Chapter VI: Videoconferencing, and the Songs/Chants/Dances/Games.

A) Background.

1) Aspects of Videoconferencing.

a) The History and Characteristics of Videoconferencing.

Videoconferencing is a form of interactive telecommunication in which all parties can send-and-receive audio-and-video to and from each other. Video-conferencing is in a sense the ultimate telecommunication process, in that all other forms of electronic communication (including typing, electronic drawing, the viewing and manipulating of websites, and the playing of prerecorded video) can occur within a videoconference.

Videoconferencing need not only involve standard two-dimensional video images of participants. Rather, participants' images 1) can be processed electronically with various special effects, such as *keying* (p. 455) and *mosaicizing* (p. 459),

2) can appear as characters other than the participants (these characters can be referred to as avatars[1]), and 3) can be three-dimensional (such as holograms).

Videoconferencing can occur via any number of technologies, including landline telephone connections, mobile telephone networks, ISDN lines (a specialized type of telephone line), computer-data cables, and satellites. Videoconferencing can occur via the Internet (or Internet2).[2] However, regardless of whether or not a videoconference occurs via the Internet, it has become an increasingly common practice to transmit the combined audio-and-video of a videoconference through the Internet as a live webcast, so that others can observe the videoconference conversation (this was done for the two videoconferences that supply the primary data for this dissertation, and also for the two Megaconference videoconferences discussed herein).

Typed text can be used in, and in support of, videoconferences in various ways. For example, there may be a separate window in which participants in, and observers of, a videoconference may share typed messages. Also, observers of

---

[1] In the culture of India, an avatar is an incarnation of a divine figure. However, the term, avatar, has been borrowed by people in the field of computer games, who use the term to refer to an electronic visual representation of a player.

[2] Internet2 (http://www.Internet2.edu) is a new generation of the Internet that involves very high bandwidth. A consortium of universities is helping to develop Internet2.

a live webcast of a videoconference can send e-mails, which videoconference participants can read, and to which they can respond in speech.

“Tele” is a Greek word for, “from a distance.” Thus, “telecommunication” means, “communication from a distance.” Early (non-electronic) forms of visual telecommunication include the use of smoke, large fires, and flags. In ancient times, *semaphores* were used: these were series of such signals, often atop hills or towers, which relayed messages over great distances.

The understanding of electricity led to electronic telecommunication. The discovery of electricity is often associated with Benjamin Franklin’s experiment of flying a kite during a thunderstorm, in June 1752, in Philadelphia, USA. Through the use of a metal key on the wet kite string, Franklin gave himself an electrical shock, thus establishing the relationship between lightning and electricity. In 1800, Alessandro Volta of Italy constructed the first device to produce electric current.

“Graph” is a Greek word for, “to write.” Thus, a “telegraph” mechanism “writes from a distance.” In 1775, Francisco de Salva of Spain created the *electrostatic* telegraph machine. In 1809, Samuel Thomas von Soemmering of Germany created the *electrochemical* telegraph machine. In 1832, Baron Schilling of Germany created the *electromagnetic* telegraph machine. In 1837, an *electrical*

telegraph machine was patented in the United States by Samuel Morse, who also developed the Morse Code for signaling the letters of the alphabet through telegraph technology.

Telephone technology was invented in the mid-1800s by Antonio Meucci, Alexander Graham Bell, and others. One of the first successful publicly-attended telephone demonstrations occurred on 10 March 1876, when Alexander Graham Bell transmitted his spoken words, “Mr. Watson, come here, I want to see you,” from one room to another in a building in Boston. Twenty-nine years later, on 25 January 1915, they achieved another first: the first official telephone call linking the USA’s East and West coasts, as represented by sites in New York City and San Francisco (*New York Times*, 1915, p. 1.).

Radio -- the wireless transmission of sound -- was invented in the 1890s by Nikola Tesla in America, and Guglielmo Marconi in Italy, working independently. Radio began as a technology by which many individuals could send, as well as receive, audio signals. In the USA, the government converted radio into a mass media during WWI (1914-7), ostensibly for national security purposes. However, ham radio and shortwave radio have continued to this day as send-and-receive technologies for individual citizens.

Television (seeing from a distance) had already existed in the popular consciousness long before it was achieved electronically:

> For centuries, the portrayal and the putative portrayal of illusions and images had attracted the attention of magicians, charlatans, and pseudo-scientists. There appeared to be a popular demand for visual displays and exhibitions of the unexpected as part of the social fabric of living. The demand was partly filled by the *tregetours*, or wandering entertainers, of the Middle Ages, with their silvered concave mirrors, by peep shows and magic lantern shows, by theaters and pageants, and by phantasmagoria. Other means, panoramas and dioramas, offered their audiences two-dimensional images which were the precursors of the modern newsreels and travelogues as seen on television... The appeal of "distant vision" was beguiling and was enhanced by the ideas, crude and simplistic as they were, which had been propounded in the 1870s. These notions encouraged writers and cartoonists to evoke fantasies showing, perhaps, the eventual outcome of "seeing by electricity." (Burns 1995, p. 34)

Crystal balls -- through which it is claimed that (with magical or divine assistance) one may see distant scenes, and scenes from the future -- have been a part of human folklore since time immemorial. But perhaps it is primarily in relation to dreams, the imagination, and spiritual visions, that people have spoken of seeing beyond the power of one's eyes, of being a "seer."

Attempts to transmit visuals -- both through wires and wirelessly -- occurred at an accelerating rate after the inventions of the telephone and radio. By the late 1920s, wired and wireless one-way television had been demonstrated by numerous inventors, including John Logie Baird, Charles Francis Jenkins, Frank Gray, Herbert E. Ives, Philo T. Farnsworth, and Vladimir Zworykin.

Videoconferencing can be seen as a further evolution, and a convergence, of all of the above-mentioned technologies. The first videoconferencing systems consisted of two closed-circuit television systems connected via cable. Bell Labs demonstrated such wired two-way television in 1930. In the years that followed, numerous movies, cartoons, and comic books portrayed videoconferencing. Among these were the Dick Tracy comic strip, which introduced the 2-Way Wrist Radio in 1946, and the 2-Way Wrist TV in 1964. It was also in 1964 that one of the famous milestones in the history of videoconferencing occurred: at New York World's Fair, AT&T displayed the "videophone," which delivered two-way voice and video over standard telephone lines.

In the 1960s, during space flights that carried humans, NASA used two (UHF or VHF) radiofrequency links, one in each direction, to videoconference with the astronauts in space. In the 1980s, digital transmission -- such as through ISDN lines -- came into being. This marked the beginning of the wide use of videoconferencing, especially in the business world. A single ISDN line carries 128 kbs (kilobits of electronic data per second). For maximum-quality picture and sound, up to four lines, carrying a total of 512 kbs, may be used together. ISDN-line videoconferencing requires specialized hardware at each end, and usually does not occur via the Internet. PictureTel (which has now been purchased by Polycom) was one of the first companies to install and maintain ISDN-line videoconferencing systems.

The Internet is a global system of interconnected computer networks. The Internet began as a USA Defense Dept project, in the 1960s. It grew in and among USA universities, and was opened to commercial interests in 1988. "It is estimated that during the 1990s, the Internet grew by 100% per year."[1]

As the Internet gained popularity and speed in the 1990s, IP (Internet Protocol) based videoconferencing became possible. This enabled desktop, or personal computer, videoconferencing. An early software program, appearing in 1992, for IP videoconferencing was CU-SeeMe, which had been developed at Cornell University by Tim Dorcey and others. In recent years, with the proliferation of broadband Internet connections, videoconferencing on personal computers has become widely available, using such software programs as Skype, NetMeeting, MSN Messenger, Yahoo Messenger, iVisit, and Apple computer's iChat.

Professional, high-quality videoconferencing has until very recently existed primarily via non-Internet ISDN-lines and in the business world, and the early literature about videoconferencing reflects this (Ferran-Urdaneta 2000; Finn et al, 1997; Storck 1995; Storck and Sproull 1995). In the past decade, however, there been an explosion of videoconferencing in education, on both the K-12 and the university levels (Massingill 2002; Wang 2004).

---

[1] http://en.wikipedia.org/wiki/Internet , accessed on 12/30/08.

Presently, a shift is occurring in the videoconferencing world -- led by the global higher education infrastructure -- from the use of non-Internet ISDN-lines, to the use of the Internet and Internet2. Internet2 was signed into existence in 1996. Internet2 is a very high-speed, second generation of the Internet. Originally developed at USA universities, Internet2 has now spread to universities around the world, and into the business world and elsewhere. Videoconferencing is a major application on Internet2.

Internet2 Megaconferences began in 1998. Megaconference Jrs. (which involve K-12 educational participants) began in 2004. Megaconferences are marathon videoconferences, lasting approximately twelve hours, organized by leading universities in the Internet2 development community. Each approximately half-hour segment of a Megaconference involves a videoconference between up to five participants: the combined audio and video is streamed to a web address, so that people around the world can observe these conversations.

Robert Dixon, based at Ohio State University, has been a leader of the Megaconferences. In one of the early years, he organized a barbershop quartet, with each of the singers participating from a different location. Internet2 has also sponsored a number of videoconference dance performances, with dancers at various locations. Actual physical-visual and aural coordination and interaction between performers in videoconferences is a very tricky thing to achieve. It

takes a lot of videoconference rehearsal time to prepare such performances. Especially during the age of non-Internet videoconferencing, such rehearsal time was often difficult to achieve, as the connections were often not available for extended periods of conversation and play. With the advent of Internet and Internet2 videoconferencing, this is changing.

The Manhattan School of Music has been a pioneer of arts-related videoconferencing. This School has been videoconferencing for years, originally to enable their students to study with the violinist, Isaac Zuckerman.

