Transcript of lecture by C5

Switch Staffs

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C5 Panel, San Jose State University, April 20, 1999

Topic: Art and Networks The Art department at San Jose State University's Tuesday night lecture series, presents C5 - the corporation of acculturation. Topic: art and networks. C5 will present and discuss *16 Sessions*, a recent net.art project featured in the *Shock of the View* at the Walker Art Center in Minneapolis, Minnesota. Members of C5 will participate in a panel discussion on the topic of net.art with tangential discourse into issues involving data mining, autopoiesis, data permissions, information mapping, complexity, and self-organizing systems.

This presentation replaces a lecture by Manuel De Landa who was unable to be present.

C5 panelists:

Brett Stalbaum - The emerging histories of net.art: design, anti-design, narrative, political, infomatics**Jan Ekenberg** - Articulated exchange, and other characteristics of net.art**Lisa Jevbratt** - Data permissions**Joel Slayton** - The interiority and exteriority of datum, entailment mesh and human machine interaction models**Geri Wittig** - The potentiality of autopoietic data systems organization in the 16 Sessions project

Joel Slayton: I'm the director of the CADRE Institute here at San Jose State, which is the media technology academic and research program located in the school of Art and Design. I'm also involved with the organization C5, which we're going to be talking about this evening. So I want to thank you for coming. Some of you may be here to see Manuel De Landa and I'm not Manuel De Landa. He was unable to make it this evening due to a conflict in his schedule. We hope to be able to bring him back in the fall or perhaps the spring of next year. It's unfortunate because he would ve been able to talk to some of the issues we will be speaking about tonight. So instead, we'd like to continue a conversation that was started a few weeks ago by David Ross, the director of the San Francisco Museum of Modern Art, who was invited here a little over a month ago to begin to talk about some of the issues he perceived in terms of net.art, both from a theoretical perspective as well as an analytical and interpretive one in terms of the museum's role in dealing with network art. Tonight we've got members from the C5 organization, who will be speaking about some perceptions regarding net.art. The C5 representatives who will be presenting tonight are Jan Ekenberg, Geri Wittig, Brett Stalbaum, Lisa Jevbratt, and myself. So I'm going to ask that you hold any questions you might have until the end, because then we can try to address those as a group. And I think once each of us has had our chance to present, collectively it will represent a set of ideas we can have a discourse about. So let me jump right in and talk a little bit about C5, before I introduce Jan who is going to describe a project that we've been working on. Last year I formed a start-up research company called C5. Like many Silicon Valley start-ups, C5 has its origin in the university, specifically this university and specifically the CADRE Institute program that I've been involved with for the past fifteen years. CADRE has this very long and substantial history, involved with art and technology enterprise that began in 1984. We're very fortunate to have had a lot of

graduates who've come from that program, but we've also been fortunate to be able to address a range of interesting issues and ideas about technology. So C5, in a way, makes logical sense as an extension of that enterprise into the private sector. The objective of C5 is to devise theoretical models, analysis, and tactical implementations of information technology in the form of theory as a product. Experiments, analysis models, prototypes, simulations define what we would consider to be C5 theory as an information commodity. We hope to see things like patents, copyrights, licensing, and so forth fall out of those theoretical products. There are two motivations for the venture - of getting C5 started. The first was to enable a for-profit company specializing in theory and the second was to develop a corporation as an artwork. With that said I want to play a short video tape that describes a little bit about the C5 enterprise.

(Video) Jack Toolin, C5 evangelist and producer: Prospectus: C5 is the corporation of acculturation. C5's experimentation, prototypes, and simulations are used to create new domains of hybridized applications of information technology. Not just another Silicon Valley think tank, C5 is an ensemble of artists and academics personified in a corporate identity-body enabling valued signification of experimental endeavors. C5 solutions are informed by collaborative expertise involving implementations of artificial intelligence, bio-infomatics, liquid computing, emergent behavioral systems, virtuality, organizational systems analysis, military studies, and art. Research activities are ones that self-organize across C5's subsidiaries referred to as cells. Each cell is a semi-autonomous agency within the corporation with responsibility for defining objectives and modes of interaction with other C5 cells. The corporation as a social organization provides a structured environment for intensely immersed endeavors to occur across expertise. At C5 the future of identity is tactical - theory is product.

