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Virtual Culture: Work and Play on the Internet

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Review Essay of:
F. Sudweeks, M. McLaughlin, S. Rafaeli (eds): "Network Netplay: Virtual Groups on the Internet", AAAI Press/The MIT Press, ISBN 0-262-69206-6, 1998.

This book is a collection of articles on various aspects of the formation and functioning of virtual groups on the Internet. The Internet communication infrastructure enables communication among geographically dispersed groups of people. Although the underlying technology is recent, it is fairly well understood. However, the dramatic rise of Internet access in recent years has led to new conditions of communication, the sociological implications of which are not well understood, as there has simply not passed enough time to observe the use people make of the technology. The book reports on several projects which aimed at filling this gap.

The intended audience of the book includes anyone interested in computer mediated communication, with emphasis on group communications, such as newsgroups (open to anyone at large), multi-user virtual worlds (MUDs), mailing lists (with a restricted set of participants).

The book is very diverse in terms of methodologies used in the individual chapters. Some chapters are based on empirical research, using data collected from newsgroups or mailing lists (Jones, Witmer & al, Mabry, Berthold&al) and applying statistical tools to draw conclusions, others present technology for virtual cooperative interaction (Chen & Gaines, Doyle & Hayes-Roth), and yet others discuss frameworks for studying Internet-based communication (Voiskounsky). Statistical tools used range from classical hypothesis testing (Witmer & Katzman, Mabry), tabulation and classification of results (Jones) to sophisticated use of self-organizing artificial neural networks to study typicality of messages (Berthold & al).

The book's main strength is that it brings together for the first time in a single volume a very diverse set of articles on social aspects of computer mediated communication. As such it can serve as a reading in a graduate sociology course on the topic, or as a starting point for further study and research in the area. On the other hand, the book's weakness is its extreme diversity in the range of topics and methodologies used. This is, of course, characteristic of any research area in its infancy, and the sociology of the Internet is no exception. Studies in the book lump together purposeful activity (like working together on a project) and recreational communication (like participation in newsgroups). These are probably two very different activities that deserve study on their own. The book would have greatly benefitted from an effort on the part of the authors to group together or classify the included contributions, and motivate and glue together the different parts. This perhaps reveals the major weakness of computer-mediated-communication: that the kind of "brainstorming" that leads to cross-fertilization of ideas is still only possible with physical person-to-person contact,

and not with text-based communication, like the one used in the majority of the studies in the book. The editors themselves were geographically separated over three continents, probably making it difficult to engage in the productive exchange that would have been required to organize the relatively amorphous shape of the different contributions. It should be noted that many of the contributions in this book came out of ProjectH, an international project that studied computer - mediated communication (CMC) in the context of newsgroups and mailing lists over two years (1992-1994). The data collected by ProjectH has been made available on the World Wide Web.

In **"Smile When you Say That: Graphic Accents as Gender Markers in Computer-Mediated Communication"** data from randomly selected public newsgroups and special interest groups, collected as part of Project H, is examined. One hundred messages or three days of posting (whichever was greater) starting on random Mondays was extracted. Data was then hand coded and the results subjected to statistical analysis to examine the validity of certain hypotheses. Do females use graphic accents more than males? Yes, but not dramatically more. Do men use more challenging language or flame more than women? No.

In "**Frames and Flames: The Structure of Argumentative Messages on the Net"** the relation between the emotional tone of the messages (neutral, friendly, diverging, disagreeing, tension, antagonism, hostility) and various conversational tactics is investigated. Several hypotheses were evaluated.

One hypothesis tested for curvilinearity in message dependency (continuity with previous messages) and amount of quoting of previous messages as a function of the intensity of the emotional tone of the messages. It was found that message dependency was low when tone was neutral, increased as tone became increasingly negative, peaked between disagreement and antagonism, and fell where the tone was hostile. On the contrary, amount of quotation steadily increased as the tone went from neutral to hostile.

Another hypothesis tested for the relationship between emotional tone and message characteristics such as apology, coalescence and conciliation. Coalescence (positive or negative) was found to be "curvilinear", low on the neutral and hostile ends of the emotional tone scale, and peaking at disagreement. Conciliation and apology were fairly flat from neutral to disagreement, but sharply increasing from tension to hostility.