Videoconferencing has increasingly become a taken-for-granted aspect of media life -- both in terms of observing others doing it, and doing it oneself. In the 60s, the USA primetime futuristic animated television show, *The Jetsons*, often showed George Jetson's boss, Mr. Spacely, videoconferencing with his secretary. *Star Trek*, the science fiction television program and movie franchise, has typically featured at least one videoconference in each episode, typically when the captain converses with beings on other spaceships and elsewhere, seeing them on the large screen on the Enterprise's main deck.

But most of all, it is in television news programs that members of the public see videoconferences, when the anchorperson in the studio converses with reporters or others elsewhere. Some cable news channels (such as MSNBC and CNBC)

seem to specialize in presenting three or more videoconferencers on the screen at once -- always accompanied with at least one text scroll, giving stock market levels and other information. It should be noted that in many cases, videoconferences on news shows are not full videoconferences in that the distant parties may in fact not be able to see the anchorperson or each other, although the situation as presented to the viewer implies that all participants can see each other.

Www.bloggingheads.com presents pairs of scholars, researchers, and such in extended recorded videoconference conversations with each other (conducted via personal computers in their homes and offices), concerning a wide range of public sphere issues. Beginning in 2008, the *New York Times*' website featured links to excerpts of these recordings. This is an example of an originally one-way mass-media entity (a newspaper) using a new media version of itself (a website) to present, and in a sense partly to morph into, the even newer media experience of videoconferencing.

Three factors that are increasing the popularity of videoconferencing on personal computers are: 1) new computers, especially laptop and notebook models, are tending to include built-in video cameras above the screen, 2) videoconferencing software is often pre-installed, and 3) high-speed Internet connections are

becoming commonplace. These conditions are leading to the integration of videoconferencing with peoples' general everyday communication systems.

Perhaps especially because the software is free, and there is no per minute charge, videoconferencing via the Internet on personal computers has become a popular method by which distant family members can communicate with each other, whether because a young member of the family is away at college, or simply because members of the family have moved to a different city, or country.

It seems that what might bring the situation to critical mass in terms of the arrival of videoconferencing in the evolution of human communication might be the widespread enabling of videoconferencing on mobile telephones. This capability awaits the widespread implementation of 3G (Third Generation) and even more advanced wireless networks.

In recent years, a term that has gained popularity especially in the corporate videoconferencing field is "telepresence" (presence, from a distance). Telepresence can refer to a videoconference in which participants' images are life-size, and the sense of distant participants being in the same room is increased through the use of 1) high-definition cameras and display devices, 2) very high-speed telecommunication lines (with minimal transmission delays), and 3) the use of similar furniture and room design at the various sites.

Companies that offer telepresence videoconference services include Cisco, Polycom, Tandberg, LifeSize, Telanetix, Digital Video Enterprises, BrightCom, and Magor Communications.

Some people have dreaded the arrival of (desktop and mobile) videoconferencing, fearing a loss of privacy. However, people will very likely find ways to limit their videoconferencing to the situations in which they feel comfortable being seen by others.

Each medium of communication has its own strengths and weaknesses, and each medium influences the mood and content of the communication that occurs through that medium. Videoconferencing could be considered to be an *epic* type of communication, in that it has the potential to be sweeping and inclusive in various ways, including that, as mentioned above, it can include all other forms of electronic communication (in addition to audio and video).[1] Videoconferencing also seems to be a "heroic" activity in that to gain access to the needed technology (including microphones and cameras, and high bandwidth), and to find at least one partner who has done the same, is a tremendous accomplishment, both for humanity as a whole, and for the individual

[1] A definition of *epic* is that it is a long story that involves a central character traveling from one end of the realm to the other, seeing and experiencing almost everything in an encyclopedic manner; and finally founding a new institution of some sort.

videoconferencer. In time, as the novelty wears off and videoconferencing becomes an everyday occurrence, surely some of the sense of excitement will fall away from the activity, but I believe its position as the ultimate telecommunication medium will only be galvanized as time goes on, and that people will always tend to experience a special thrill when they see each other's images when a videoconference connection is first made.

In terms of the emotions experienced by users of the medium, I would posit that videoconferencing has a *manic-depressive* quality, in that people are often excited about the possibility of participating in a videoconference; but if the connection can not be made for some technical reason, the parties who were planning and seeking the connection can experience tremendous embarrassment, frustration, and anguish.

b) Videoconferencing and Indigenous Media.

The Tanami Network -- the world's first Aboriginal peoples' videoconferencing network -- came into existence in 1992 (Hinkson 1999; Hodges 1996; Young 1995). The Tanami Network is based in seven villages in Central Australia, in the vicinity of Alice Springs. The Network used videoconferencing for such purposes as high school courses, health services, and the exhibiting of locally-made art to dealers, collectors, and galleries. Robin Japanangka Granites, a

Warlpiri person and a founder of the Tanami Network, has said, “There is a great need for the Aboriginal people of the world to communicate amongst themselves, and doing that communication by videoconference was one of the central goals of the Tanami Network.”[1] The Tanami Network included videoconferences with Native-American people in the USA and Canada, and with Sami (formerly known as “Lapland”) people in northern Sweden. Videoconferencing may be a good match with tribal cultures, as many tribal cultures are traditionally oral-based, and videoconferencing can be considered to be an instance of *secondary orality* (Ong 1982).

The Tanami Network in its original form utilized specialized videoconference equipment, which did not involve personal computers or the Internet. This set-up lost funding around 2002. However, similar efforts are developing around Australia and elsewhere.[2] These recent efforts tend to be more integrated with organizations’ general electronic communication processes (utilizing personal computers and the Internet), which may contribute to the sustainability of the videoconference practices.

---

[1] Personal communication, 10 May 2006.

[2] For example, Aboriginal peoples of Cape York (Northeast Australia) are helping to develop the Cape York Digital Network (http://www.cydn.com.au) and the Balkanu Cape York Development Corporation (http://www.balkanu.com.au).

The Tanami Network is an important development of what is known in Anthropology as Indigenous Media, which, among other things, considers how subjects of ethnographic research are mediatizing their own cultures (Ginsberg 1992, 1993a, 1993b, 1994a, 1994b, 1995, 1997; Ginsburg et al 2002; Mahon 2000; Michaels 1984, 1985, 1986, 1991a, 1991b, 1994; Spitulnik 1993; Turner 1990, 1991, 1992, 1995).

The field of Indigenous Media is often said to have begun with an experiment led by Sol Worth and John Adair on a Navaho reservation in Arizona in the summer of 1967 (Worth and Adair 1972). This experiment -- which was described in Worth and Adair's book, *Through Navaho Eyes* -- involved training six Navaho individuals to use 16mm film equipment, and enabling them to make films. Worth and Adair wanted to know if and how Navaho expressive culture might manifest itself through the medium of film. They were asking such questions as, How do these people structure representations of reality? What will they choose to say, and how will they choose to say it? What rules of construction may they unconsciously apply? In Navaho filmmaking, what is the narrative style, syntactic organization, and sequencing of events? What are the units of "eventing"? (Worth and Adair 1972, p. 139).

The results were inconclusive, but supplied a good deal of interesting data. For examples: A lot of walking was represented in the films: walking was used to

frame other activities. The filmmakers avoided close-ups, and people on-camera avoided looking directly into the camera, as participants felt to do so might be to behave in an overly aggressive manner. There seemed to be a tolerance for jump cuts: that is, it seemed there was no need or desire for the illusion of smooth continuity from one shot to another, or from one scene to another (Worth and Adair 1972, p. 167).

More definite were the things learned about Navaho social processes around filmmaking. In general, the Navaho people were more concerned with social aspects of the process than with the product. They were interested in such questions as: Who is working on the project? What are the genders, kin relations, and community-related duties and responsibilities of the people involved? (Worth and Adair 1972, p. 167).

The study of Indigenous Media was continued by Eric Michaels, who worked with Warlpiri and other Aboriginal peoples in Central Australia in the 1970s. Michaels, an American hired by the Australian government to advise it regarding bringing commercial broadcast TV to Aboriginal people, became an outspoken advocate for the Aboriginal people with whom he worked. He supported Aboriginal peoples' efforts to make their own video recordings and television broadcasts. Like Worth and Adair, Michaels noticed that in both filmmaking and film watching, Aboriginal peoples were primarily concerned about the social process. The

people Michaels worked among were very clan-oriented, and imposed numerous restrictions especially regarding the presentation of images of people who had died (Michaels 1984, 1985). Michaels also came to realize that the Aboriginal people he was working believed strongly that only the appropriate community members should make films about stories, and on land, associated with those community members' families. It was in part due to Eric Michaels' encouraging influence that, twelve years after he died, Warlpiri people and others founded the Tanami Network in 1992.

Other important early work in Indigenous Media was done by Terence Turner, with Kayapo people in Brazil (Turner 1990, 1991, 1992, 1995). In projects such as Video in the Villages (in the rainforests of Brazil), community members are being trained to make their own video recordings about their traditional cultures (Aufderheide 1995). [1]

In recent years, a component that has increased in electronic ethnographic documentation work has been the developing of ways to document, and teach-and-learn, local languages and dialects. In particular, scholars of teaching-and-learning second languages have contributed to this field. Leaders of such projects include Laurel Evelyn Dyson, Max Hendriks, and Stephen Grant, who

[1] Numerous Video in the Villages video recordings are described at http://www.der.org/films/vitv-collection.html .

are faculty members at the University of Technology in Sydney, Australia, and editors of *Information Technology and Indigenous People* (2007). One aspect of their work involves helping Aboriginal young people to enroll in academic courses and programs.

There are also a growing number of research projects that involve scholars and community members together putting a great deal of folkloric information about communities on websites (Underberg 2006). The development of media about traditional communities is often done in collaboration between community members, and outside scholars and other experts.

c) Ethnographic Videoconferencing.

An ethnographic videoconference is a videoconference which functions to collect data from the field. Such events tend to occur between a field site, and a site at or related to the scholar's home university. Members of the people whose culture is under study are at the field site. The scholar may be at either site. In the cases discussed in this dissertation, I was with my research subjects at the field site. The field site may be in the actual fieldwork location, or at a facility close to that location: close enough so that the people whose culture is under

study still feel relatively at home -- in their state and nation, and in an area in which their language is spoken.