Joel Slayton: For the members of C5 there is no philosophical conflict in the relationship of art as theory or research as art or art as business. In the late summer of 1998, C5 presented its business initiative at the international SIGGRAPH conference in Orlando, Florida. SIGGRAPH is one of the mega conferences internationally that deals with computer graphics and interactive technologies, both in an academic context as well as a very large trade show that deals with the latest innovations in technologies. Within the context of SIGGRAPH, C5 promoted a business plan and conducted a week long exercise and demonstration of surveillance tactical strategies that utilized custom designed remote surveillance radio controlled probes, which we refer to as RCSPs. C5 didn't go there to promote a specific technology, but rather to illustrate a set of theoretical ideas that had to do with a potential technology. One that involved autonomous data gathering systems and the data mining strategies that would be associated with engineering knowledge from the complexity of the data that was generated by those systems. Following on the heels of C5's premiere at SIGGRAPH, we were invited to participate in the gala opening of San Jose's Technology Museum of Innovation and as you'll see in just a moment, we received a commission from the Walker Art Center to participate in an online exhibition of artworks called *Shock of the View*. More recently C5 participated in a documentary produced by Sputnik, a New York based journalistic production video company that features leading-edge artists, scientists, engineers, thinkers, that are influencing the cultural frontier. Sputnik's client base are Fortune-500 companies. C5 has also appeared in *Wired*, the *San Jose Mercury News'* business section, and will be soon featured in *ArtByte*. Members of C5 are currently developing projects involving net.art and performance for New Langton Arts up in San Francisco, and are exploring projects with The Getty and with Ars Electronica in Linz, Austria. I might add, that we are seriously looking at enabling the marketing of these radio controlled surveillance probe systems as a toy and are also promoting an object oriented programming language based in something we call Mingling Theory^{TM} which I think will be talked a bit about by some of the other speakers tonight. So with that said just as some background information on what C5 is, I'd like to introduce Jan Ekenberg , who is going to give you a walk through of the Walker Art Center project - *16 Sessions*.

Jan Ekenberg: I'm going to talk about the *16 Sessions* project that we did for the Walker Art Center. Joel had shown his *Not to See a Thing* piece in the *Alternating Currents* exhibition at the San Jose Museum of Art. One aspect of that piece, was a plexiglass cube that the audience could lift up and move around. The audience did that every day for a year and a computer collected that data, which ended up being three gigabytes of numerical data, which is a lot of data.

Then last fall, C5 was commissioned by the Walker Art Center in Minneapolis, because they knew that C5 was interested in data mining and related issues, so they wanted C5 to do an art project with the data that was collected from the *Not to See a Thing* piece. So we were commissioned to do a web art project to be featured in their web exhibition *Shock of the View*.

We started studying the data that was gathered from *Not to See a Thing*, these absolutely fascinating whirls of lines, divided into "sessions", one session per day. At this point in time, we had been thinking a lot about network topographies, basically how to think about networks - without falling into the idea of Cartesian spatial analogies and trying to think about other ways of thinking about network topographies. We were also thinking about something we call Mingling Theory^{TM}. With that as conceptual backdrop, and the notion that: it takes data, to make data, the project evolved.

First we noticed these very interesting reoccurring relationships and symmetries in the data and we developed a model for describing these identities that we called agencies. We identified four agencies: blossom, fold, loner and spread.

I'm going to go the first page of the site now. We were curatorially placed in a category that the Walker refers to as hybrid. The idea was that our piece would have two parts to it: one would be Joel's *Not to See a Thing* and the other, *16 Sessions*. We called it *16 Sessions* because we chose 16 of the sessions and looked at those specifically. We cleaned them up and used those 16 sessions out of the hundreds of sessions collected. We identified 4 agencies, which you can think about as categories, in the data. Along with these 4 agencies, we also identified what we call attributes, which are language-like descriptions. On the second page of the project, are displayed the 16 sessions. There are four within the four different agencies and they each have attributes connected to them. At this point, the viewer can choose a session to look at, so I'll choose one. Then you get an animated version in a pop-up window. There is also a description which accompanies each session. I can read the description from the session I've chosen. First of all it says 09/20/98, which is the date of that session and it's agency is a spread. Here's the description: "A highly complex session. A most dramatic interplay can be seen between two elements, which both connote "seeing". One "aperture" on the micro level, can be found in the data cluster, the other, is formed by the macro scaled arch." That is the type of language that was used for all the sessions. If you remember the Mingling Theory I just talked about, the hypothesis here is that these agencies and attributes can be found in any complex data samples. So the next step would be to use this data and let it mingle with the user's network identity, a representation of the user in the form of an IP address - IP identity, and also let this unity create a kind of trace in a web topography. To do that there were two thing that needed to happen. One was the creation of an algorithm that allowed the data to be mingled with the network identity and also the creation of some kind of web interface that this trace could be mapped onto. So besides working with all these other things, including the design, everything made by C5, the algorithm was developed and we will see that algorithm working in just a second. But we also created, what we call the C5 IP database. Its created by having software that goes out on the web, scans port 80 on web servers, and saves the positive results in a database. Right know we have 140 000 valid IP addresses collected.

