

THE SECOND INTERNATIONAL CONFERENCE ON CYBERSPACE

William Bricken, Randy Farmer, and the conference committee

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The First International Conference on Cyberspace differentiated itself by focusing on theory. It was organized by Michael Benedikt, an architect. During the conference, some friction arose between the technical folks and the social theorists. At the time, I felt strongly that a person must have at least experienced immersive VR prior to analyzing it. [I currently (circa 2005) believe that without a strongly technical component, cyberspace as a concept is vacuous, since it would address all human cultural experience.]

The Second International Conference on Cyberspace took up the gauntlet of defining just what "cyberspace" was.

CONFERENCE ANNOUNCEMENT

As with the First Conference at Austin in 1990, the Second International Conference on Cyberspace is not primarily about the enabling technology of VR, 3-D interfaces or high speed computer graphics. Its focus is on the nature of cyberspace conceived of as an independent realm, a shared virtual environment whose inhabitants, objects and spaces are data, but data which is visualized, heard and (perhaps) touched. Effective technical means of access to, and navigation in, cyberspace is assumed.

The focus of the Conference is theoretical and conceptual. The Second Conference will continue the project, begun at the First Conference in Austin, of attempting to arrive at the outlines of a consensus and vision of cyberspace as a workable system. We also seek to reach an understanding of how the components of cyberspace already "under construction" in the development and design of graphic user interfaces, scientific visualization techniques, video games, CAD, abstract architecture and architectural design theory, knowledge navigation, "cyberpunk" discourse, cultural studies, film and narrative theory, virtual and artificial reality systems, ISDN and other networks, groupware, and hypermedia might someday function together to create a true, public cyberspace, as well as private, special-purpose cyberspaces: viable, 3-dimensional, alternate realities providing the maximum number of individuals with the means of communication, creativity, productivity, mobility, and control over the shapes of their lives within the new information and media environment.

Session I: WHY CYBERSPACE?

Representative subtopics: the nature/validity/lessons of William Gibson's vision; cyberspace and mythology; the nature of work and power in an "informed" society; cyberspace as the site of multinational/multilocal business; the role of cyberspace in corporate life and the

corporation in cyberspace; implosion and media; global vs. local vs. private systems; costs and benefits of reifying information; directions and futures of computing; is cyberspace entertainment or work, addiction or production; McLuhan revisited: global village or global dream?...

Session II: LOGICAL AND ONTOLOGICAL PROBLEMS.

Representative subtopics: space-time axiomatics; magic vs. logic; the presence of self and others; the meaning of travel and action; what does nature mean in a technological environment; the framing of cyberspace; strategies of search and navigation; requisite levels of structure and consensus; dealing with subjectivity in virtual space; body as metaphor of coding; rethinking clothing, body surface, prosthesis; what to do when your best friend is a construct...

Session III: CYBERSPACE, POWER, AND CULTURE: ROUNDTABLE DISCUSSION.

Politics of representation in cyberspace; implications for minority discourse; implications of teleagency; what counts as style, and why; interactive virtual theater; discussion of legal, economic, and technological factors in the institution of cyberspace(s); the meaning of surveillance, security, privacy, and control in cyberspace; the disabled/ differently abled in cyberspace; governments, institutions, corporations, individuals: who owns/ creates/manages cyberspace(s); who is excluded and who is likely to exclude themselves from cyberspace; who becomes invisible because of cyberspace; whither responsibility?; cops and robbers: or, what is crime in a virtual world?; who pays, who profits?; whose vision is cyberspace anyway...

Session IV: REPRESENTING AND MANIPULATING DATA IN SPACE.

Natural vs. artificial coordinate systems; the form and meaning of data objects; state, phase, and abstract spaces of scientific visualization; 3-dimensional user interface design; ambiguity, complexity and learning; visual languages; art and science together at last?; real world control and feedback; human performance with abstract stimuli...

Session IV: VISUALIZATIONS OF THE SYSTEM.

Literary, graphic, or computer examples of, attempts at, and designs for cyberspace, at the public or private scale; architecture in, and the architecture of, cyberspace; alternative spatiotemporal metaphors from "physical reality"; computational models for large communication and data networks...

COMMENTARY BY RANDALL FARMER

[Randy Farmer pioneered multi-participant virtual environments.]