The article concludes with an interesting observation, that face-to-face communications have much less powerful outcomes compared to computer-mediated communications. The explanation offered is that the latter have access to previous text, plus they are not "real-time", since the author has time to go back and edit the message.

In **"Telelogue Speech"** a general overview is offered of the characteristics of speech used in computer-mediated communication. The article does not seem to have a particular research focus, or to employ rigorous statistical analyses like the previous two articles, and as a result it is less interesting.

In **"Hmmmm.. Where's the Smoke Coming From?"** we found one of the most stimulating pieces in the entire collection, combining lucid and insightful analysis of the "computer underground" as an aspect of postmodern culture. The approach is textual, micro-sociolinguistic, informed by work in discourse analysis, the study of orality and literacy, and the anthropology of play and performance. Brenda Danet, Lucia Ruedenberg, and Yehudit Rosenbaum-Tamari analyze 75 minutes of IRC "public" talk. During this talk somebody invites the others to a virtual "party" featuring passing joints

as its main theme. Some of the participants know each other from before, virtually or really (some of the authors are involved as well), others are complete strangers. There is flirtation, friendship, performance, recognition of performance, and tartful conversation going on through the use of "emoticons".

CMC is intrinsically and inherently playful: there is a sense of flow and interaction; people lose sense of time; there is release from the tyranny of materials for writing; words are treated as objects and played with. The researchers show that participants play with their own identities, e.g. by choosing nicks, through resorting to a fascinating analysis of the possible meanings of the specific nicks. They demonstrate that participants play with using multiple frames ("real life", "let's play IRC", "let's have a party", "let's pretend"), how they switch from one frame to another, how they maintain and use all of them at the same time, how they blur their use. Such a play has all the elements of Caillois' classic typology and theory of play (1961).

Finally the authors speculate whether virtual pubs and cafes may lead to a revival of the lost art of conversation, as it flourished in 18th century England. For the moment there seems to be little substance in such communication and more artful patterns characteristic of cultures without writing. There is no reason why there should not appear more substance in the future however. Some IRC groups have already taken a giant step further in an attempt to create virtual theatre. Despite the dark sides of IRC of which the authors are aware from even personal experience, and the pessimism about the alienating effects of computers, echoed in the media and academic circles, the authors are more optimistic and argue that people manage to domesticate and subvert these new technologies to make them their own. At the same time, the authors demonstrate this point by engaging themselves in "playful rebellion, irreverent subversion, and juxtaposition of fantasy with high-tech reality", that is by having a lot of contagious fun.

In **"Media Use in an Electronic Community"** mass media use is explored among members of an electronic community, defined as the readers and authors of a particular newsgroup. The newsgroup selected was soc.culture.yugoslavia, at around 1993, when war was raging in Bosnia. About 6000 messages were inspected, and about 1100 were selected that contained reference to a news source. The findings of the study are the following. Electronic news sources dominated among the news sources (46%), followed by print news sources (36%), and broadcast news sources (18%). A demographic survey indicated a high proportion of non-students among the members, and graduate level degree holders (62.5% PhDs, 25% Master's). The same survey led to conclusions that this was an "interpretive community actively constructing meaning", and a surprising lack of references to even major international newspapers. Instead, members relied on electronic news sources like an obscure periodical published from Belgrade. Equally absent was immigrant press from places with a substantial population of Yugoslav immigrants, such as Germany, or US cities like Chicago. The study concludes that the Internet does not lead to radical changes in use of traditional news media, but it complements them, as users adopt new media (such as the newsgroup) as news sources. The Internet further breaks the link between news sources and geographic location of the reader.

Neither of these results is surprising today. Traditional news media offer an extremely valuable service, namely a way out of the overwhelming volume and the low quality of information available on the Internet. Furthermore, the availability of most major print news sources in electronic form on the Internet naturally makes them accessible from anywhere. It would be interesting to conduct the same study now (several years later), that many ethnic newsgroups (in the reviewer's opinion) have

degenerated from small communities of people discussing controversial matters related to the homeland, to national propaganda tools. There is even speculation that some of the most prolific posters were not human, but cyberspace's software robots, or "bots" (Leonard 1997).As a result, the value of participating in an ethnic newsgroup is even more highly questionable today than it was in 1993.