Among the people who may be on the university side of an ethnographic videoconference are: 1) faculty and students of the ethnographic videoconferencer's university; 2) scholars who are specialists in the culture under study; and 3) members of the culture under study who may have relocated to the university area. Members of this latter group are often referred to as being members of the culture's diaspora community. It is a positive factor if at least one person at the university end of the videoconference can speak the language of the culture under study: for this language to be used in the videoconference is a gesture of respect towards that language and the people who speak it.

On both sides of the videoconference, it is useful for there to be people who can translate back and forth between the fieldwork language (in the case of this dissertation, a dialect of Tamil), and the university language (in this case, English). In the 2004 and 2005 videoconferences, an added factor was that members of the group at the fieldwork site needed to translate between the Kani tribal dialect (spoken especially by Rajammal) and standard Tamil, especially so that the Tamil-speaking people on the university side of the videoconference could understand what Rajammal was saying.

In ethnographic videoconferences, the people at the fieldwork site can also ask questions of the people at the university site. If they so desire, individuals among the people-under-study may also begin to study the university-based people in a rigorous manner (which may involve reading about them, and conducting physically-present fieldwork amongst them). Thus, there is potential for "reciprocal ethnography."[1]

In an ethnographic videoconference, on one level the people at the fieldwork site may be participating in the videoconference as teachers about the traditional culture. This may especially be the case if members of the diaspora community attend the videoconference from the university site. In such cases, the normal social dynamic of the so-called "Digital Divide" may be modified and even reversed. (The term, "Digital Divide" seems to imply that the main thing that happens in the relationship between the parties is that the people at the fieldwork site, who may live in rural areas, need to be educated -- especially in terms of literacy -- by the urban, university-related people.) Ethnographic videoconferencing often makes it clear that both sides have much to learn from each other. The scholar who sets up such a meeting can also observe how

[1] The term, reciprocal ethnography, is used here in a different way than it is used by Elaine Lawless, who seems to have coined the term (Lawless 1991). She uses the term to refer to people of a culture under study discussing with the scholar the data that the scholar has collected, and so adding to and helping to contextualize this data.

these two different groups of a culture -- those who are based at the home location, and those who are overseas-based -- interact with each other.

To properly contextualize ethnographic videoconferencing, brief reviews of ethnographic photography, and ethnographic film and video, are necessary.

In the mid-19th century, the simultaneous development of photography and colonization led to photography sometimes being a tool in the hands of the colonizers. Photography was one of the technologies of conquest, assisting with the study, administration, and manipulation (forced relocations, etc.) of colonized peoples.

Edward Curtis published twenty volumes of his photographs of Native-Americans (Curtis, 1907-30). He also made one of the first ethnographic films meant for general audiences -- *In The Land of the Head-Hunters* -- which was released in 1914. This movie was made with Native-Americans of northern British Columbia and southern Alaska. The movie did not do well financially, in part because the USA public was pre-occupied with WWI at the time of its release, and also perhaps due to there not being characters portrayed in the movie with whom audiences could identify on a human level.

Robert Flaherty's *Nanook of the North* (1922), however, did become a famous and money-making film. In this instance, there was a native hero with whom audience members could identify. The movie centered around this native hero's struggles with nature to get food.

Ethnographic film made great advances through the work of Margaret Mead and Gregory Bateson, who made a series of films about infant behavior and child-rearing methods in Indonesia and New Guinea. This material was filmed in 1936-8 and released in 1958 (Mead and Bateson 1958). Mead and Bateson attempted to psychoanalyze entire cultures based largely on their subjects' body language with each other. In any case, their work represents one of the first serious uses of ethnographic film to study physical behavior on the micro-level.

John Marshall filmed in Africa in the 1950s. He developed the idea of *sequential films*: short sequences that could be shown in the classroom and then discussed. The first academic home in the USA for ethnographic film was the Film Study Center, founded in 1958. This was a section of Harvard University's Peabody Museum of Archeology and Ethnography. The initial mission of the Film Study Center was for it to be a repository for footage shot by John Marshall in Africa, and it was originally directed by Robert Gardner. Documentary Educational Resources was incorporated in 1971, originally to distribute the work of John

Marshall and Timothy Asch; today it distributes the work of many ethnographic film and video makers.[1]

In 1975, the National Anthropological Film Center was established as a part of the Smithsonian Museum in Washington, D.C. Margaret Mead was a leader in the establishment of this Center: "Without doubt, Mead was the 'mother' of visual anthropology in the United States" (Ruby 2001, p. 6). This Center has since been renamed, the Human Studies Film Archives.[2]

Ethnographic film was formally recognized by the discipline of Anthropology in the 1970s, due to factors such as funding availability, proliferation of technology, and the realization of the value of visual recordings (Ruby 2002, p. 10). The Society for the Anthropology of Visual Communication was accepted as a subsection of the American Anthropological Association in the early 1970s. The studying and making of ethnographic films and videos in academia is sometimes done under the heading of "visual anthropology." The field also concerns ways that people in the cultures under study perceive, use, and create media. The leading ethnographic film and video -- or visual anthropology -- programs in USA universities include those at Temple University (Philadelphia); New York

---

[1] http://www.der.org .

[2] The Smithsonian Institution is the USA's preeminent museum and research complex (http://www.nmnh.si.edu). Within that is the National Museum of Natural History (NMMN). Within that is the NMMN's Anthropology Dept., and within that is the Human Studies Film Archives (http://www.nmnh.si.edu/naa).

University; and the University of Southern California, and the University of California at Los Angeles (both in Los Angeles). The leading ethnographic film and video festival in the USA is the Margaret Mead Film and Video Festival.[1] *Visual Anthropology Review* and *Visual Anthropology* are two of the field's leading journals.[2]

The career and intellectual development of Timothy Asch can serve as an excellent representation of how the field of ethnographic film has evolved, and how this evolution has set the stage for ethnographic videoconferencing. In the 60s, Timothy Asch, a skilled filmmaker with an interest in anthropology, joined Anthropologist Napoleon Chagnon at the latter's fieldwork sites in the Amazon rainforest of Venezuela, and filmed Yanomami people. A number of films came out of this work, including *The Feast* (1969), and *The Ax Fight* (1975). Chagnon especially studied violence in Yanomami society. In the process, Chagnon may have encouraged violence (by, for examples, paying informants with steel knives, machetes, and axes; and causing quarrels by bribing informants to tell ritually-

---

[1] http://www.amnh.org/programs/mead .

[2] The term, "visual anthropology," is a bit awkward, in part because it does not convey the field's focus on the moving, rather than the still, image. It seems that what is actually being referred to is "media," rather than the "visual." Emerging media has to do with design, multimedia, and interactivity -- and can not sensibly be studied in terms of visual output alone. Incidentally, the traditional sense in academia that the term "film" has more status than "video" -- perhaps because "film" might seem to refer to an object, and "video" might seem to refer to process -- is in the process of being rethought, as all recording processes seem to be headed toward digitization in computers.

secret information about others). One of Chagnon's hypotheses was that murderers had more children and thus were more successful than others in terms of evolution. Asch, who did not have a Ph.D. and was a visitor at Chagnon's field sites, was obliged to go along with Chagnon's approach, and thus the films that came out of this work likewise centered on violence. The Yanomami people in these films are presented as primitive, savage, childlike, and irrational: the viewer never gets to meet any of the films' subjects as individuals with emotional and intellectual interiors.

In the mid-70s, Asch went to teach in Australia, and from that base worked on a number of film projects with anthropologists in that vicinity, including a series about a traditional healer in Indonesia, named Jero Tapalan. Timothy Asch's intellectual shift in this process can be said to encapsulate the awakening of Western ethnographic film itself. In his words:

> By the time I began to film with Linda Conner in Bali, I had four main reservations about the Yanomamo films:
>
> 1) Films of people who look exotic can be, and frequently are, used to reinforce Western prejudices about "primitive" people...
> 2) I had intended that the films be integrated with written materials that would provide the needed context to help counter such prejudice and to make the films more valuable for instruction.
> 3) I regretted not filming more Yanomamo conversations, which would have allowed individual Yanomamo to reveal their thoughts and opinions more directly. It is disappointing that so few individual characters emerge in ethnographic films.

> 4) I was sorry that we dared not take our film back to show to participants. [Although,] Were Yanomamo to see images of dead relatives they would probably try to kill us, assuming that because we had stolen the dead people's souls (by taking their images), we were responsible for their deaths.
>
> (Connor 1986, p. 43-4)

This last concern was a very real one, in part because Chagnon's fieldwork had involved learning and writing down the names of dead relatives, so he could create elaborate genealogies. As Yanomamo culture forbids the saying of the names of those recently deceased, Chagnon had gotten the names in part through bribery and trickery, causing much bitterness and feeling of having been violated, among the Yanomamo with whom he worked.

Asch proceeded in his subsequent work to make the identified improvements. In his film, *Jero on Jero: A Balinese Trance Séance Observed* (1981), the lady healer looked at and commented upon footage taken of her in ritual action. This movie enshrined this technique in the field of ethnographic movie-making, although this was not the first time, and would not be the last time, that an ethnographic moviemaker would make movies of his subjects watching and responding to their own images. For examples: Jean Rouch had done so in *Chronicles of a Summer* (1961). And *Zulay, Facing the Twenty-First Century* (directed by Jorge Preloran, Mabel Preloran, and Zulay Saravino, 1993) portrays a woman from Equador not only watching parts of the film about herself and her

people, and talking about what she is seeing -- she also is shown helping to edit the very film that we are watching!

