location

It was the location that attracted my attention. Monterey is situated between my computer and the rest of civilization. And I don't usually hear about international Internet related events happening so close to, but not on top of my desk.

Virtual reality was not a subject that I was particularly drawn to. (1) I am not a great fan of games, I am not attracted to slick vector based graphics and it seemed to me that VRML/Web3D was just more cumbersome tech-hype. I proceeded to research VRML and virtual environments on the net in an attempt to discover why I might be interested in this subject. My basic questions were: Why might virtual environments be interesting to artists? And what are virtual environments doing with the Internet? I encountered numerous glitches and crashes, but I came to realize that navigable virtual environments will become progressively more functional and popular in the Internet environment and this is something to contemplate. It is even interesting. I acquired more questions like, what does game-like thinking combined with immersion in 3D environments do to our brains, to our minds and to our culture?

VRML alias Web 3D

Web 3D/VRML, The Fifth International Conference on
Virtual Reality Modeling Language & 3D Web Technologies
Was held February 21-24, 2000 at the Hyatt Monterey, Monterey, California
Hosted by The Web3D Consortium

The idea of VRML/Web3D is to enact a ubiquitous functioning method to perpetuate navigable three dimensional illusionistic environments via the Internet. The intent is to initiate a standard in a similar way that HTML has done to facilitate the text and predominantly two dimensional environment of the World Wide Web as we know it.

The program was devoted to methods and techniques of developing and promoting a useable format for bringing illusionistic three dimensional navigable environments into

more accessible and widespread use on the World Wide Web. The Consortium describes their intent:

"Web3D blends the intuitive human sense of space and time with user interface interaction and programming language integration producing a truly new and exciting technology for the Internet. The evolution of the Net from command-line to 2D graphical to emergent 3D interfaces reflects ongoing, fundamental progress toward human-centered interface design--that is, toward a more immersive and responsive computer-mediated experience." (2)

The conference premiered VRML-ART 2000. (3) This was a juried selection of fifty-four projects working with 3D worlds, objects, spaces, and avatars. The jury members were:
Melentie Pandilovski, Skopje, Macedonia
Karel Dudesek, Vienna, Austria
Kathy Rae Huffman, Troy, New York

an Account of an Event

The participants in this gathering had chosen to traverse long distances to gather in a physical environment to contemplate and discuss virtual environments. The most ubiquitous characteristic describing the people attending the conference was fatigue. The most memorable image - tired eyes.

I arrived at about 3:00 in the afternoon. The artists and exhibition organizers were busy setting up for the evening when the general population of conference attendees were scheduled to come and to view the show. The art exhibit was somewhat autonomous from the rest of the conference. The people involved with the exhibition considered it of primary significance, but from the perspective of the non-artist participant it appeared as an evening entertainment program.

Everyone was wearing a name tag so it was easy to locate Professor Huffman, of Electronic Media Arts and Communication, at Rensselaer Polytechnic Institute. Her greeting set me at ease and her enthusiasm drew me in. I was impressed by the substantial database of information inside her memory about curation and issues surrounding women online as well as VRML. She explained the set up of the conference. The back half of the exhibition room was devoted to the art exhibitors. In the front part were advertisers.

Huffman calls what we have now a first wave for Web3D. She believes it is important to have presentations and exhibitions of 3D work installed professionally by the artists or other experts, who can guarantee that it will have a clean installation. Apparently most people who would like to explore virtual environments at home, and who are generally interested, still don't have good enough horsepower at their workstations, or the general technical skills to get all the plug-ins and software installed and working properly together. She also finds that many people still do not have the comfort level to fully explore the environments because they are used to just clicking, and not necessarily navigating. So they miss out on a lot of the subtle aspects of the VRML works. But she predicts that all this will change some day soon and navigating virtual environments will be common and seamless. (4)

Professor Karel Dudesek from Universsitat fur Angewanndte, Kunnst Ordinnariat fur Medien, Vienna, maintained a wry sense of humor while being preoccupied with making things work so it was late in the evening when we had a chance to chat. I had met Professor Dudesek briefly the previous weekend at the CRASH symposium in Berkeley. (5)

Melentie Pandilovski is the cheerful but serious director of the Center for Contemporary Arts in Skopje, Masidonia. He is interested in the philosophical implications of VR. And would also attend another conference before leaving California. His next stop was San Diego to present a paper relating virtual environments to a philosophy of consciousness. This interested me and I asked if he would send me a copy of the paper.