In **"From Terminal Ineptitude to Virtual Sociopathy"** Smith, McLaughlin and Osborne examine gender behaviour in CMC. More specifically the authors focus on offenses and reproaches of online violations in a number of Usenet groups by gender. The standards of conduct, including offending behaviours and responses to reproaches, differ from group to group and in many ways reflect group character, demographics, purpose, and gender. The findings of this study, not unlike others, show that there is a real gendering of virtual space, with men and women exhibiting some traditional gender behaviours (i.e. men reproaching women more frequently than vice versa) clustering in gender specific newsgroups and men predominating in newsgroups geared toward socializing among and between the sexes. However, what is new in this study is that it points to evidence that women in virtual space tend to be more assertive or aggressive than real life (e.g. female reproachers outposted all others, or female reproachers were no more temperate in the tone of their reproach than men). However, given the unequal representation of the two genders in network traffic, it may well be the case that these women are not representative in any way of the general female population. Therefore, their "more aggressive" behaviour is not evidence of decreasing gendering of virtual space but a reflection of the gender, race and class population profiles of virtual space.

In **"Investigation of Relcom Network Users"** some general comments are presented on surveying and monitoring the users of Relcom Network, an email service made available in Russia in the early 90s. The objective of the study was to help users maximize their use of the network. The option of administering surveys of users was the preferred one among the users of Relcom, as concluded by a survey.

In **"Practicing Safe Computing: Why People Engage in Risky Computer-Mediated Communication"** Diane Witmer engages in statistically sophisticated research into why people engage in risky CMC. The study is based on an anonymous survey sent to seven electronic groups that engaged in sex/sexuality discourse. In the backdrop of recent debates about new ethnical and legal issues that CMC poses, primarily about the privacy of mail, which technically speaking cannot be private, Witmer poses the following questions: 1) to what extent do users who engage in risky CMC perceive the medium to be private? 2) how users who engage in risky CMC come to feel secure enough to do so? Her 26% response rate may be deceptively low, if one takes into account possible failed attempts to respond for technical reasons.

Findings indicate that respondents/users consider in their majority (57.7%) privacy to be unimportant and 47% believed the medium to be private. Another interesting finding was that users were young (60.8% being 27 years or under) and 73.1% considered their proficiency level in the medium above average or expert. The study's limitations involve a small sample size and a narrowly-defined frame from which the sample was drawn which do not allow generalizability. The study surveyed authors of messages appearing in seven 'alternative' unmoderated newsgroups that addressed sexually explicit (and potentially personally or professionally risky) topics. We find that the major problem of this study is conceptual: why is "risky" defined the way it is in the era of "AIDS and

fear"? Sexually explicit discussions may not be risky any more. On the other hand, we are not sure if intelligence agents, for example, would engage in similar modern communication methods (Kurdish leader Ocalan's recent capture has been attributed to his fatal mistake of using his cellular phone too much).

In **"The Social Construction of Rape in Virtual Reality"** MacKinnon presents an engaging analysis of a case of virtual crime, specifically the notorious "Mr. Bungle Case" of virtual rape, raising questions about the usefulness of importing real life crime constructions in cyberspace. The author convincingly demonstrates that the cyberspace denizens in trying to make virtual reality a more realistic experience by consensually importing the real life construction of rape, "may be eliminating the best aspects of virtual in order to make it more real" (p. 162), referring presumably to the safety of the medium due to its bodylessness. By contrast, he argues that such importation in cyberspace can be outright harmful. In the case of rape, importation to cyberspace has been facilitated by a real life expansion of the definition of rape in English-speaking North America in the 20th century to include feminist-inspired notions of violation that involve "damage to the self" defined as "violation of the body, of the mind or of trust." Such a broad definition of rape has been conceived in order to address a situation in real life where rape is "increasingly understood to take many forms."