All four of Asch's mid-career statements of goals involve recognizing that the subjects of ethnographic research are individuals with interiors, and recognizing the value of enabling these individuals to speak for themselves to and with the public. When he was asked in 1991 how he felt about his films of the Yanomamo, Ash answered, "I am no longer as interested in making films about them, as I am in seeing the kinds of films that they might make about themselves. Moreover, I now question my role as an outsider representing their life and concerns to the outside world" (Ash et al, 1991, p. 102).

Ethnographic videoconferencing is an evolutionary development of ethnographic photography, and ethnographic film and video. One way that videoconferencing is different from those other mediums is that in videoconferencing, the people under study take an active part in the presentation process. They can speak for themselves, and they can also determine what visual images are being transmitted from their site.

Similarly to ethnographic photography, film, and video, there are a number of conditions that must be met to justify the term "ethnographic," in the phrase, ethnographic videoconferencing. Some of these conditions have been

mentioned above. To summarize: Four factors that make a videoconference ethnographic are:

> 1) All of the participants agree that a primary purpose of the event is the presentation of and discussion about aspects of a community's culture.
>
> 2) The videoconference has at least these two sites: a fieldwork-related site, and a university-related site. The organizing scholar may be at either site. People who attend at the university side can include other faculty and students of the university, members of the public (including artists and experts) who are interested in the culture under study, and members of the culture's diaspora community.
>
> 3) The videoconference follows an extended period of physically-present ethnographic fieldwork by the organizing scholar. Ethnographic fieldwork involves visiting and staying with members of the community under study for an extended period of time -- classically for at least a year. Videoconferencing should never be seen as a replacement for physically-present fieldwork: it is previously-conducted physically-present fieldwork that makes this kind of serious videoconferencing possible. In turn, fieldwork is typically embarked-upon only after the scholar has begun reading existing historical, sociological, and other scholarship about the community and culture under study.
>
> 4) The oral language of the community under study is used in at least in parts of the videoconference. At least one person who speaks the community's language attends from the university side of the videoconference.

Timothy Asch defined ethnographic film as footage of "naturally-occurring social interaction" (Asch 1991). This is a goal that is never achieved, unless the filming is done secretly, for the presence of the scholar and the recording equipment always changes peoples' behavior. What can occur in an ethnographic

videoconference is that social interaction between community members and outsiders can be conducted and observed.

Also, the people whose culture is under study can put on a show, demonstrate how they do things, and even teach people at the other site(s) how to do these things -- and then the subject matter can be discussed. The making of presentations for outsiders is a traditional part of every culture, and should not be considered an invalid practice for research purposes. A key factor for a good demonstration is that there should be numerous members of the community present (at the culture-under-study's site), so that they can interact amongst themselves, and support each other. If members of the community, members of the diaspora community, or others who may be fluent in the language and culture of the community, may be at a site of the videoconference other than the field site, then folk processes can actually be practiced -- as well as taught and discussed -- interactively amongst people at the various sites.

An ethnographic videoconference is certainly an artificial situation to some degree, but it is natural to the extent that numerous community members are present at the field site, and that they are presenting material to others who are respectful and interested. That is to say, whenever there is engaged social interaction, a situation can be said to be traditional and natural to some degree. It would also seem that when outsiders are witnessing and/or interacting with folk

events, it is natural and appropriate that the folk performers generally should in some form be paid for educating and entertaining the outsiders. This goes back, in the case of India, to the paradigm of maharajahs visiting village festivals, witnessing and receiving elements of the folk culture, and giving a gift; and of village people visiting the maharajah's court, performing and giving elements of the folk culture, and receiving a gift.

As mentioned, an ethnographic videoconference may be webcast live, and recordings of a ethnographic videoconference may be made and watched afterwards. To the extent that participants in ethnographic videoconferences may be aware of these possibilities, the conversations they have in the videoconference involve putting on a show. Again, this does not necessarily diminish the research value of the event. In fact, it may stimulate parties to teach and learn more than they might have otherwise, and the event may benefit from e-mails sent in by people watching around the world and read aloud by members of the videoconference (as was the case in the 2005 Chennai-Philadelphia videoconference discussed herein).

Moreover, when members of a single group engage in a traditional activity, such as an elder telling folktales to children, and this relationship and situation is performed in public, two things that are occurring at once are: 1) an elder is teaching a young person in the community how to be a person in that community,

through the form and content of the storytelling; and 2) the elder and the listener are together demonstrating for onlookers how to be members of that community. That is, the very act of transmitting knowledge from one member of the community to another, or just the act of relating in general, can be a performance and an opportunity to educate and entertain onlookers who may not be members of that community. This runs counter to the idea that the presence of outsiders necessarily disrupts intra-group communication. On the contrary, the presence of the outsiders can stimulate certain types of intra-group communication. For example, the money that an outsider might pay for the privilege of witnessing the event -- and simply the outsider's interest, and use of technology in relation to the event -- might promote feelings in the event participants that the event is actually meaningful and worthwhile.

An essential point about ethnographic videoconferencing is that people of the culture under study have the opportunity to frame themselves. They can control what image and sound is being sent out from their site. They can also participate in determining whether or not the event is to be recorded; and whether it is going to be a private conversation, or whether the conversation is going to be simultaneously relayed onto the Internet as a live audio-video webcast so that a limited or unlimited number of others can watch and listen, and possibly participate in the event via e-mail or other means.

There could also be *ethnographic mobile telephoning* (which again would need to follow physically-present fieldwork to be considered rigorous and serious). A major issue here might be the quality of voice that would be recorded, but technology is improving, and for some applications, quality is not so important.

Possibilities that such interactive telecommunication data-collecting enable are: 1) One does not have to worry about making the recording in the field. The conversation can be recorded on the university end of the conversation. This avoids the danger of the scholar damaging or losing the recording on the way home. 2) The fieldwork scholar, other scholars, and/or members of the diaspora community can be on the university side of the videoconference.

The use of electronic interactive telecommunication equipment lends excitement and glamour to the data-collecting situation. There is the possibility that there might be ongoing use of such equipment for members the fieldwork community; that some of them might be able to be trained in its use; and that this might lead to new ways of making a living for members of the fieldwork community. However, as with ethnographic videoconferencing and any activity described by the word, ethnographic: physically-present fieldwork should be done before any other type of communication is attempted. The physically-present fieldwork lays the emotional, perceptual, and intellectual foundations for any subsequent mediated communication.

This chapter has discussed how ethnographic videoconferencing, in relation to Folklore Studies, has evolved from earlier methods of folklore documentation and presentation such as ethnographic photography, and ethnographic film and video. Videoconferencing involves a (mediated) social process, a conversation, a relationship. Videoconferencing shifts documentation from being object-centric (data extracted from community-resource-persons) to being process-centric (a mediated conversation between scholars and community-resource-persons that produces data). It was a similar shift from object to process that animated the *Performance-centered approach to folklore*, founded in the 1960s and 1970s, which shifted Folklore scholars' concentration from the collection of objects, to the observation of social and performative processes through which those objects came to be.

It should be added that to the extent that ethnographic videoconferencing -- like ethnographic photography, film, and video -- is carried out in the context of an academic research project, the end of the overall process involves the production of an analytic piece of writing, which discusses, among other things, the research project's methods of collecting data. That is, when it comes to research projects in academic contexts: meetings, multimedia experiences, and audio-video recordings can never be ends in themselves.

It seems that the term and concept of ethnographic videoconferencing was publicly introduced by myself, in the paper, “Videoconferencing for Folklorists,” which was presented in a panel on research methodologies at the 1999 annual meeting of the American Folklore Society, in Memphis, Tennessee. Another scholar who uses the term, ethnographic videoconferencing, and who came up with it independently, is Dr. Janice Graham, a medical anthropologist on faculty at Dalhousie University, Halifax, Nova Scotia, Canada. Dr. Graham’s research explores “regulatory practices, aging, diagnostic imaginaries, and databases as cultural texts.”[1] Launched in 2005, Dr. Graham’s Qualitative Research Commons and Studio (QuRCS) is a

> multimedia research facility that allows for high-speed audio and video connectivity among multi-site national and international research groups... Inspired by the traditions of medical and visual anthropology and ethnographic film, this facility will enable interactive access among participants and communities in multi-sited research projects.[2]

[1] http://bioethics.medicine.dal.ca/WhoWeAre/Graham_PP.htm , accessed on 2 May 2007. Dr. Graham’s work is updated on http://www.trru.ca , accessed on 1 February 2010.
[2] http://bioethics.medicine.dal.ca/OurWork/OW_QuRCS.htm , accessed on 2 May 2007.

d) Design and Aesthetic Factors in Videoconferencing.

“Good videoconferencing” occurs when the distant participants can talk with each other in a conversational tone, and can feel like they are almost in the same room, only separated by a few meters of space. Of course, the optimum technological and design conditions that can give this sense of connection and closeness are not always present. Therefore, the following principles of Signal Detection Theory should be kept in mind by videoconferencers, and utilized when called for. Five principles that increase the reliability of signal detection are:

> i) Redundancy of part of a signal, or of the entire signal.
> ii) Conspicuousness by exaggeration.
> iii) A small repertoire of signals, or of types of signals.
> iv) Alerting components at the beginning of a signal -- to let the listener know that the *message component* of the signal is soon to be transmitted.
> v) Alerting components at the end of a signal -- to let the listener know that the *message component* has just been transmitted, and to request the listener to indicate that she has received and comprehended the signal just sent.
>
> (Fernald 1994)

It is sometimes helpful to utilize these principles at the beginning of a videoconference, and then forgo some of them if communication seems to be going well. Actually, it is a good idea to take the time at the beginning of a videoconference to take stock of the system, so that all can understand its limitations and not hold the other participants responsible for disjunctures in communication that might be inherent to the system.

Questions to take into account when crafting a videoconference include:

i) Room Layout.

Early videoconference rooms often featured large, immoveable tables in the center of the room. Such tables may convey authority and dignity, but they keep participants away from each other and away from the monitor -- and thus, away from their videoconference partners. Such tables also prevent expressive full-body behavior. The best option is to have chairs and modular tables that can be moved.