In his paper, On Modes of Consciousness and Electronic Culture, Pandilovski begins with the phenomenology of Husserl, "the study of the structures of consciousness that enable it to refer to objects outside itself." He goes on to raise questions regarding the evolution and structure of consciousness and the relation of consciousness to the

phenomenal. He approaches the issue of technology with the idea that electronic memories are actually simulations of the memory function of the brain, and he discusses the mathematical logic of the technical image.

As Pandilovski establishes his perspective on the arts, he states:

"The inevitable pendulum-like motion from prehistoric thinking i.e. thinking in images, towards marking the end of it (with the invention of the alphabet), is now set again in opposite direction allowing the technological image to shape the consciousness. Due to this it should be expected that the general value system would be thoroughly altered (as every previous change in direction did)."

He says that the technology-image will lead us away from linear text based thinking and speculates on the consequences of such a change. He believes that interactive art is paradigmatic of this relation. Some of the characteristic features of the medium that he lists are: velocity, conceptual, visualization, communicative, void, information, codes, mediation, technical procedures and conditions, and collective work.

Pandilovski's conclusion:

"Finally I would conclude that the concept of virtual reality calls for a New Phenomenology for it may in the future prove to be one of the key paradigms that will assist us in the process of restructuring of our cultural consciousness in the direction of establishing an inner subjective world and dynamic intersection between the heterogeneous fields of human activities, such as art and science, philosophy and religion, where one will be in dialogue and function of the other instead of standing opposite it." (6)

I also spoke with a couple of the artists who were presenting their projects.

Steve Guynup from Atlanta, Georgia, wore a shocking-blue shirt and a straggly little braid placed amidst natty hair. Hyperactive would be an appropriate term to use while describing his personality. He sounded somewhat obsessed with the word "content" so I made an attempt to discover what he meant by it. He seemed to equate content with serious subject matter. It was interesting that as he began to show me his Kosovo project his approach was to dazzle with techno-glitz. When I prodded him with, "lovely but where is the content," it took him off guard but he slowed down for a few moments and clicked to political photos located in his virtual environment. And he confessed that there was a reference to Duchamp's Fountain hidden somewhere in the code. He also commented that it was unusual to be asked for content, most people just want to be dazzled. (7)

In contrast Nichole Stenger spoke in a soft voice with a gentle accent. The subject of her project related to American cities such as San Francisco and Los Angeles. She combined a nostalgic concept of these cities with a 3D electronic style. Her intent is to create a type of virtual book in the tradition of handmade books and medieval illuminated manuscripts. For this project she avoided the navigation aspects of 3D. However she has been working with virtual reality since the days "when you had to go into a computer science lab and work with engineers to do anything at all." Stenger had first encountered VR in the early '80's when she saw a film Sunstone by Ed Elmschwiller. She claimed this exposure changed her life. She had fallen in awe and wonder at the potential of the VR medium. (8)

The other half of the art exhibition room had advertising displays from companies mostly trying to peddle VR authoring software. A couple of guys from Japan seemed sincerely excited about their product whereas an American salesman showed me a seriously tacky method of illustrating a seriously tacky car. (9)

One interesting person from that portion of the room was Nicholas Polys. He was promoting a 3D-Ezine called VirtuWorlds. It appears to be a useful source of information for Web 3D builders. Polys gave me a couple of slick pages of advertising and a questionnaire. The introductory blurb on one slick printed flyer describes the e-publication as,

"Immune to the pressures of industry politics, and inspired by pure passion for 3Dweb.
"... the ultimate onramp into a chaotic and fragmented endeavor of viewing 3D worlds and applications over the Web.
"...Sporting a professional and intuitive design, the 3DEZine features the highest quality content alongside the insightful analysis to cut through the hype surrounding it." (10)

I believe the part about passion for 3D Web. Passion was an attitude that permeated the event. But I have to ask Nic, do you even recognize the contradiction in using hype to refute hype?

Is this an example of how the marketing hype is in fact infiltrating the structure of common language and therefore common thought structures? Is this example enthusiasm or an example of the sci-fi futuristic culture where thoughts are replaced by slogans? But for real. And it isn't even politically motivated. Is a structure of thought emerging out of popular culture as a result of industrial media hype? And what sort of popular thought patterns will develop from extensive immersion in navigable virtual worlds?

outside The art Exhibition

Beyond the art exhibit loomed the technological industrial complex of VRML/Web3D. And the majority of the conference existed there.

In search of the non-artist perspective I struck up a conversation on the patio with some delightful gentlemen from Holland.