More specifically, this importation of rape's definition from real life into cyberspace raises the following questions: How is rape to be punished in cyberspace? If punishment is meted out internally only, the case of "Mr. Bungle" shows that such punishment may not be felt in the case of a virtual psychopath. In addition, recidivism cannot be prevented. If external (i.e. real life) control is invoked, what are the implications for civil liberty claims of free speech? The virtual "public" decided in Mr. Bungle's case against external controls. Yet, the pain of the person(s) suffering the violation was real. Starting from a socially constructed notion of rape, gauged out though a fascinating social history of rape cross-culturally, the author suggests to utilize in cyberspace a more narrow definition, insisting on bodily harm. Such a definition does not permit verbal violations to be interpreted as rape in the first place. The way to enforce such a definition of rape on cyberspace is not by closing one's eyes to such violations, but by actively engaging in repetitive rejection of undesired speech elements from the consensual virtual reality (e.g. as the article on virtual sociopathy in this collection suggests, a particularly effective method to silence offenders is that of sarcasm, humour or wit). In so doing, the author hopes to empower individuals thus attacked and prevent the harm from happening.

His solution raises further questions however. Would this narrower definition eventually have an impact on real life construction of rape, so as to hold real victims responsible for not avoiding rape or to blame them for their victimization? Would it leave certain victims of rape outside the legal definition, unable to prosecute their victimizers? The author already takes this direction of suggesting the "need" to redefine real life rape in a narrower way in order to, presumably, minimize harm on rape victims by arguing that real life sexual assault should not be treated any differently than any other physical assault. To achieve such a result, he suggests first an "anatomical recoding" of the human body in a way that will get rid of certain symbolisms associated with certain parts of the human body. This does not fall short of an entire cultural revolution. We are left wondering here whether the author has ever talked to a real life rape victim. We are also afraid that by accepting his reasoning we descend a slippery slope toward accepting crimes by arguing that it is all a matter of definition and social construction. No theoretical obstacles can prevent us from doing so as no legal obstacles will stand in the way of real life rapists who will claim that their crime is no worse than a punch in the

victim's nose.

In **"Interactivity on the Nets"** Sheizaf Rafaeli and Fay Sudweeks study group CMC from a social interactionist perspective. Key to such a perspective is how "interactivity" occurs on the net. Interactivity in communication is differentiated from simple declarative communication, such as in radio or television, and reactive (i.e. two-way) communication, because it involves taking into account all previous exchanges. It is assumed that interactivity is connected with certain message qualities, such as agreement, self-disclosure, humour, and so forth, which invite people and make them join groups on the net, or, as the authors put it, "interactivity" may be a mechanism through which netting occurs on the net.

This paper is based on content analysis of a representative, random sample of computer mediated discussions from three different networks. Authors investigate their four hypotheses of what they take to be qualities of interactivity, but data analysis confirms three of them only. Authors do a good job in outlining the limitations of their findings, for example that their data do not prove the proposed definition of interactivity or its role in engagement in group CMC, that they are based on content analysis alone and that there are no behavioural correlate measures. We believe that it is safe to assume that there are qualities in group CMC communication (content-related, medium-related, possibly related to the size of the group, social or a combination of all) that make people gravitate in CMC groups. This paper only demonstrates that a certain notion of interactivity, not even quite as defined by the authors, is one of them. It still remains to be shown whether such interactivity translates into engagement or sociability or even higher degrees of cooperation, in virtual or real space.

In **"It Makes Sense: Using an Autoassociative Network to Explore Typicality in Computer-Mediated Discussions"** an autoassociative artificial neural network is used to identify features that coexist in messages or features that exclude each other. The authors define 149 binary features, arising from binary encoding of 51 features associated with each message. For example, one of the 51 features is "apology". The three binary features derived from "apology" are: "no apology" (APOLOGY-A), "contains mild apology" (APOLOGY-B), "contains clear apology" (APOLOGY-C). The values of the binary features are 0 (no) and 1 (yes).

The autoassociative network is trained to predict each feature value from all other feature values for a given example message. Training involves setting the weights of the network to minimize prediction error over a set of example messages. The weights of the network can then be studied and conclusions drawn on features that coexist in messages (indicated by strong positive weights on the links connecting the network units corresponding to the features), or features that exclude each other in messages (indicated by strong negative weights on the links connecting the corresponding units).