For informal videoconferences, especially those involving children, it may work well to have the children sit close to the camera, on the floor; and to have the adults sit against the walls, on the periphery of the space (on the floor, or on chairs). This was the seating arrangement at both sites for the 2004 and 2005 Chennai-Philadelphia videoconferences.

ii) Placement of Cameras.

Eye contact is a very important factor in physically-present communication. However, it can be difficult to achieve simulated eye-contact in a

videoconference. This can be due to the fact that if the camera is above the screen, a person looking directly at that screen seems to be looking downward, from the perspective of the camera above the screen (and this is the image of oneself that is sent to one's videoconference partners). If on the other hand one's camera is beneath one's screen, and one is looking at the screen, the camera will tend to capture one's image looking upward, above one's conversation partner.

The difficulty in achieving simulated eye-contact in a videoconference is known as the "parallax problem." In a sense, an ideal placement for the camera is behind or in front of the images of the eyes of the person with whom one is conversing in a videoconference. Indeed, cameras can be placed behind translucent screens, and embedded in screens; and one can place a very small camera in front of a screen. Participants can experiment with camera placement to determine what options work best for them.

iii) The Delay Between When One Sends a Signal, and When It is Received.

This delay can be a major difficulty in relation to artistic performance and training via videoconference. However, once participants become aware of the time delay inherent in a system, they can find ways to work around this delay.

One way to determine the magnitude of the delay is for participants to sing together in the following manner: Party A can sing independently, and Party B can attempt to sing along synchronously. They will most likely find that the singing is synchronous on Party B's side of the videoconference, but that on Party A's side, Party B is heard singing a second or so behind Party A. Then the roles can be reversed, so that the people at both sites can understand the magnitude of the delay. I find it interesting philosophically that the "same event" can be experienced differently in this way by people in different locations.

iv) Audio and Video May Not Arrive at the Same Time.

In some videoconferences, the audio may perpetually arrive a split-second-or-more before the video.

v) Simultaneous Transmission and Reception of Audio.

In animated physically-present conversation, participants often speak and listen at the same time. If a test determines that a videoconference system is incapable of simultaneous transmission and reception, participants might decide

to use a physical gesture to signal that one wishes to speak. Also, it might be a useful convention to leave a half-second-or-so of silence between turns of speaking.

vi) Reception of Audio from Multiple Sites Simultaneously.

What happens if people at multiple sites of a videoconference speak at once? A number of videoconference systems that I have experienced do not handle this very well -- a din featuring unintelligible sounds tends to result. Thus, often in multi-party videoconferences one is requested to set one's out-going audio "mute" when one does not have the floor. Being limited to one-at-a-time speaking with formal transitions between successive speakers greatly hinders natural, informal conversational interaction (which tends to feature a lot of overlapping and simultaneous talk). It should be a goal of designers to enable videoconference conversation to be just as multi-layered, multi-textured, and occasionally messy, as physically-present conversation.

vii) Seeing Direct and Horizontally-reversed Images of Oneself.

Most currently-available videoconference systems can only show participants horizontally-reversed images of themselves. For example, when one raises one's right hand, on the screen one sees one's left hand come up. This alienates one from one's own image. In many videoconferences this is not at all a problem, for in any case most people choose to minimize or remove their own image from the screen they are watching once a conversation gets underway in a videoconference. However, this horizontal-reverse makes moving and dancing in relation to one's distant partners' images very difficult. What is called for is the ability to choose whether one will see a true or horizontally-reversed image of oneself.

viii) Close-ups.

A close-up in a videoconference in which numerous people are in attendance at each site can be a very useful communicative tool, letting people know who is speaking, and whom is being addressed. If a speaker does not have a close-up of a person to address in such a videoconference, a speaker tends to address the group. Confusion and vagueness then tends to ensue because these group members usually can have no idea at which individuals the speaker is looking at

any given time. This is unlike physically-present communication, in which a speaker can often look at one listener at a time, and that listener (and the other listeners) can thus know at whom the speaker is looking.

ix) Body Movement and Camera Movement.

Movement in a videoconference -- both movement of the camera, and movement of participants' bodies -- often causes a temporary blur. Technicians sometimes discourage such movement, perhaps feeling that it makes their system look bad. If the object is to maintain dignity and to establish that one has a high-quality system, a way to avoid detection of weakness of the system is to remain as still as possible. However, in play contexts (art-making, game-playing, etc.) the aims and objectives may be different. When people play, they may *want* to see blurs. They may consider a temporary blur to be dramatic, or even beautiful.

x) Screen Configuration.

The configuration of the screen one sees while participating in or observing a videoconference conversation determines who and what one sees. Important questions here include: "Can one see all of the other participants all of the

time?," "Do all of the participants see the same images?," and "Are observers of a videoconference able to see whom the speaker is addressing?"

To begin with the first question, "Can one see all of the other participants all of the time?": Two popular methods of configuring a screen in multi-party videoconferences are: 1) the present speaker's image is seen full-screen by all of the other videoconference participants (and the possible webcast audience); and 2) the screen is divided up into a multi-window grid, in which video from all parties can perpetually be seen by all (one may or may not see the video coming from one's own site). If four parties are to be shown (with each shown as a regular three-by-four ratio picture), a quadrant can be made, with no wasted space; but if only two or three parties are to be shown, there can be empty, wasted space on the screen.

When the present speaker's image appears on the screen that everyone sees, this speaker's image is selected either automatically (because he/she is producing sound), or by a director's manual control. A disadvantage of this method is that parties in the videoconference, and parties watching the webcast of the videoconference, do not have the opportunity to see the reactions of listeners. When the multi-window grid method is used, one can see people's reactions to the speaker; but a disadvantage of this method is that each party's image is relatively small.

As a scholar of verbal arts, I have become very sensitive to the importance of knowing who and what a speaker is seeing. Whom a speaker is addressing tells one a great deal about why a speaker is speaking in a certain way. Thus, my preference is generally for a multi-window grid configuration.

Regarding the second question, “Do all of the participants see the same images?”: Usually all of the participants in a videoconference do not see the same images. In a present-speaker-is-seen-full-screen configuration, the speaker of course would not see him/herself full-screen. In a multi-window grid, participants may see different parties in the various rectangles. In addition, most videoconference systems enable people at each site to minimize, move, and even remove their own image on the screen they are watching -- this is the picture-in-picture configuration.

However, for the videoconferences that provide the primary videoconference data for this dissertation (the 2004 and 2005 Chennai-Philadelphia videoconferences) -- as well as for all six of the videoconferences that I facilitated at Penn as part of the Graduate Student Videoconference Series (2000-2002) -- a rarely-used configuration was utilized. In this configuration, all participants do see the same images: all participants in these videoconferences (and the observers of the webcasts of the videoconferences) saw the same composite-

image produced by a mix of the images generated by the two sides. The combining of the two video images was done with a piece of video hardware -- a video mixer -- which was stationed at the Philadelphia site. In the cases of the 2004 and 2005 Chennai-Philadelphia videoconferences, this device mixed the incoming Chennai image (on the left side of the screen), and the local Philadelphia image (on the right side of the screen). Seeing this combination of images enabled people at the two sites to develop a left-right spatial relationship with each other.

The combined visual output was sent to four places: 1) a large screen in the Philadelphia room, 2) a video recorder in the Philadelphia room, 3) a large screen in the Chennai room, and 4) the Internet, where it could be observed as a live webcast. An advantage of using a video mixer to combine the images from each site is that the images of the speakers and the listeners can be seen in a single composite frame, viewable on a single screen, and this composite image can be sent out to all of these locations.

Two mixing options provided by a video mixer are 1) a wipe (also known as, a splitscreen-mix); and 2) a super-imposition (also known as, a dissolve-mix). We used the splitscreen-mix option during most of the 2004 and 2005

videoconferences; we experimented with the dissolve-mix only a few times during the 2005 videoconference (for a discussion of one such case, please see p. 498 of the current work).

To my knowledge, I invented the practice of using a video mixer in a videoconference -- especially to do a dissolve-mix in a videoconference. I got the idea to dissolve-mix in a videoconference from an art installation I saw at the Here Center in Soho, New York City, in the mid-1980s. This installation's primary feature was an upright slab of glass. If one walked up to it, one's image appeared on the glass. If someone else walked up to the other side of the glass, that person's image also appeared on the glass: the two images mixed, superimposed on each other. I do not recall whether or not cameras were used. In any case, upon seeing this installation, I immediately thought to try it in a videoconference. Myself and Diane Dunbar (my video partner throughout much of the 1980s and 1990s) had devices which enabled low-quality video-conferencing over regular telephone lines. We connected these devices (one on each end of a telephone call), with a video mixer on one end, and experimented with the dissolve-mix option (Figure 52, p. 509).

Doing a dissolve-mix in a videoconference tends to create an unusual sense in participants, and in observers. People are accustomed to videoconference sites appearing as separate windows. Thus, to have multiple sites share a single

window, and to have one's image overlap with or be fully super-imposed on another's image, can cause an eerie and disorienting feeling. In terms of visual clarity, a disadvantage of a dissolve-mix is that it causes each image to be relatively faint, or ghost-like.

Another way to mix two or more video feeds in a videoconference is a *collage*, in which processed parts of the various video feeds can appear in different sections of a composite screen-image. One way to achieve a collage-mix is through *keying* (which can be done on some video mixers). In a *luminance key*, the darkest or lightest sections of an image can be replaced by another video image (Figure 53, p. 509). In a *chroma key*, sections of an image that are a particular color can be replaced by another video image.

The video mixer method, as we used it in the 2004 and 2005 videoconferences, required people at each site to constantly see the image created at their own site -- because they had to see how it was being mixed with the image from the other site, so that they could coordinate the two images. All participants could have a say in how the cameras were being operated, and in how the mix was being composed.