At this point when the user has chosen a session to mingle with , you execute the algorithm in the upper right of the window, which opens a new window and the data of that session will mingle with the network identity. The session represented up in the left corner and the network identity represented down in the right corner. The software connects the session to the user and creates a path through the web. The session data acts upon the data from the user creating more data along with this path and now the user can go to this path. This path is made out of valid IP addresses on the web, so the user can go to any of those IP addresses and surf the web. What's interesting is when you surf the web from an interface like this, you don't get to search engines and you don't see all these advertisements. You see a totally different face of the web than you would if you go through portals or search engines. So you get to pages like this, pages with a lot of forbidden access, company pages that are used for internal use. Just totally different kinds of pages and sites than you'd normally experience when surfing the web in a normal manner. What's happening now, when users come to the site mingling their network identity with the data, more data is created. What were going to do with that data still remains to be seen.

Next, Brett will speak about net.art.

Brett Stalbaum: What I'm going to do is introduce some of the cultural background of network art and try to provide some ideas about where its been for the last three years and how its emerged and developed. Also spin off of some of David Ross's ideas that he had presented here.

There is something of a problem in discussing ne\twork art in a way that makes sense both within the communities of artists who have been working with network media, and within larger art communities and the public. The problem is, that to a high degree, net.art has developed its artworld character in a fairly isolated manner, in spite of its otherwise global network character. There are many reasons for this relative isolation from the artworld that extend beyond the newness of networks as something for artists to work with. Among these we could discuss things such as socio-economic barriers, general resistance within some parts of the artworld to technology in general, that the arts press has paid little attention to or grossly misunderstood emerging forms, or the fact that relatively few art academic institutions have technology art programs. But in my estimate, these problems are in decline, especially in terms of the artworld's interest and involvement.

But there are other interesting problems within the discourse and practice of net.art itself which tend to keep the barriers up. There has been a tendency of some net.art communities to play games of exclusion, to reject art institutions as a threat to the purity of network art, or to rather simplistically assume that working in new-media is by itself somehow an avant-garde, radical, or high-conceptual gesture within the arts. In other words, playing net.art inside of private clubhouses, the maintenance of modernist mythologies about the autonomy of the individual creative genius,

and using networks for art merely because doing so raises art-conceptual questions about the ontology of art, are all damaging to a broader appreciation and development of net.art. Not only has most of this kind of work been done in net.art form already, but the artworld has seen it time and again in other movements and other media.

In spite of these problems, there is a feeling shared by many that we are witnessing the early emergent stages of something very interesting, and that because it is so new there is a kind of natural confusion about what that thing is or how to describe it. A few weeks ago David Ross, the director of the SFMOMA and one of the early champions of net.art, spoke here at SJSU. He stated that "No curators, no critics really know where it is artists are taking us in this extraordinary moment." He further expressed a healthy suspicion about the dangers of trying to categorize it, saying that, "I have a problem with premature categorization because I don't think people position or propose their work within those kinds of frameworks." I agree with David on this point, but only so far as the question is construed in terms of how artists alone position their works. There are, in spite of all cautions, sorts of early histories of net.art that are emerging both from the practices and from the stories that are told about them by critics, the artists and the net.art public. One of the most interesting collections of these stories is the rhizome web site and email list. (**http://www.rhizome.org/**) So in deference to David Ross, I will not be discussing categories of net.art as such, but do want to call attention to these heavily interrelated yet somewhat discernible perspectives that seem to be guiding the stories of net.art at this time.

The first of these, which may not actually be a fine art perspective, but which has been influential on net.art practice, is the story of commercial web design. This is the history of the internet considered in terms of industrial and graphic design. As David Ross mentioned in his lecture, the SFMOMA has a developed a large archive of commercial web sites in an attempt to preserve this history of design. But interface and aesthetic design have some fine art modes too, a great example of which Auriea Harvey's website called *entropy8*. (**http://www.entropy8.com/**)

In contrary fashion, the second history of net.art can be identified as anti-design, or at least the opposition of the kind of user interface aesthetics that have emerged as web standards. Sometimes called formalism because of its abstract tendencies, this is one of two histories of net.art that has to date received by far the most attention critically and otherwise. An example of work in this mode is Matt Hoessli's *o0o0o0o0o0o0o0o0o* site. (**http://www.o0o0o0o0o0o0o0o0o.org/**)

The following history has at least two distinct threads. This is the history of the network as interactive story telling device or poetry delivery system. The younger of these histories is closely related to anti-design, and is perhaps best represented by the work of Russian net.artist Olia Lialina, (**http://www.teleportacia.org/war/**), but also in projects like Mouchette. (**http://www.xs4all.nl/~mouche/**) The second thread of this history has it's foundations in the pre-web computer art world, in interactive narrative work by artists such as Lynn Hershman, Abbe Don, Judy Malloy, and Mark America. This narrative approach to net.art has played a significant role in spawning critical attention, just as the anti-design story has.