It is also possible to consider the subset of examples in which a given feature has a given value.

The above technique is presented as a useful preprocessor that can guide more detailed and rigorous statistical analysis. An example of a conclusion that can be obtained from the neural network is a characterization of the "good" versus "bad" messages. A message is called good if it is referenced by one or more other messages, "bad" if it is not referenced at all. By clamping the corresponding features MSGWIDTH-A ("no msgs are referencing this message"), MSGWIDTH-B ("1-2 msgs are referencing this message"), two "typicality" sets are obtained. Each typicality set contains the features that appear to correlate strongly with (are sensitive to) the subset of messages

defined by clamping a feature. Features appearing in both typicality sets are discarded. This leads to the definition of a "good" message as having medium length, an appropriate subject line, the statement of a fact, does not introduce a new topic in an ongoing thread, and references other messages. Overall this is an interesting study, however the reviewers suspect that the level of presentation is not appropriate for someone without a quantitative background knowledge of neural networks.

In **"Modeling and Supporting Virtual Cooperative Interaction through the World-Wide Web"** the authors refine and extend the models of collaborative activities on the World Wide Web. They extend the notion of collaborative activity from simple conversation to demonstration and publication. The argument is that by posting one's home page, one is becoming a member of a special-interest community, with less temporal immediacy than conversational models, but still involving interaction and feedback on a longer time scale. The term used for all the tools supporting the latter is called "socioware", in contrast to tools supporting conversation, called "groupware". Socioware tools are described for organizing and monitoring web data, such as CHRONO, a chronological awareness support tool designed by the authors, that automatically generates chronological listings of recently updated Web pages at a specific site. Other tools enhance the ability to obtain feedback on the use patterns of web pages (such as visitor frequency counters). The chapter concludes with a conjecture that availability of socioware tools that monitor discourse processes and measure information diffusion may themselves result in better use of web resources.

In **"Guided Exploration of Virtual Worlds"** the design of Merlyn is described, an intelligent agent that helps children explore MUDs (MultiUser Domains), possibly over the Internet. MUDs are fantasy worlds populated by interesting creatures and objects. Many simultaneous users are supported. Users can manipulate objects, move from one location to another, interact with creatures or other users, play games or even create new objects. Specially designed MUDs can serve as educational worlds. Merlyn is intended to be a believable agent that children can treat as a real being with personality and motivations. To simplify the design of Merlyn, the factual information Merlyn needs is not stored within Merlyn, but as annotations of the environment. Annotations are specially formatted to be useful to intelligent agents. Game-playing abilities are also represented as annotations. Having the agents extract all the necessary meaning from the text provided to human users would make the design of Merlyn extremely difficult. Merlyn should also be capable of simple user modeling by observing the children. Merlyn "learns" actions from the environment by adding them to an action tree structure. Two implementations of Merlyn are described in the chapter. The first implementation of Merlyn had only one user, Merlyn's ability was restricted to stimulus-response reactions to user actions, and Merlyn lacked a sense of context or history when deciding the next action. The second version of Merlyn was capable of following trains of thought, which gave Merlyn coherence in its long-term behaviour. Future goals include endowing the children's avatars (computer instantiations) with special abilities, such as flying, making Merlyn respond to natural-like queries from the children, and getting Merlyn to keep track of children's actions and interests over the longer term. This project is part of Stanford's Virtual Theatre project.

Overall, if there is a common thread in this book, it is that networking and netplaying are presented as two aspects of a single activity in post-modern society. Although a scenario of playful work, or commodity-producing play, is cozily lulling us to the old Marxian dream of a utopian communist society, we are harshly awaken by the unpleasant findings of studies demonstrating that

in post-Fordist society "flexible" work, including CMC, results in extended work days for individuals (Wharton, 1994; Mirchandani, forthcoming). The "abolition" of the boundary between the "public" and the "private" spheres or paid work and play, by implication, can "only be achieved through the extension of work activities into so-called 'private' time" (Seron and Ferris, 1995) and often space as well. In the final analysis, work by taking on a facade of play eats up the latter for good.

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