A disadvantage of showing people their own images in a videoconference is that seeing their own images can make people self-conscious, and can cause them to pay more attention to their own images than to the images of their distant partners in the videoconference. This is especially so when people see close-up images of themselves.

When a video mixer produces a splitscreen-mix, each site's camera contributes to the composite picture only approximately half of the image that it is picking up. To handle this situation well, the camera people at each site need to remain very attentive to the combined image as the event unfolds.

When a party's own visual image is sent back to them in a composite image, the image they receive of themselves has twice the delay -- for it is being sent out, and returned. Seeing one's own image lagging behind oneself time-wise can be disconcerting. One reaction that people may have is to slow down, to let one's image catch up with one's self -- but of course the lagging image of themselves that they are seeing can never catch up to them!

How might a videoconference screen be configured to enable a hundred, or a hundred-thousand parties to participate? In such cases, everyone cannot be center-stage all of the time. If there would be a large number of parties arranged in a grid of tiny rectangular windows, for example -- when it would be one's turn

to speak: one's window could get larger, and move towards the center of the screen (from others' points of view). In large groups, people need (self- or imposed) discipline to take turns speaking to the group. How could parties indicate that they wish to have the floor? Perhaps the outline of their window could be highlighted, or some other special effect could transform their image.

As noted above, the practices of dissolve-mixing (super-imposing) -- or changing the proportional relationship between -- videoconference parties' images on a combined (and mutually-seen) visual field in the course of a videoconference, have in the past been relatively unusual approaches. Much more common is a compartmentalized configuration, such as that supplied by the subscription online videoconference service, Webex web conferencing (Webex is a Cisco company)[1]; or a situation in which one can place one's own image anywhere on one's screen, or remove it from one's screen, but such actions do not affect what the other parties see.

xi) Text Typing, Electronic Drawing and Painting, and Image-processing.

Communication factors such as three-dimensionality, and body heat and smell, are lost in most videoconferences. Thus it seems only fair to take advantage of

[1] http://www.webex.com .

whatever new options for expressive communication that the videoconferencing medium might offer.

There are numerous possible ways to show and share text in a videoconference. One high-tech method is have a dedicated text window, which all parties can see and in which they can type. A lower-tech method is to project text on the back wall of one of the videoconference rooms, and have one's single videoconference camera pick up this text. This was the method used (on the Chennai side) in the 2004 and 2005 Chennai-Philadelphia videoconferences.

In some videoconferences, there may be a need to make and present text translations of what people are saying to each other. It is a convention to call such texts, *sub-titles*, which implies that they appear at the bottom of the screen (*sub* means, under), but such texts can appear anywhere on screen, including beside and above speakers' faces, as is often done in comic books, in which the fields of text are known as *speech bubbles*, or *thought bubbles*. Such translation texts can be typed in advance and called up at certain moments; they can be typed on the spot; automatic voice recognition and translation technology can produce them; or a combination of such methods can be used. Translation texts can appear in the script of the language being spoken (Tamil, for example); a Latin-alphabet transliteration; an English-language translation; or all of these (Figure 52, p. 509). These texts can appear in different colors and sizes. The

texts can move: they can be animated, or can be manipulated manually by the speakers themselves, or by people off-screen. The texts can appear while a person is speaking a phrase, or after the phrase has been completed. Especially in the case of performance, the appearance of text on a screen needs to be handled very carefully, so as to avoid distracting and confusing the viewer. Perceiving an image of a person's body, is very different from perceiving visual text: different parts of the viewer's brain are involved. Reading text involves de-coding written language, which requires a certain type and amount of cerebral work on the part of a viewer.

In addition to text, participants in a videoconference should be able to do electronic drawing and painting -- again, either in the same window as their and their distant partner's images, or in a separate window. One should also be able to process one's own and one's partners' images in various ways, including *pixelization*, which reduces an image to little squares in a moving mosaic (Figure 55, p. 510); and coloring images in various ways, such as keying. Another way of processing live images in videoconferences is to reduce the frame rate (the number of frames seen per second) of an image.

A composite videoconference image may be designed in terms of layers, featuring video images in the background, with electronic drawing and text on successive foreground layers (Figure 52, p. 509; Figure 54, p. 510).

xii) The Webcast Option.

The combined video (along with the combined audio) of a videoconference can be sent out as a live webcast, so that distant audience members can observe the conversation and can participate in the event via e-mail (and other electronic means). The 2004 and 2005 videoconferences were webcast live from the University of Philadelphia site. This practice of relaying a videoconference as a live webcast has become quite common at universities in developed countries. Further options include making the recording of the videoconference available online for post-event viewing, and requiring a password to view the live or recorded event.

Being aware of, and choosing between, the above-discussed options can enable a videoconference to be a richly-expressive teaching-and-learning, or play, event. This multimedia- and aesthetics-oriented approach is very different than the approach generally used in first-generation videoconferencing. There the object was simply to enable the distant participants to see some image of each other. In those events, often held in business, government, and/or administrative contexts, the emphasis was on imparting information, giving commands, and maintaining one's dignity and authority. This often meant sitting behind a big desk or table, and moving a minimum amount.

The aesthetic and design choices made in designing a videoconference add up to developing a visual and behavioral grammar for this new medium. Just as with the size and placement of television sets (Reeves and Nass 1998), there are psychological, and thus emotional results of each design choice in a videoconference, and these choices effect the relationships between the distant parties. When a videoconference is designed poorly, participants often tend to blame each other, even feeling that the other parties might have some neurological impairments which might prevent them from communicating directly and clearly. When a system is designed well, participants tend to not notice the technology at all.

The above-mentioned choices can be made anew for each event, for each relationship. The artist Wassily Kandinsky sought to formulate universal principles of aesthetics: that certain colors cause certain emotional reactions, as do certain shapes, sizes of shapes, combinations of shapes, visual textures, placement of those shapes on a visual field (center, up, down, left side, right side, periphery, etc.). While there may indeed be universal principles involved in visual composition and perception, there should also be left open the possibilities of participants in a videoconference generating their own codes, their own conventions, for what particular visuals signify. For example, turning one's own image into little squares (pixilating the image) could express hiding, withdrawal, anger, dreaminess, playfulness, or anything else that the participants might want

to assign to such special-effect image-processing, as could changing the color of one's image.

The design and aesthetic options and issues should be presented to, and discussed with, all who are involved in a videoconference (to the extent that there is interest and time). There is often no perfect answer to design choices. That is, there will be trade-offs -- for example, any configuration will have such-and-such an advantage, but such-and-such a disadvantage. It may make sense to use a variety of configurations in the course of a videoconference, to give all a sense of the possibilities.

It is good to have easy-to-use and high-quality systems for screen-configuration, text-making, electronic drawing, and image-processing all built into in one's videoconference system. It is hoped that as videoconferencing is offered to the public in an increasing number of forms and contexts -- on desktop as well as mobile devices -- flexibility, and expressive features for creative play will be provided as much as possible. Videoconferencing is no longer a media just for business and administration purposes -- it needs to be freed from the stiff limitations of such serious and dignified communication.

What is being spoken of here is the development of a visual grammar for videoconferencing. A critical vocabulary is needed by which to discuss and plan

videoconferences. Such discourse has until now existed primarily in the realm of behind-the-scenes directors. However, as videoconferencing becomes more accessible (with the needed hardware and software built into off-the-shelf computers) and practical (via broadband Internet), videoconferencers will be becoming their own designers and directors.

This dissertation primarily concerns videoconferencing for ethnography (studying cultures), but videoconferencing for artistic expression is a related and growing field, and in the years to come, the term, *videoconference artist*, may well enter the general vocabulary.

B) Original Data.[1]

1) The 2004 and 2005 Videoconferences: Description and Commentary.

This dissertation concerns videoconferencing for 1) cultural research; 2) performance of, training in, and discussion about the arts; and 3) language teaching-and-learning. Two end-of-fieldwork videoconferences were planned and carried out in order to provide data for the dissertation: the first occurred on 16 October 2004, and the second occurred on 15 October 2005. The events featured the teaching of, and discussion about, the 14 play activities that I had come across and recorded in the course of fieldwork I conducted in the mountains of southwest Tamil Nadu between March 2003 and December 2004 (21 months).

These videoconferences were social-technological experiments designed to help develop the relatively new medium of videoconferencing; and also to investigate ways in which aspects of children's singing-games can be used in language teaching-and-learning, whether done by people who are physically-present, or telepresent, to each other. The 2004 and 2005 videoconferences -- in addition to being about ethnographic presentation (especially from the Chennai side) -- were

[1] Recordings of the 2004 and 2005 Chennai-Philadelphia Videoconferences can be accessed through http://www.storytellingandvideoconferencing.com/333.html .

also about play, and about people at both the Chennai and Philadelphia sites putting on a show for each other, and for possible observers. It is sometimes in play that one discovers methods of communication that can also be useful in serious situations.

The Tamil diaspora presents an excellent opportunity for “multi-sited ethnography” (Marcus 1995); and videoconferencing enables ethnography with people at multiple sites at the same time. The 2004 and 2005 videoconferences temporarily brought together members of two very different groups of Tamil people.

At the Chennai site, there were Tamil people who live in rural Tamil Nadu. To be specific, they were Kani people (classified as a tribe), who live in mountain forests in the southwestern section of the state. For both the 2004 and 2005 videoconferences, a group of Kani people visited Chennai, Tamil Nadu’s capital city, for approximately ten days, as my guests. In Chennai, children of this Kani group performed and taught their songs/chants/dances/games in a number of schools. Then, near the end of each stay in Chennai, members of the Kani group participated in a videoconference.

At the Philadelphia site, there were Tamil people who had moved to the USA. These people are among the most urbanized and globalized of Tamil people.