The next two stories of net.art are intimately related yet simultaneously a little intolerant of one another. The older is of the hacker/social engineering perspective, and the younger is that of activist net.art. These stories share a lot of common space, and often compete over the same histories, yet tend to have some wide philosophical differences along the way. Attempts to tease them apart have yielded heated polemical confrontation at times, but rather than give any examples I can simply refer you all to the nettime mailing list archives (**http://www.Desk.nl/~nettime/**), which is the repository for most of the art, politics, and hacking debate. I should also add that Geri Wittig and I, outside of our C5 endeavors, have been involved in the production of a book by the Electronic Disturbance Theater (http://www.thing.net/~rdom/ecd/ecd.html) to be titled "Hacktivsm", which will be available from autonomedia press this fall.

The last of these early histories of net.art is perhaps still the most submerged, at least in terms of critical perception, but in which C5 and many others have been involved in. This alternative history of net.art is driven by information theory. This kind of work looks at the behaviour and ontology of information, and often participates in data transposition in order to deal with issues of information identity and behavior. Examples within this practice include net.art such as our own *16 sessions* project (**http://c5.sjsu.edu/walker/gateway.html**), Lisa Jevbratt's *Stillman Projects* (most recently for the Walker Art Center, **http://www.walkerart.org/**), the*Natural Selection* search engine (**http://www.mongrel.org.uk/**, (which I should add is a simultaneously activist work), and the *Netsound* project at Tokyo Institute of Technology Ohno Laboratory (**http://netsound.is.titech.ac.jp/netsound/english/index.html**).

Far from being exclusive histories, and certainly in no way complete, these are the loose frameworks that seem to be at play in the net.art world at this time, around which we should expect further developments to occur. They fall far short of being critical categories or criteria, but do seem to provide the very general kinds of distinctions that help pry open the doors to the net.art world for people who are now on the outside looking in. In conclusion, I think that if viewed cautiously, the

emergence of these histories should help us look at the net.art world in a more interesting way.

I'd like to turn it back over to Jan.

Jan Ekenberg: So I'm not going to talk every other time. To follow up on this branching, traced, look at net.art I'm going to take a step back and look at net art from a broader perspective.

Right now, what has been referred to as the first internet war is roaming in the Balkans and internet stocks are moving in a downward direction - I don't know if they've bounced back today, but yesterday it looked pretty bad. In this context net.art might seem like a petty thing to talk about, but my idea here is to think about net.art in a way that it might inform, both other areas of art, but also other ideas about networks and new technology. Again a kind of dual approach that's typical for C5.

If you're trying to analyze or understand net.art from a perspective of institutionalized museum art or gallery art, I think you re going to have some problems getting to what I think is interesting with net.art. I think this is one reason net.art seems to be a fringe phenomenon, or something too narrow to a lot of people who are normally interested in art.

David Ross, who was here a month ago, is looking closely at what this whole thing is about, and he is a great supporter of net.art, if you couldn't take part in that, his talk is on the *Switch* site at switch.sjsu.edu He is very thorough and knowledgeable on the issue. I'm not going to go too much into what he said, some of my statements here today could be seen in polemics , or as part of an ongoing discussion, with some of his main points.

First net.art did not grow out of video art and I don't think it has a shared history with video art. You can of course always do the "connect the dots" game, but clearly American video art came out of the sixties' and seventies' generous cultural politics, and net.art has its roots in the deficit spending of the Reagan-Bush era. It's also interesting to note that plenty, if not a majority of net.art from Europe, which is where a lot net.art comes from comes from places with very serious conditions and little, or virtually no governmental support, such as Russia and the Balkans. My point is that the political climate in which a lot of these artist have their schooling is very different from the climate where the video artists had theirs. This cultural context, which is more cynical, hyper logical, dystopian and even elitist in nature, (and I don't think that's necessarily always a bad thing) this needs to be considered to understand the framework of net.art.

