

# Interview for *Neural* (Italy, 2002)

1. In your opinion is there a specific language of 'information noise' (Information of any kind that is not clearly useful to the user such as voluntary glitches in a music tune, or visual noise in the top level of an image, or casual words inserted in a meaningful text)?

A. According to Mathematical Theory of Communication formulated by Claude Shannon in the 1940s, the noise is an essential component of any communication system. Signal Detection Theory developed around the same time goes even further by treating signal and noise as having the same status. In other words, depending on the costs of making a mistake, we can interpret the same message as signal or as noise. For instance, when a radar operator decides whether the dot on his screen represents signal (an enemy plane) or noise (something else), this decision depends solely on the costs of making a mistake rather than by some properties of the message. If we apply these theories in a larger cultural context, we can see that they radically redefine cultural communication. The message is no longer a figure clearly defined against the ground, as it was in modernism; now it always contains both signal and noise. And this is indeed how noise is treated in the post 1945 culture - as a creative element, as something that can easily become a signal. I am thinking of images by Warhol and Rauschenberg, or the use of glitches and other analog artifacts by DJs, or the more recent invocations of computer noise by net artists such as [jodi.org](http://jodi.org). To summarize: noise is one of the fundamental elements of electronic culture of our times.

2. Do you think there's any new paradigm in the 'random access' approach to the information, opposing the link-to-link and 'focused search' related schemes? It has been explored by some internet art works, but

there's any chance it'd become a sort of subversive practice, opposed to the big-portal starting point?

A. There are a number of other paradigms for accessing large amounts of information, beyond the standard hyperlink, directory, and search options. For instance, a well-known artist's browser Netomat (which is now being developed in a commercial product) represents the Web as a two-dimensional flow of associated elements. Another paradigm exemplified by a very elegant <http://www.plumbdesign.com/thesaurus/> structures information as a 3-D network. Yet another paradigm exemplified by DataCloud project at V2 ([www.dwhw.nl](http://www.dwhw.nl)) uses the metaphor of a dynamic cloud. All these paradigms are quite seductive but I don't see them becoming real alternatives to the more conventional methods of information navigation because they all require high-resolution displays and lots of bandwidth, something you don't have with a cell phone, a PDA, and similar devices which currently captured our imagination away from desktop computing.

3. Do you think that the database paradigm, and the related illusion that the information is stored once and forever, will imply a loss of personal and collective memory? I mean, if I'm sure that what I need to reconstruct a narrative or informative piece of my life is stored in some databases, is it more likely that I'll tend towards forgetting that informative piece, making room for more recent others?

A. I wish forgetting past would be so easy! You don't need to study Freud to know how we all tortured by memories of our past. It would be nice if one indeed could forget some information making room for more recent others" as you suggest. At the same time, new information technologies obviously redefine our information habits. For instance, we don't really need anymore to organize information in complex and well-thought hierarchies (hierarchical file systems, encyclopedias, etc.) because we can easily find anything very quickly with a

search engine. Once we fully understand this new situation, we may start thinking of both our public memory and our personal memory in a new way. Instead of marking memory into periods and important events, we will treat it as a flat database where everything is equally important.

6. You limited the visual part of the book to some Dziga Vertov's 'Man With a Movie Camera' for meaningful reasons, but on the website you say that a 'visual online supplement to the book' is coming. Did you change your mind after the book's feedback, or what?

A. Visual supplement will be finally coming in February-March 2002; I am working on it right now with my student. I actually wanted to include lots of illustrations in the book but I did not have time to do this. The visual supplement on the Web site will include lots of historical images and also illustrations and information on all arts projects discussed in the book. I am very much interested in the possibilities of a multi-media book in general. I think that once e-book readers, e-paper or other type of devices for electronic reading will finally become commonplace, we will have a new kind of book: text with images, animations, video clips, etc.

7. You wrote, "If with GUI the physical environment migrated into the computer screen, now the conventions of GUI are migrating back into our physical reality". So what'd be in your opinion the next evolution of GUIs? More machine-related as we constantly become more conscious of them, or more reality-related to simulate better and better the physical world, blurring the real/virtual boundaries?

A. This is one of the key questions of information culture and one that is very hard to answer. In my Language of New Media I discuss how our current interfaces mix conventions specific to a computer (pull down menus, search engines) with conventions and metaphors borrowed from older media such as

books and cinema (a page, a virtual camera navigating a 3-D space). Now I would say this a little differently. There is another way to think about this. My friend Norman Klein recently said in a lecture: "A book was the Renaissance Computer." Indeed, we can think of all previous media as computers, meaning as information storage and access devices. Since computer by definition can simulate any other machine, it is only natural that its interfaces will borrow and mix conventions of "previous computers," i.e. previous media. So maybe rather than trying to imagine what a unique, "pure" computer interface would be, the should accept that the difference of our computer from other media is that it allows for all kinds of mixes of conventions which previously belonged to separate machines. In other words, computer is a perfect artifact of "remix culture," containing the complete history of previous media in its interface.

8. The 'error', or the casual and recurring machine's stop or malfunctioning, is so familiar to the user that constitutes a sort of independent and temporary dimension. Does it also have a language of its own and 'grammar rules'?

A. What I said above about signal and noise obviously applies here as well. In addition, the frequent and inevitable errors, along with constant updates of software and hardware, along with structural incompatibility of various protocols, software standards and hardware all represent the true reality of Information society. Instead of a utopian word where all beings and all objects can effortlessly communicate with each other (which is the picture you often get in ads about technology) we leave in a mess! And given the constant competition between different companies there is no reason to assume that it will ever get any better.

10. Please tell me something more of your next book (Info-Aesthetics), and when it'll supposed to be 'hot from the press'?

A. INFO-AESTHETICS scans contemporary culture to detect emerging aesthetics and computer-based cultural forms specific to information society. Its method is a systematic comparison of our own period with the beginning of the 20th century when modernist artists created new aesthetics, new forms, new representational techniques, and new symbols of industrial society. How can we go about searching for their equivalents in information society – and does this very question make sense? Can there be forms specific to information society, given that software and computer networks redefine the very concept of form as something solid, stable and limited in space and time? There are radically new representational techniques unique to own time, given that new media has largely been used in the service of older visual languages and media practices: Web TV, electronic book, interactive cinema? Can information society be represented iconically, if all its most characteristic activities – information processing, interaction between a human and a computer, telecommunication, networking – are dynamic processes? How does the super-human scale of our information structures – from 16 million lines of computer codes making Windows OS, to forty years which would take one viewer to watch all video interviews stored on digital servers of the Shoah Foundation, to the Web itself which cannot be even mapped as a whole – be translated to the scale of human perception and cognition? In short, if the shift from modernism to informationalism (the term of Manuel Castells) has been accompanied by a shift from form to information, can we reduce information to forms, meaningful to a human?

I am taking my time with this book as I am also working on various art projects in parallel – but maybe I will finish later this year (2002). Meanwhile, as I write new parts and update my plan for the book, I continuously update the corresponding Web site [www.manovich.net/IA](http://www.manovich.net/IA)

So interested readers can follow the development of the book online.