The Second International Conference on Cyberspace: Literary Criticism Collides With Software Engineering by F. Randall Farmer

This April saw the Second International Conference on Cyberspace; it was even more colorful and controversial than its predecessor. The collected abstracts listed 98 papers, covering a wide range of topics such as implementation, representation, 'wiring up', AI, hermeneutics, artistry, religion, sex, fractals, cinema, anthropology, psychology (sic), ghosts, mummies, architecture, post-modernism, jazz, supercomputing, photorealism, dimensionality, space and time. Only 15 papers were actually presented. And, as you might expect, the content, style and state of preparation of the papers varied widely.

Over half the presentations were given by Software Engineers (hereafter referred to as SEs) and were about the cyberspaces they were building and what they learned from them. These talks were relatively clear, even if sometimes a little disorganized. Some of them contained technical material, often prefaced with a disclaimer "I'm sorry, but I'm going to get technical for a few minutes". I saw some eyes glaze over in the audience until the jargon was over.

The remainder of the papers were presented by academics, in the traditional language of the Literary Critic (LC), examining everything from cyberspace as master narrative to a character by character analysis of Gibson's Neuromancer trilogy. I'm certain these presentations were professional enough, and I truly believe that there were some points they were trying to get across, but, frankly, I couldn't figure out what they were. After talking with other SEs, I discovered that I was not alone. The title of one of the papers helps to illustrate my confusion: "Cyberspace and the Proprioceptive Coherence: A Proposal." This sent me scrambling for my dictionary as soon as I got home. The language of the LCs left me playing catch-up with the presenter, and falling three words further behind every paragraph. One programmer quipped that to his untrained ear these presentations sounded like "polysyllabic word salad."

So, a collision of these two worlds occurred due to confusions in purpose, language, and even in the definition of cyberspace. The SEs were looking for information about where to go, and what to do next. I presume (and hope) that the LCs were trying to bring artistic, literary, social, and humanistic concerns to cyberspace. It is clear that both groups will benefit from understanding each other's purpose. But an understanding of the purpose is

useless if the message is not understood by the audience.

I am one of the many SEs in the audience who was bewildered by the language of the LCs at this conference. Perhaps an explanation of how SEs think might shed some light on why. I'll use myself as an example.

I am one of those lucky few who have actually implemented a cyberspace system and survived to tell the tale. Like many SEs, I have a few years of college, and lots of hands-on experience. Like many SEs, I don't spend much time studying the humanities or arts or reading the great French philosophers. My thought processes are instead dedicated to debugging. Debugging is usually defined as finding the failure points in a computer program, but SEs also debug concepts and their implementations. Our emphasis is on finding an adequate initial design, and modifying it based on feedback until we get one that works, not a something perfect, just one that is functional. The advantage to this approach is that we can start working right away, and therefore have a working prototype done more quickly. Of course this also means that we are prone to make mistakes early on, and unlikely to get a solution that is optimal or even correct. In complicated systems, it is a fundamental reality that perfect solutions are a practical impossibility anyway. So like the scientist, we need gobs and gobs of input early on, to shape our systems.

SEs want input! This is very important to us because we are building cyberspace now. We want insights from people who are non-engineers: artists, psychologists, sociologists, economists, archaeologists, historians, and philosophers. This kind of communication is essential if cyberspace is to be something other than just another rich boy's toy, sold to the wealthy consumer only through places like "The Sharper Image Catalog." But this is a likely outcome, because cyberspace systems are consumer products: they want to be built, packaged, and shipped. Therefore, to a cyberspace developer, time is a most precious commodity. Time is so valuable to them that several well known cyberspace implementers have stopped attending conferences -except when they can be used as advertising vehicles- in favor of getting their systems built. This trend is likely to continue if the conferences don't offer something tangible. Presentations in the style of the LC aren't very 'tangible' to the SE because the language used is not concrete enough for swift or accurate comprehension, extension or refutation. In short, SEs can't debug LC, so we don't get it. We can't even tell if there is any 'it' to get!

Conferences are for sharing information and insights. They should be very important to the cyberspace researcher. It is this assertion that led me to write this article. But at this years conference we didn't share very well. We collided with each other, confused in purpose and in language.

So, given that SEs debug systems, are busy building cyberspace now, are still making efforts to hear others' concerns, and that LCs are ready to offer

their insights on how worlds work, how can we bridge this communications gap? Perhaps we could try using one or more of the tools that other conferences have found effective for dealing with these problems:

The community could create 'Conference Submissions Guidelines' requiring clear statements of both the paper's purpose and applicability to current or future cyberspace systems. The guidelines committee should encourage diversity: the request for clarity is intended to make papers understandable across disciplines, not to restrict the participants to a single style or approach. The chief drawback of this proposal is that it introduces the problems of a review process.