I got an email the other day from the Cyberart99 symposium that's going to happen in May in NYC. They're going to discuss a support system for web-based art. That should probably be though t of as a support system for the institutions wanting to have something to do with net.art. One of the things to be discussed is a "pay per view" system using some kind of micro payments to view net,art. That's not going to happen - trust me. To think that net.art would let itself get organized and institutionalized that easily I think is naive - you're applying the wrong model. The model of a museum. And why can't you apply the model of a museum to the web, or the net, because it's a public space, it's a public domain, it's a shared space, and museums and galleries are not. That's just a fact, no matter how hard some people try to make it that, it isn't.

One thing that David Ross said, which was really important, was that when we think about these kinds of changes we have to ask appropriately large questions with correspondingly large consequences. I think this is really to the point. This brings me to his talk. Some things I disagree with him on. In his 21 distinct qualities of net.art, in his fifth point, David Ross states, I'm quoting here - "Net art is purely ephemeral. The opposite of the epic quality of net.art. There's no trace." Here he's wrong. the net and net.art are all about traces. You can't go anywhere on the web without leaving a trace, (at least a potential one). It's a public space and just like in our ordinary public spaces, we are more and more likely to leave traces. Paying with a card, passing a camera, losing a hair. This is already a fact on the web. Your network identity is a fact.. Just like you're a fact walking the streets. This might sound scary if one thinks about the issue of control, but it's not the big brother model that works on the web - somebody is watching you. And it's not Bentham's panopticon or Foucault's ideas about internalized surveillance. It's something else, a different flow of control, one of oscillating roles, having to do with authority and permissions something that Lisa will talk about in a second.

The notion that the net is a public space, and I don't mean that as a metaphor, is a powerful notion. Maybe then net.art has more to do ontologically with public art than it has to do with art located explicitly inside the exhibition room. I find it interesting that some web art projects quite outspokenly, and successfully, have subverted this open access notion. If you think about it this way, what they're doing is just the institutionalized art model as usual. Not surprisingly, the art institutions seem especially fond of these project.

Now I'm going to talk about something related, a feature of the net, and thus, net.art that I call - articulated exchange. All art can of course be said to be interactive. There needs, of course, to be something delivered by an art piece and, some kind of interpretative work by a viewer, in other

words some kind of exchange between the work and the viewer.

When it comes to network art, which is explicitly interactive in nature, this exchange is highly standardized and highly articulated. On the web, information is always requested and delivered. Not that you always know or can see what you are getting. But no transfer of information happens any other way. What we have is an articulated exchange between the art and the viewer. This exchange has been a function of art before, but now, in this environment, it reaches another level. It's tempting to use the word gift here, for what the viewer is receiving. If we think about the received data as a symbolic gift, we can perhaps anchor these ideas in Baudrillard's notion of symbolic exchange and speculate about the power structures that this system produces. But this is something we need to look further into.

You can think about net.art, disregarding the network, disregarding the way information is treated and acted upon, disregarding the way data behaves and forms agencies, or you can try to think about it having these things in mind. Not trying to fall back into our established models of how art works. Again it's hard to overestimate the scope of these things. I don't think net.art (in whatever forms it will take) is going to end up where the Italian transavantgarde and Neo geo ended up.

With that I'll turn it over to Lisa Jevbratt.

Lisa Jevbratt: Post structuralist and hypertext theories provide a good starting point in forming a critique or understanding of interactive systems and network art, because they help us think about issues of authorship and how an artwork occurs when the focus is shifted from an author to the reader. But by adhering to a producer-consumer model, they fall short in describing the real complexities of network art.

The site I'm showing is not net.art, just a slide presentation to illustrate my points.

(fig1) Roland Barthes wrote in his text "Death of the Author" in 1968, about the blurring of the roles between the reader and the writer. In Barthe's model, an author produces a text which becomes a work through the reading or interpretation of the reader. A text's "unity" lies not in its origin, the author, but in its destination, the reader, who creates the work in the interpretation by tying together contexts and readings. The idea builds on an assumption that there is something fixed for the reader to interpret, i.e. it assumes an interpretative space.

(fig 2) Barthes' ideas have been developed in hypertext theory in the beginning of the '90's and I would say especially by George P Landau, in the discourse of the wreader - a term used to indicate the merging of the roles of the reader and the writer. Again there exists the role that exists between the reader and the writer or between the consumer and producer, and it indicates that the reader is not merely a consumer but part of what makes the text happen. I'm not sure that I really agree with this. I don't know if there's an interpretative space in the setup, but at some point there is this continuum between the writer and the reader defining the hypertext and the wreader is somewhere in the middle of that setup. The problem with these models is that the interpretive space, that at least in Barthes' model is necessary for the work to happen, doesn't exist in interactive systems. Because the reader/user is an integral part of the work, participating in the shaping of it, in a complex chain of exchange and interaction; not a separate agent bringing context or readings to "finish off" the work for him or herself. Any critique of the work becomes a part of the work and the critical methods that we have now can't handle that kind of recursion. The critique that we're using to critique something becomes part of the work and thus we need another critique to critique it, because we get this endless recursion. It doesn't seem like the theories we have can handle this.