Alex van Ballegooij was at the conference to present a paper, 3D Gadgets for Business Process Visualization: A Case Study. Van Ballegooij admitted that he wrote the paper to submit to the conference so that he (and Eli'ns) would be able to attend. And he claimed that his interest in VR grew out of an enthusiasm for computer games. (11)

Roland Smeenk who was also participating in the conversation agreed. They believe it is not only the virtual environments that are significant to the enthrallment with games but it is the psychological states induced. It is thrilling to be able to play the action hero. Drawing on a comment that I had heard from a couple of CADRE students who are into games, I asked if a sense of community was also an attraction. They agreed the community with other players was part of it but they argued that the main thrill is the fantasy of role-playing the hero who saves the world. They believed that it is gaming incentives that drive VR enthusiasm. It is a rush. And it seems the rush is more related to states of ego and aggression than a sense of community bonding. (12)

While van Ballegooig and Smeenk elaborated on the significance of games as a driving force in the development of Web3D, Anton Eliëns stood by grumbling and nodding his head in good humored disagreement.

Professor Anton Eliëns from the department of Mathematics and Computer Science, Vrije Universiteit, Amsterdam expressed his interest in VR is related to data visualization. This is interesting. I wanted a non-artist perspective on the event so I asked what they thought motivated the people at the conference to be there. Eli'ns firmly believed that people were there because they were genuinely excited about the subject of Web3D. And perhaps because they do not want to see a monopoly (i.e. Microsoft) enshroud its development. In other words he did not believe that the attendees were driven by marketing opportunities but again, sincere passion for virtual environments.

Later while reviewing the published information on the various people I planned to include in this report I discovered that Eli'ns, who has named his projects things like Déjà VU, Hush and even Diva, has a background that includes visual art as well as music. So much for getting the perspective of a non-artist. (13)

I did speak with one woman from the business sector, Chris Byrne from Seattle. She was involved with a commercial project that she preferred not discuss in detail. She was describing volumetric space identifying the volume of a collection of periodical volumes.

Multiple meanings of the term "volume" becomes amusing in relation to virtual 3D environments. There is the volume of space, the volume of amount, the volume characterizing an increment of an issue, and I suppose we need to consider the volume of noise as well. (14)

the VRML/Web3D consortium

I did catch the end of one panel. A woman talking about Education expressed annoyance relating to the patriarchal tendencies of the virtual reality arena and her challenges facing "old boys club" behavior and attitudes. There certainly was a male majority present.

I also sat in on a consortium general meeting. It was no secret that the consortium is motivated by a desire to win a prominent estate on the electronic frontier. For example they had introduced some types of membership that were less exclusive for the purpose of enlisting a volunteer work force. Also the VRML developers did not rename their consortium "Web3D" simply to be inclusive of a variety of VR programming languages, rather it was necessary to rename the consortium due to a negative stigma associated with VRML allegedly perpetuated by the American press. While this was being discussed at the meeting it was stated that the name change was temporary and purely cosmetic. But for a few years it would be prudent to use the name Web3D. The pronunciation vermel is considered unappealing and furthermore an implied association with the illustrious and successful W3 consortium adds to the appearance of credibility and authority.

Someone from Sony stood up and explained that their company was keeping a close watch on VRML/Web3D due to interest in the expected digital merge between the net and television. And Karel Dudesek, director of the art exhibit, strutted in with an appeal to the general consortium affiliates to recognize the importance of developing significant content and not just focus on working out technical glitches.

My main impression of the organization of this Consortium is not that they are overly concerned with creativity, community and collaboration, despite an extravagant use of these terms. Rather it was that they are economically motivated industrialists who have learned to appeal to the lofty idealism of scientists, artists and the common man because it is useful to do so.

back In the Art exhibit

Back in the art exhibit Andy Best bought everyone drinks. I picked up one of his sample CD's it had snazzy packaging and a catchy title "Conversations with Angels". I did not have a chance to speak with Mr. Best who seemed like a decent sort of guy but I wasn't extremely impressed with what I saw of the actual project. Maybe I don't get it. (15)

Alex van Ballegooij made an interesting comment while viewing one of the art projects, "I could do that but it wouldn't look as good. I guess artists do know something about how to make things look good. Composition or something." Maybe I had found a non-artist quote after all.

Late in the evening Dudesek achieved a more jovial mood. Systems were functioning as well as they were going to function and he had accomplished imploring the technicians and software developers to recognize that making smoother, faster, more marketable user friendly authoring tools was not the main issue. The main issue is content. He is irritated that content is not getting the attention or support it deserves.