They included members of the Tamil Association of the Greater Delaware Valley; and friends and family of Dr. Vasu Renganathan, my Tamil language instructor at Penn. Tamil people who have settled in the USA tend to be quite successful financially. Both parents in families often work as professionals -- as doctors, engineers, research scientists, information technology specialists, and such. The experiences of these immigrants are very different from the experiences of those living in a small village in Tamil Nadu's southwestern mountains. And yet, to the great credit of the Tamil people on the USA side of these videoconferences, they made the members of the Kani group feel appreciated and comfortable, according to feedback I received from members of the Kani group.

It is important to think about how members of these two groups might perceive each other. A prominent element of Tamil culture is an awareness of an ancient literary golden age, a Sangam Age (a "sangam" is an assembly of poets and scholars). Actually, three Sangam Ages are spoken of, the most recent one having occurred between seventeen and twenty-one hundred years ago. Indeed there were court poets, both oral and literary, in this period in Tamil Nadu, and a number of the literary works from this Sangam Age still exist. Present-day tribal dialects in south India, as hybrid and slang as they may be, tend to still have in them some of the words and grammatical structures associated with that ancient literature. For example, the word, "manthi" for monkey, is an ancient word that appears in contemporary Kani Pasai (Kani Talk, as their dialect is known),

including in Kani children's verbal play (Activity 8). Such archaic verbal elements help to associate today's living tribal people with the ancient classical age, an association which is also based on innumerable legends of interactions between tribal people and Tamil kings in ancient times.

Military heroism by aristocratic men, and faithfulness (chastity) by their wives, are also associated with an ancient Tamil golden age. The character, Kannagi, from Tamil Nadu's central epic, the *Silappathikaram* (the *Epic of the Anklet*) is a leading personification of this female ideal (although Kannagi and her husband were not royalty, but rather were of a prosperous merchant community).[1] Legend has it that Shenguttuvan, the king of the Western Ghats mountain area (the Chera kingdom), observed tribal women worshipping Kannagi's stone image in those mountains, and this prompted him to request his brother to compose a long poem about Kannagi: this text has been linguistically-dated to have been written approximately 1,400 years ago. The association of Kannagi with tribal women gives great moral credit to those tribal women, and to tribal people in general, even today.

Small village life continues to be idealized by many urbanized Indian people, who at times refer to small village India as the "real" India. Honesty, dependability, peacefulness, and satisfaction with life, are all associated with small village life.

[1] The story of Kannagi is told on p. 69.

Living in harmony with nature, and in humility before the natural elements, are qualities especially associated with tribal peoples in the eyes of many modern urban Tamils. From this point of view, materialism and the "rat-race" of ambition are often associated with urban life.

The above are factors that may influence urban Tamil people to respect and have an interest in Indian people -- and in tribal people in particular -- who live in the Indian countryside.

As a folklorist, I feel it is not my job to pry into people's social backgrounds very much. I only ask questions about individuals' backgrounds when I feel the answer would illuminate an aspect of a folk performance. Therefore, I never asked the Tamil people in the USA to what castes they belonged. And the fact that the Kani people are classified and self-identify as a tribal people was not stressed in the 2004 and 2005 videoconferences. In terms of social groups, this project was not about meetings between members of different castes; it was about meetings between urban globalized Tamil people, and rural small-village Tamil people.

I brought the Kani people to these videoconference meetings as teachers. A primary mission of the events (from my point of view at least) was for the Kani

children to teach some traditional Tamil children's activities to the children of Tamil descent in the USA.

I acclimated the Kani participants to videoconferencing gradually. The residents of Vellambi are very familiar with TV. As mentioned in Chapter III, my primary research partner, Velmurugan, had been the cable TV operator for the village long before I arrived. The only technological element that I introduced was the possibility of Kani people themselves recording and transmitting electronic pictures and sounds of themselves. Even this was done with caution and without haste: for the first six months of my stay in Vellambi, I brought no electronic technology at all. Two nights before the 2004 videoconference, I projected a live camera image on a wall, so that the Kani people who were visiting Chennai could get used to seeing their own live electronic images.

The 16 October 2004, and 15 October 2005, Chennai-Philadelphia videoconferences were ethnographic videoconferences. In ethnographic videoconferences, there tend to be at least one member of the local community at the field videoconference site who is conversant in the university site's primary language -- which in this case was English. This individual is in a position to help outsiders understand what the local people are saying, and to help the local people understand what the outsiders are saying. In the 2005 Chennai-Philadelphia videoconference, it was especially the young Kani woman, Banu,

who took on this role of linguistic as well as cultural interpreter at the Chennai site (please see pp. 483-5, 488, 498, 500-1).

Some of the participants in the 2004 and 2005 videoconferences were not fully fluent in Tamil (including myself on the Chennai side, and most of the children on the Philadelphia side), and some of the participants were not fully fluent in English (including most of the Kani people on the Chennai side). Thus, there were many moments in the course of these events in which not everyone present fully understood what was being said. This sort of situation occurs often in meetings in India, where there are 21 state languages. In India, people have high tolerance for, and patience regarding, not understanding all that is said in meetings due to language barriers, but such situations are relatively unusual in meetings in the USA.

The 2004 and 2005 videoconferences featured the Chennai image on the left side of the combined image, and the Philadelphia image on the right. I chose this configuration because in both English and Tamil one reads from left to right; and in these events, the primary teachers were the children in Chennai. Thus, the Chennai children's images were placed on the left, the position of initiating; and the Philadelphia children's images were placed on the right, the position of responding.

Because the two parties' images were in a fixed relationship to each other (Chennai on left, Philadelphia on right) and all saw this same configuration, participants were able to develop spatial (left-right) relationships with each other. This kind of spatially-set arrangement is unusual in videoconferences.

In both the 2004 and 2005 videoconferences, the camera on the Chennai side was below the center of the screen; thus (from our distant partners' points of view) we in Chennai seemed to be looking slightly upward. The camera on the Philadelphia side was placed on one side of the screen, creating the effect that the people in Philadelphia were looking leftward, at the Chennai image. The set-up worked very well: there was a sense, if not quite of direct eye contact, then that at least we were looking toward each other.

The 2004 and 2005 videoconferences both began with the singing of the Tamil state song, and ended with the singing of the Indian national anthem (this was suggested by Tamil adults at the Philadelphia site). I was struck by participants' body language during the singing of these songs: everyone stood and looked forward.[1] It seems that such formal behavior corresponds with nationality and statehood. During most of the rest of the videoconferences, the children, and a

[1] The only exception was that at the end of the 2005 videoconference, during the singing of the final song, at the Chennai site one woman remained sitting on the floor in order to protect a child who had fallen asleep (Figure 128, p. 547). The videoconferences began in Philadelphia at 11am, and in Chennai at 8:30pm.

number of the adults, were sitting on the floor, facing different directions. It seems that sitting on the floor, and multi-directionality, corresponds with children's play.

However, once when it was our turn in Chennai to demonstrate an activity, one of the mothers in the Philadelphia room said to the children there, "Sit down." It seems that in this instance, sitting down (and looking straight ahead) indicated that one will be in a watching, passive mode. An electronic-visual way to indicate to people that they are expected to behave passively might include presenting their images (to themselves and others) in a reduced way -- for examples, presenting their image in a wide-shot (thus, showing individual images as small); or, in a splitscreen or multi-window grid configuration, reducing their site's portion of the combined screen.

The seating arrangement at both the Philadelphia and Chennai sites was that the children sat on the floor, in front of the video cameras. Adults sat behind them, around the peripheries of the rooms, in the back and on the sides, against the walls. In Philadelphia the adults had chairs; in Chennai the adults sat on the floor along with the children. In terms of placement, the adult exceptions were myself, who as a host of the events sat amidst the children, on the floor of the Chennai room; and some parents who at times sat amidst the children on the floor of the Philadelphia room.

Prior to the 2004 Chennai-Philadelphia videoconference, I encouraged the cameraperson in Philadelphia to take close-ups of the children there while the children there would be watching the activities being performed in Chennai. I wanted, especially for observers of the videoconference, to facilitate a sense of personal connection between performers and watchers, and to make it clear that on one side of the videoconference people were watching the performances coming from the other side. Presenting close-ups of the watchers seemed to be a good way to achieve these objectives.

However, near the beginning of the 2004 videoconference, we decided to decrease these close-ups, as some of the children in Philadelphia who were seeing close-ups of their faces were “making faces” (an interesting and under-studied activity in itself), and this was drawing attention away from the activities that were being performed on the Chennai side.

One way to resolve this dilemma might have been to arrange matters so that the observers would not see their own images. This is what is done in many televised events: on-camera members of audiences often do not know when they are on-camera, so their behaviors in their *reaction shots* are not self-conscious. However, a central point of these videoconferences was for all participants to be able to play an active role in shaping and controlling the combined Chennai-Philadelphia screen image, so participants truly needed to see their own images.

In the 2004 and 2005 videoconferences, the mixer operator (who was in the Philadelphia room) sometimes resolved the situation of the children there being a little self-conscious about seeing their own faces onscreen as they were watching activities coming from the Chennai side, by temporarily filling most of the combined screen with our image from Chennai (Figures 63-4, p. 515).

It might have been ideal for 1) the Philadelphia cameraperson, 2) the mixer operator in Philadelphia, 3) the Chennai cameraperson, and 4) myself (in the Chennai room) to be able to communicate via microphone-headsets. This would have been do-able in that I was not on-camera most of the time. Two reasons it was not done were: it would have required a lot of effort to get the necessary equipment and put it in pace; and, I idealistically wanted everyone at both sites to be in the position to co-direct the event.

To collaborate well on this kind of videoconference, in which all participants are helping to design what everyone else is seeing, all participants need to think in terms of the total communication event. The combined picture that participants create together is a constantly shifting, interlocking puzzle, with the pieces possibly changing in size, shape, and position; and with the nature of the interaction also possibly changing (Who is speaking?, Who is listening?, etc.). All need to keep in mind both what is being done at one's site, and at the other site(s), and how the images might best be combined.