So I'm proposing a redefinition of the roles of the different agents acting within networks to be able to deal with network art. And these roles describe the agents in terms of their social interactions, and levels of access and accessibility, rather than in terms of productivity. Hopefully this redefinition opens up new ways of understanding how art occurs in network systems.

The idea is that each agent, and when I say agent it could be human, or it could be a computer system, sub-network, or even a datum within a network, can be described as a mingler. At any given point in time, the mingler exists on a continuum of three different categories.

(fig 3) The three categories in this invitational model are: the inviter, or the Host. A simple way we could say that is it could be a internet service provider, a specific computer, server software, a web site, a web designer, or even an HTML page that has been inviting something or someone to do something. Then the invitee , which could be called the guest, would be maybe an HTML page residing on a server, it could be a visitor to a web page, or it could be a piece of information in a specific HTML page, that is invited by the HTML page, or it could also be a datum. The non-invitee, which I call a parasite, because it's not invited. It's there for some other reason, which we might not know of. In that category I'm thinking about "soft bots" - software that goes out and does things in networks by themselves, viruses, errors, glitches, maybe even misspellings could be seen as non-invitees tin this system, or hackers maybe.

You see now it's not any longer a consumer-producer division here, they're all producing, they're all consuming, who knows, who cares. But what happens here is they mingle and they socialize with each other in some kind of continuos exchange. They have different assumptions in these minglings. The guests are expected and are given certain permissions in terms of access and interpretation. There is an agreement set up between the host and the guest, and there is an element of trust in the relationship. While the parasite is not explicitly considered by the host as a receiver for anything, nothing is really targeted towards the parasite. It's not an even relationship between these different roles.

The point with this model, which is different from the consumer-producer model, is that you have to be a part of the network or the system to start to form an understanding of it. You have to be a mingler to know what goes on at the party. You have to mingle to know what interactions took place. That's what's nice with this. With the other model you have to have this interpretive space, you have to stand outside to be able to form the art work. Here you have to be inside to be able to see the art work. Since network art does include you, whether you want it or not, this seems to be a more appropriate model, because it takes that into account.

Each mingler in this category has certain permissions, which are basically certain things they can or can't do, but also an ability to change those. I don't see permission categories as being parallel to mingler categories, but they're probably related in certain ways.

The mingler categories would be that a mingler can address other minglers, a mingler can be addressed by other minglers, and a mingler can act upon minglers. A mingler can hold any of these three abilities at any time and it can change these abilities depending on its current status as mingler and its current permissions setting. The mingler is not a static entity with a dynamic relationship to another mingler, but is in itself dynamic in its ability to address or be addressed. So the relationship between minglers is not a reflection on their ontology. It's not like they're producers or consumers. It's not like a mingler is reality or a simulation langue. A mingler is not sign or signifier. The relationship between minglers is a reflection on an agreement between the minglers. A mingler can choose to give access to one mingler, but not to another. One group of minglers can invite another group of minglers to cause action, while they themselves are invited to cause action in another set of minglers. The relationship between minglers are rarely symmetric and mostly multi-directional. That's why it is interesting to consider concepts such as trust, secrecy, and initiation in the examination of behavior and roles of the agents in networks and systems, and in the critique of network art.

(fig 4)Interactive systems and network art occur in this complex interplay of mingler categories and permissions. An art work is the constant motion along the inviter - invitee - non-invitee continuum and the manipulation of permissions. This constant motion from one state to another, that is what art is. So, what is the artist's role in this? And what is the critical method we arrive at if this is "true"? Well I don't know, but I do see openings here and it seems like there is something that we could get that is really interesting. And I think we just need to be aware of our roles as minglers instead of trying to identify the text and the context of the text. Maybe all we can do is to: invite, be invited and infiltrate.

Next up is Joel.