Dudesek also gave an intriguing account of an observation he'd made while watching American television that week. He described a dot.com add where the theme was that a particular internet service would facilitate convenience, thus giving the people more free time for leisure activities. He stated, "Now American TV is using classic communist ideals in its advertisements." I repeated his statement back to him to be sure I heard it correctly. "Yes," and he explained that, "Personal freedom and liberty are classic communist ideals."

Pandilovski added a comment that the Internet was never about democracy, and that believing that the Internet is about democracy is just a delusion of those, "silicon valley hippies."

I am concluding my account of the event with this conversation partly because it was the final conversation. But it also exemplified how complex even simple language is. Both Dudesek and Pandilovski are intelligent and well meaning people concerned with substantial relevant issues regarding art, culture, the Internet and VR. But, what is a "silicon valley hippie?" And, "Personal freedom and liberty are classic communist ideals..." Interesting. Clearly it is impossible for communication to be simple even in an apparently simple form. We need to recognize the complexity and deal with it because

the human condition is not going to get any more simple in the next few years.

The VRML/Web3D Consortium operatives did not impress me so much, but some of the characters attending the event did. And when interesting people are interested in something it is bound to be an interesting subject that drew them together.

Virtual Environments and The Internet

The thrill people experience from games, passionate exploration by scientists and artists, and commercial motivation all indicate that virtual environments are not going to go away. And virtual environments are interesting because they are likely to affect structures of consciousness in an electronic culture, not simply because they are snazzy and the latest thing.

It seems that virtual reality has been a "revolution waiting to happen" for quite some time. But instead of having VR rooms replace our television sets we have television adds imitating the mundane graphics that have evolved on a primarily text based World Wide Web with its limited graphic possibilities. TV adds are showing slick imitations of a clumsy medium. Very odd. (16) But this reminds us that we don't always know how parts of the puzzle will come together. People want faster processing, bigger bandwidth and navigable illusionistic space. So, despite the current limitations of access, speed and functionality, despite the silly graphics, glitches and crashes, the craving for online virtual environments is being fed and it is likely to grow.

What we crave is not always nourishing and we don't always know what we are eating. If we did, no one would ever get food poisoning. So, it is worthwhile to speculate about potential accidents or at least unexpected formations that could evolve. Paul Virilio, known as a French theorist of technology, seems to be virtually standing on a soap box imploring the populace to beware. Amidst his drama and creative logic significant warnings are expressed. Virilio raises important questions about components of an information era. Comrades beware!
Speed.
Sacrifice.
Accidents.
Immersion.
Dis-information.
Space/Time Continuum.

It is as valid to continually question as it is to recognize the value of any given system. Basically the psycho/bio/mental influence of our technological exploration needs attention as well as the eco/socio/political issues.

Since it is reasonable to consider that the game zone will expand to include all aspects of communication, commerce, education and so on - how does a game format affect information. The divisions between news, advertising and entertainment are already becoming increasingly more blurry. As the Internet merges more seamlessly with other forms of media the fact/fiction blend is amplified. All of this may perpetuate a public awareness of the need to develop new skills of understanding. But it might not.

How does the immersion and activity of the virtual reality game reform physical structure of the human psyche, body and culture?

An example is the hoopla over subliminal advertising. It is valid hoopla. Image and sound effects can lull or shock us as well as leave an unexpected, uninvited imprint. Flashing images or text, barley perceptible moments of television and film have been recognized as extremely effective. Even flat printed media use subliminal composition and symbols in advertisements and documentation. If we amplify the quality and quantity of psychological immersion in a medium we have a stronger tool to impose subliminal imprinting.

Physically it isn't just a matter of eye strain and sore wrists. We may be rearranging our neurological and chemical structure. If not so much at the moment, almost certainly in the near future. The psychological influences are more obvious of course, but do we really absorb the significance of a psycho-biological connection. For example if our hormones affect our mood (and therefore our behavior) in a physical way there must be a process that travels the other direction. So media influence obviously playing an audience in psychological terms is also likely to be affecting the physiology of the audience.

what Is metaphor

Ray Bradbury wrote a story about a Virtual Reality Room where the children who go on a virtual safari get eaten by lions, or was it their parents who were eaten? In any case, Bradbury's story was believable as far as the audio visual safari simulation in a room. For example, years ago Pacific Bell had a film-in-the-round exhibit at Disneyland that gave the visual illusion of traveling through space. The leap of suspending disbelief in Bradbury's story was tagged on at the end. How do projected lions eat real people?

Metaphorically of course they can. But what about a meta-metaphoric interpretation?