Alternatively, the conference could split into a number of tracks. This would allow more papers to be presented, published, and not require any standards of language. This would not increase inter-disciplinary communications, but would allow attendees to customize use of their time. It could also reduce the intimacy that the conference has enjoyed thus far.

These measures are a matter for the cyberspace community to discuss and decide upon. To that end, I propose a multi-disciplinary panel for discussion of these and other suggestions the community may have. The Usenet newsgroup sci.virtual-worlds might well serve the purpose, considering both the origins of this conference and the wide dispersion of the participants.

Last year, I was able to take at least some germ of an idea away from each and every presentation. Sadly, that was not the case this year. If this article touches the community in the way it was intended -to encourage open and plain communications- I eagerly look forward to next year's conference in Montreal.

COMMENTARY BY WILLIAM BRICKEN

Here are some comments to amplify Randy Farmer's very diplomatic posting on 2ndCyberSpace:

Damn it, Cyberspace *is* a technical subject. No one should have to apologize for sharing the technical details, that is what conferences are all about. And good cross-disciplinary papers at Cyberspace conferences will enhance our knowledge both of our central interest in the virtual and of a specialty domain which intersects with the virtual.

My puzzlement at 2ndCyberspace was "How come no one is talking about the same thing?" Why was *the virtual* so different across disciplines?

Is cyberspace really so amorphous that it readily incorporates models of society as mummies? So ill-conceived that it is defined by some minor

characters in a small work of science fiction? So ambiguous that photos of the Iraq war combine with clips from a Walt Disney movie to anchor its essence?

This is what I tell my Virtual World Development class: If you are not an implementer, you must express your worlds formally in order to be understood.

Try this example: Imagine a virtual cube in space. Grab a pair of diagonal vertices with each virtual hand and pull. What happens?

The point is that the answer is not consensual. Strongly held intuitions vary across people. What happens is task dependent. What happens is idiosyncratic. What happens is computational.

A common ground for what happens can be negotiated across participants. Negotiation requires a common language, but the *computational process* implementing cyberspace constrains the choice of languages.

Which is to say: If you want to talk about cyberspace, and hope to make sense, then you must be prepared to talk mathematically. (Yes, I believe programming is specified by mathematics, in its broadest and most intimately imperfect sense.)

The painted-into-a-corner test: Can a literary or social critic say anything about cyberspace?

- 1) An existing cyberspace could be evaluated as a literary experience. It would have been great to see Virtual Seattle analyzed for dramatic tension.
- 2) Responses to cyberspace experiences could be described sociologically. It would have been great to see the 200+ VR articles analyzed for ethnic biases.
- 3) Cocktail party stories about cyberspace could be criticized literarily. It would have been great to know just how much misinformation is embodied in the urban folklore of cyberspace.

If "cyberspace" is defined as all media and all literature and all imagination and all sorts of things, then let's meet after the circus to talk about the work. If it is not all things to all people, then let's define taxonomies, let's focus on communal definition of what it is that we are spending our lives building.

What we heard a lot of at 2ndCyberspace was contemporary criticism of <fill-in-the-blank>, and that fill-in-the-blank happened to be "cyberspace". The philosophical position was more important than the content, so it really didn't matter if we didn't develop a group understanding of cyberspace, so long as our politics matched.

Now, I believe that cyberspace is something to be explored and experienced. Something that will require conceptual pioneering, to dwell, to learn, to report. I believe that the cyberspace is more important than current theories of criticism, that it will redefine criticism as we explore it. We really need information, not analysis.

I'd suggest focusing the content of the next conference on the definition and mutual understanding of the subject matter. The central idea is a convergence of vocabulary; the important point is that presented papers should help the convergence by paying particular attention to the *intersection* of fields.

Here is one possibility:

DEFINITIONS

Cyberspace:

electronically mediated experience.

Virtual Reality:

broad bandwidth first-person participation in cyberspace.

Artificial Reality:

third-person virtual reality.

Virtual Worlds:

virtual reality configured and presented for natural perception.

Virtual Body/Virtual Environment:

the coupled subjective/objective components of virtual worlds.

Presence:

the goodness measure of experience in cyberspace

FUNDAMENTAL CONCEPTS

Participant:

environmentally interactive sentience.

Inclusion:

subjective experience of environmental closure.

Information:

comprehensible symbolic structure.

Using this vocabulary, cyberspace is electronic information which mediates by inclusion the experience of participants; it is being inside symbolic structure.