Joel Slayton: I was sitting here, kind of reminiscing as Lisa was talking, about last week's presentation by Joe DeLappe and Gary Quinonez, and how the art was so easily spoken to. I sort of thought of it as "ha ha" art. Because it's so easily digestible in terms of descriptions and the language that's used to talk about it. I think that part of what you're getting from us tonight is this is a very complex subject matter and is deserving of a kind of attention and investment. A kind of intellectual discourse that's required to make any kind of sense out of it. So anyway, in 1998 I wrote a theoretical paper for the ISEA conference in Manchester, England called "The Re-purpose of Information: Networks as Art" in that paper I hypothesized a point of view which suggested that a network, any network could be understood as a complex non-linear and self-organizing system. Maybe Manuel should be here right now to speak to those issues, because I really think that's his domain of expertise specifically. But regardless, in that paper I proposed that the basis for self-organization and networks is intricately related to what I referred to as an entailment meshwork. An entailment is a set of rules that pertain to self-organizing principles that a system is engaged in. Typically these systems exist in circumstances where there is a great deal of uncertainty and where there are influences present. It's an idea that was flushed out in the late 1970's and early 1980's by Paul Pangaro and Gordon Pask at MIT, while they were researching automated systems for simulating conversation, brainstorming, and learning systems. I was fortunate enough to be there at that time and have an opportunity to sit in on the discourse surrounding that. I don't have time now to go into it, but I wanted to bring this idea up because it pertains to what I am about to say, which I think is fairly straight forward and fairly simple.

Actually I want to say two things about net.art. Let me try to tackle the first one. It's important to distinguish between two basic models of human-computer interaction. There are probably more

than two, but just for the sake of argument let's go down this path.

The first one being a kind of cartesian model where the autonomous self exists outside the box and it emphasizes the role of the observer, the user as an audience. Someone who receives and interprets the signal-message, but exists exclusively to the message regardless of whether or not it is interactive.

The second model of human-computer interface, and I think a more appropriate one in terms of discussions surrounding networks is a model in which the user is neither reader or writer, but rather has been reduced to a mere semantic element within the total construct of the network as an enterprise. That is, the user is a necessary participant,.....but non-essential in terms of their role as interpreter. In this model meaning does not arise within the user, but within the complex sets of interactions simultaneously taking place across and throughout the network.

These two models are useful when considering net.art in terms of what makes it so. This brings me to my second point. I would suggest to you that the analysis of the nature of data is art. This may seem obvious to some and perplexing or completely foreign to others. But let me try to give you an example of something that I've been working on that I've become interested in and is informing my activity at C5.

Going back to what I said a few minutes ago, that all networks are self-organizing systems composed of entailment structures, I would suggest that the notion that data has an exteriority and interiorty that is fundamental, provocative, and full of interesting implications. Consider that the datum, the fundamental unit of data, functions in a language-like capacity, as opposed to being understood as a thing, an entity, a bit, a byte, a word. Because it is a language-like entity it can be thought of has having a persona and that persona is a result of both its exteriority of function and its interiority of identity. Think of the datum's identity as being the languaging result of its insideness and outsideness, somehow working together. At the same time the outside has nothing to do with the inside. The datum is its own dark background: everything is drawn out of it, and nothing goes out or comes in from the outside.

I said this was simple and I think it is. What if the principles determining the exteriority of the datum can be characterized as having to do with the nature of data to host information? That is, the exteriority of data has to do with the functions of appearance, mirroring, mapping, linking etc. And what if the principles determining the interiority of datum have exclusively to do with self-organization, reflexivity and self-stimulation? All necessary ingredients for sustaining the identity of data across different states of representation as data is transposed from one condition to the next condition to the next condition? Data is data is data. Well the implication, and why this is I think so provocative is that we can begin to draw out a new understanding of the nature of data based in this thing that we've been referring to as agency, as an agency model rather than a purely symbolic one. That's essentially, from my point of view, one of the things that was accomplished in the *16 Sessions* project.

That's why it's art. That's what makes it art. We have displaced symbolism and replaced it with an examination of the autonomy of the inside. That's why it's art.

Now I'll turn it over to Geri. Geri will be our last presenter, then we can open it up for some discussion.

Geri Wittig: I'm going to follow Joel up with something that relates to some of the ideas he was talking about in terms of self-organization and the sustainability of identity and the autonomy of the data. What I'm going to be talking about is one of the theoretical models that we've been exploring in terms of the *16 Sessions* project. First I want to preface my presentation by saying that some of these concepts will be difficult, but it's necessary to be able to delve into some of the ideas that we've been looking at with *16 Sessions*. What I'll be discussing is the concept of autopoiesis developed by biologists Humberto Maturana and Francisco Varela which informs their nonrepresentationist view of cognition; a view of cognition that argues against the idea of an objective reality out there that we discover, but rather proposes that entities and their environment construct the world together. The nonrepresentationist view of knowledge can be difficult to grasp, because of its circularity, but it's integral to describing the autopoietic investigations of the *16 Sessions* project.