It is no longer science fiction to imagine virtual rooms that are not merely devised of illusionistic projections. Our virtual rooms will not be projected or broadcast. They will be interfaces to digital systems connected in a global network that mingles all functioning machinery and information data. Theories of self-organizing emergent systems indicate unpredictable evolutionary possibilities even if we remain pragmatically grounded in a massive network of digital information. But can a fictitious virtual environment be developed in a way that would make being eaten by lions a comfortably believable idea? Maybe. There is no reason why electronic information technology will remain aloof from neurological, chemical and biological technologies as well as molecular and atomic elements. Currently our virtual environments are tied to hardware and digital code structures. But one or both of these elements could be, are likely to be, superseded by more advanced methods.

Another angle might be to consider the reasonable proposition that consciousness is a physical structure. We have seen that energy and matter have a certain relationship that is significantly powerful in real life material terms. It is fairly easy to imagine that consciousness is related to energy. What if consciousness is related to matter in a way that energy is related to matter? We have examples of what happens when we split an atom. What would happen if we split a basic unit of consciousness. Although we probably are not talking about basic units anymore. But does splitting an increment of consciousness cause a rearrangement of matter and/or energy? It is something to think about.

Virtual reality and network environments are not the end of the story.

And creative or artful contemplation of the nature of reality is not new--

am I myself dreaming I am a butterfly or am I a butterfly dreaming I am myself?

life is but a stage where we actors strut and fret for an hour.

and so on.

But the world as we know it is certainly in transition.

...

Footnotes

(1) The second issue of switch was devoted to the subject of Virtual Reality
URL: http://switch.sjsu.edu/switch/SwitchV1N2/tocV1N2.html

The Art and Games issue of Switch for a "variety of perspectives on issues pertaining to computer games and art, gender, game hacking, game interfacehistory, networked game play and opportunities for new modes of game interaction, navigation and narrative."
URL: http://switch.sjsu.edu/web/v5n2/ednotes.html;
http://switch.sjsu.edu/web/v5n2/index.html

(2) Web 3D / VRML Consortium: URL: http://www.web3d.org

(3) VRML-ART, URL:vrml-art.org. VRML-ART will have a gallery in the SIGGRAPH ART SHOW in New Orleans, July 23 - 29, 2000. And at the 6th Annual computer Arts Festival, Maribor, Slovenia. May 23 - 27, 2000. A panel discussion between artists,

programmers, and users will take place on Friday, May 27, before a large VRML-ART party at the student center in Maribor. Also VRML-ARTwill be at the Pro@Contra conference in Moscow, May 13, 2000.

(4) Kathy Rae Huffman, E-mail:huffman@rpi.edu, URL: vrml-art.org, URL: http://www.rpi.edu/~huffman/faces.html

(5) Karel Dudesek, E-mail:Dudesek@vis-med.ac, URL: http://vis-med.ac

(6) Melentie Pandilovski, E-mail: Mpandil@soros.org.mk, URL: http://www.scca.org.mk

(7) Steve Guynup, E-malil: Guynup@mindspring.com, URL: http://www.pd.org/~thatguy/lepervr.htm

(8) Nichole Stenger, URL: http://nicole.netgate.net. Ed Emshwiller was a pioneer of VR art and founder of the CalArts Computer Animation Lab and Dean of the School of Film/Video from 1979 to 1990. Information about Ed Emshwiller and his work may be found at the CalArts site http://emsh.calarts.edu/emshwiller.html

(9) Lattice URL: http://www.lattice.co.jp

(10) Nicholas F. Polys, E-mail:npolys@virtuworlds.com, URL: http://virtuworlds.com/

(11) Alex van Ballegooij, E-mail: Alex.van.Ballegooij@cwi.nl, URL: http://www.cwi.nl/~alexb

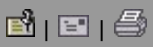
(12) Roland Smeenk, r.j.m.smeenk@fel.ton.nl, URL: http://www.tno.nl

(13) Anton Eliëns, E-mail:eliens@cs.vu.nl, URL: http://www.cs.vu.nl/~eliens/

(14) Chris Byrne, E-mail: Chris@BookAlive.com

(15) Andy Best, URL: http://meetfactory.com/angels

(16) And yet, comments Jason Challas, "I would expect no less from pop culture advertisers who will attempt to capitalize on any trend." He also believes that VR being slow to come of age "is a good thing --as it has allowed us much time to consider the implications..." Jason Challas, Interviewed Brenda Laurel, in the Virtual Reality Issue of SWITCH, 1995 http://switch.sjsu.edu/switch/SwitchV1N2/Laurel_interv/Laurel_intro.html



::CrossReference

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