Novel and thoughtful juxtapositions of conceptual approaches are needed to help enrich and inform the growing interdisciplinary fields of data mining and knowledge discovery. That's where the sort of hybrid, dual approach of C5 is one of our strengths, in terms of how we view things might not necessarily be the conventional way of approaching something like data mining. An area of investigation we've been working with and which offers significant potentiality is autopoiesis. Autopoiesis is a form of system organization where the system as a whole produces and replaces its own components and differentiates itself from its surrounding environment on a continual basis. On the most basic level autopoiesis can be observed in unicellular organisms. The cell metabolism produces components which make up the network of transformations that produced them and

some of these components form a boundary, which is the membrane, which creates a limit to this network of transformations: a unity. Principles of this basic system organization appear in more complex systems, what are known as third order couplings or systems that emerge out of social interactions, such as languaging. At C5 we're primarily focusing on third order structural couplings and consensual domains. A structural coupling is a history of recurrent interactions leading to the structural congruence between two or more systems and consensual domains are domains which two or more entities operate within a shared orientation. Both structural couplings and consensual domains are rich in organizational concepts, which is why I believe that they have potential applicability in knowledge discovery research.

The *16 Sessions* project offers a non-traditional approach to investigation into this endeavor and it's the ontogeny of the *16 Sessions* project that is the starting point for this investigation. Ontogeny, as defined by Maturana and Varela, is "the history of structural change in a unity without loss of organization in that unity"; ontogeny is of primary concern in autopoietic systems analysis. Continual structural change takes place in a unity, either through external interactions from the environment or through its own internal dynamics. The ontogenic transformation of a unity desists only with its deterioration. The seminal factor in the ontogeny of the *16 Sessions* project was data collected in the *Not to See a Thing* installation by Joel. The data agencies and data attributes, which emerged from the *Not to See a Thing* database and which Jan spoke of earlier, possess language-like qualities: data agencies with their categorical tendency and data attributes, which are linguistic behaviors. These data agencies and attributes were applied to the C5 proprietary Mesh database of validated http IP which Jan had mentioned earlier also. The data has been reduced and Mingling algorithms have been developed, so the users network identity can generate "feelers" into potential information relations. Such relations can then be collapsed into structural couplings, which are both arbitrary and contextual.

Autopoiesis as related to data, could potentially be realized in linguistic, consensual domains. Language, as a consensual domain, is a patterning of behavior that possesses a shared orientation. When an observer operates in a linguistic domain, as in the 16 Sessions project, they operate in a domain of descriptions - or agencies and attributes. An observer makes linguistic distinctions of linguistic distinctions - ontogenically generated descriptions. Observing emanates with language as a co-ontogeny in the process of delineating. The observer is a languaging entity, operating in language with other observers, generating linguistic distinctions in a linguistic domain. Meaning or knowledge discovery emerges as a relationship of linguistic distinctions. Patterns of recurrent interactions or minglings make possible ontogenic structural drift in a structural coupling, that affords coordinations of actions specified through our data minglings. It's the ontogenic structural drift of the *16 Sessions* data minglings that is of interest to us in terms of its potential for the emergence of autopoietic systems organization.

So that's a potential area that we would be looking into with the that data we're collecting from the interactions of the users with the database. So in circular fashion I'll turn it back to Joel to wrap it up.

Joel Slayton: I wrote this description of *16 Sessions* a while back and it seems more appropriate now than ever before:

> - *16 Sessions* featured at the Walker Art Center is a collaborative net.artwork
> implemented by C5 research/theorists. The piece addresses a range of discourses
> on the nature of datum including: autocatalytic attractors, autopoiesis, entailment
> meshworks, transposition of data, consenual domains, ontogenic unity and the
> notion of permissions.

That's why it's art.

Randall Packer, the curator who was responsible for working with us to bring this project to the Walker Art Center, in the interview with *Wired* magazine said this about C5:

"But it's not a parody, it's not a satire. They take themselves seriously. They're a real corporation ... but their commodity is thinking, pure ideas."

This whole notion of C5 having an orientation as a kind of an aggregate system that in many ways operates with some of the same theoretical parameters and discourse in which we've approached our projects in terms of operations practice and management, has enabled the emergence of a kind of reformulation of the corporation and reformulation of the corporation as a cultural model. This premise is neither a pose nor an emulation of a traditional corporation and I want to bring that up and again to emphasize that for C5 there is no inherent philosophical conflict in the function of theory and art along with the intent of corporation. Each can be manifest within a mutually shared frame of reference, which relies on the particular use of the discourse and inferences and aesthetics in question. So theory as product at C5 is art is corporation.

::CrossReference

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