Technology directors who might be accustomed to making such direction decisions by themselves may at times be inclined to resist sharing the decision-making process with all of the participants in a videoconference: they may find it an unusual idea that they should consult with or inform people at individual sites regarding how their images are being arranged. My vision of videoconferencing, on the other hand, is that all participants in a videoconference should, as much as is possible and practical, be in on all of these decisions, as co-directors. When it comes to organizing videoconferences, I seek to avoid the TV broadcast paradigm of a director controlling visuals from behind the scenes.

It takes a good deal of experimentation and discussion to find the best way to do things in a videoconference. Myself and the Philadelphia cameraperson and mixer operator (Gates Rhodes and Chris Cook) exchanged a series of e-mails after the 2004 event in which we critiqued the event and made plans for the following year's event. Going over notes together shortly after an event, and working repeatedly with the same people, are certainly good ways to improve a videoconference design. In post-event meetings, people can discuss the choices that were made, what worked, and what might have worked better (while together watching a recording of the event, if possible). Such communication can be difficult to achieve when the participants are in distant locations, and one does not have the time and facilities for proper rehearsal -- but such rehearsal and discussion time is crucial and must be sought after.

In the course of the two videoconferences, there were numerous *conflicting goods*. In each case, a compromise needed to be made. Here are four examples:

1) Many of the activities involved participants playing in a circle. To play these activities in a semi-circle is unnatural, and detracts from the play event. But only if participants form a semi-circle can viewers see frontal shots of the players (unless the camera can be above the players, which was not possible in this instance). In the 2004 and 2005 videoconferences, we tended to request the children to open circles into semi-circles.

2) I wanted the children in Chennai to demonstrate their activities in a relaxed conversational manner. Especially when it comes to presenting play activities, one wants the situation to be as natural and low-key as possible. On the other hand, the children in Chennai needed to make an effort to enunciate their words, and to project their voices, in order to be heard clearly on the other side of the videoconference.

3) One does not want to embarrass participants in a videoconference by showing close-up images of them. And yet, to help develop personal relationships between individuals at the two sites, close-ups seemed to be needed. One solution involved encouraging participants to move closer to the camera when

they wished to engage in a conversation with someone on the other side of the videoconference (we used this method for one-on-one conversations: Figures 67-70, pp. 517-8).

4) In a videoconference -- as in physically-present communication -- people often talk at and past each other, rather than actually with each other. Looking professional and in control may for some participants at times be a higher priority than risking spontaneous improvised give and take. Whenever conversation is allowed and attempted, there may be moments of discomfort, awkwardness, and embarrassment -- such moments need to be tolerated and repaired.

Regarding the first of these conflicting goods: I noticed in the course of the 2004 videoconference that ring games are especially interesting in the videoconference context. In some ring games, one player circles around the outside of the ring; in other ring games, the entire ring circles around. With either type, I imagined that if players on two sides of a videoconference might form semi-circles, the two semi-circles might be able to form a whole ring, and the players could play the ring game together. The center of a combined ring would be in cyberspace, mid-way between the two actual semi-circles.

If a splitscreen configuration might be used during the playing of a ring game in a two-party videoconference: the left half of the ring, from one site, could appear on

the left side of the combined screen; and the right half of the ring, from the other site, could appear on the right side of the combined screen. The mixer would combine the two side-by-side halves to make a visual whole.

Or: a vertical splitscreen-mix configuration could be used (one image above, the other beneath). In this case, players at each site, facing the camera, could present an open semi-circle to that camera; and perhaps by adjusting the camera positions and angles (upward and downward), the two semi-circles could be given the appearance of joining to form a single ring. By this method, semi-circles facing the cameras could be used (which would be good for viewers at the other site), and the circle could still be complete (which could be good for the game).

Figure 74, p. 520 gives a sense of what could be done. In this instance, there are two semi-circles facing away from each other as “Ring Around the Rosie” is being played at the two sites independently -- but a number of the players on each side seem to be looking towards players on the other side, seeking to coordinate with them. And both Figure 61, p. 514; and Figure 81, p. 524, show two snaking lines just waiting to be coordinated with each other. Well, it would take a good deal of play and experimentation to properly explore and develop this idea of matching and coordinating semi-circles, and lines.

Although we did not get around to playing any ring games in any combined formations in the 2004 or 2005 videoconferences, three situations did arise in which the left-right spatial relationship between the two images was utilized: 1) Twice in each of the videoconferences, we had a player from each side of the videoconference form half of the arch in the “One Bucket” activity, with the left side of the arch coming from Chennai, and the right side coming from Philadelphia (Figure 61, p. 514; Figure 81, p. 524; Figure 106, p. 536). 2) Pairs of children (one from each site) sat beside each other for conversational exchanges, in the 2005 videoconference (Figures 67-70, pp. 517-8). 3) A series of high-five hand-claps (one hand from each site) were done near the end of the 2005 videoconference (Figures 125-7, pp. 546-7). In addition, once, by accident, half of a boy’s image from each site was matched to form an image of a combined boy -- Figure 110, p. 538.

In the course of the 2004 and 2005 videoconferences, it occurred to me that it might be fun and interesting to enable videoconferencers to playfully break through, overcome, or collapse the ordinary visual separation between their images. Three ways in which players in a videoconference might seek to reach toward, and reach each other are: 1) in the left-right sense (as in splitscreen-mix); 2) in the overlapping-of-images sense (as in a dissolve-mix); and 3) in the forward-to-the-screen-and-camera sense (a frontal orientation). This urge for a collapsing of the separation between images was, I felt, similar in spirit to Bertoldt

Brecht's attempts to *break through the fourth wall*, the proscenium that separates the actors from the audience members (all of whom are physically-present to each other in a traditional theater situation).

Bringing together the images in a videoconference of distant players of the following activities occurred to me. Each could be done either towards the left or right, as an overlap, or towards the camera (frontally):

1) Finger counting-out games such as "A Fruit" (Activity 10) could include fingers from all sites of a videoconference. (In the 2005 videoconference, this activity was played at one site only, while players from the other site could only watch: Figures 77-8, p. 522; Figure 122, p. 544.)

2) When doing the "Monkey Jumping" (Activity 8) and similar fingerplays, a participant at one site could hold out his hand, and a participant at another site could say the words, and reach out and pretend to do the actions on the outstretched hand. (In the 2004 videoconference, this activity also was played at one site only, while players from the other site could only watch: Figures 75-6, p. 521.)

3) When playing handclapping games, players could clap toward one's distant partners. (In the 2005 videoconference, this activity also was played at one site only, while players from the other site could only watch: Figure 124, p. 545.)

4) "Enna Biscuit?" ends with a spoken and physically-enacted "punch" ("kummang") (p. 275). This punch could playfully be directed either towards a distant partner -- and a player at another site in the videoconference could extend his hand to block that punch. The punch and the block could be performed in slow motion. This would be similar in a sense to the high-fives -- except that in the case of the high-fives, both players were trying to have their hands come to the same place (Figures 125-7, pp. 546-7); whereas in the case of a punch, perhaps the puncher might try to have his hand avoid and get past his distant partner's blocking hand.

5) Participants throw imaginary stones towards the center of the ring when playing "One Stone" (Figure 8, p. 188; Figure 92, p. 529). In a videoconference, participants could throw an imaginary stone toward one's distant partners. Or, an imaginary ball could be thrown. By observing the imagined trajectory of the imaginary ball -- and the actual eye, arm and hand, and body movements of the thrower and catcher -- one could get a clear sense of what kind of imaginary ball is being thrown.

An overriding issue in the 2004 and 2005 videoconferences was the need (which went unfulfilled) to be able to see a direct video image of oneself, as opposed to a horizontally-reversed image (which is what we all saw). Every videoconference system I have ever experienced shows viewers a horizontally-reversed image of themselves: I must admit that I do not understand why this occurs. In any case, the only way I have been able to overcome this horizontal-reverse of self-image has been to interject a piece of image-processing hardware that allows one to reverse the reversed image, thus making it a direct image. Sadly, I did not have this piece of video hardware at hand during the 2004 and 2005 video-conferences -- and moreover, on the Chennai side at least, it seems that it would have been impossible to interject it between the camera and the rest of the system.

Seeing one's horizontally-reversed image makes it very difficult to coordinate with movers among one's distant partners in a videoconference. This is a complicated issue. If one has the ability to undo the horizontal-reverse on the image of oneself -- in terms of the image of oneself that one sees -- the problems of alienation from one's own reversed image, and of coordinating the movements of one's image with the movements of distant others' images, might be resolved, but other problems might be created. For example, What might happen to the image of oneself that is sent out? One might not want to affect that image.

For example, in India especially, it is a convention that one extends one's right hand to others, and keeps one's left hand to oneself. This is because it is the convention to use the left hand for cleaning. Even though one attempts to often wash both hands with soap, the convention is that one usually tries to keep the right hand cleaner. Thus, if someone in a videoconference extended his right hand to a distant partner, and that distant partner perceived the hand as being extended as being a left hand, this could cause confusion and consternation in that distant partner. Even if a distant partner saw numerous individuals on the other end of a videoconference relating to each other with what seemed to be their left hands, this could cause confusion in the distant partner.

What might be called for therefore might be a two-tiered approach: one might want to undo the horizontal-reverse of the image that one sees of oneself, and yet not affect the direct image of oneself that is being sent out. Once again: only by trying out the various possibilities, and seeing what the system is capable of, could the best possible approach be determined. There is no substitute for hands-on experimentation, play, practice, and rehearsal. Videoconference communication can only begin to become second-nature, and come into its own as a medium for performance -- and for truly comfortable, flexible communication in general -- when people have the time and facilities to experiment with all imaginable options.

As mentioned above, in the 2005 videoconference, Banu, a Kani woman in her twenties, participating from the Chennai side, played the role of cultural interpreter. Banu speaks English quite well, having learned it as a student at a local Catholic school. In this videoconference, Banu spoke three times:

The first time was during the informal introductions, before most of the people had arrived on the Philadelphia side. An adult Tamil couple in Philadelphia conversed with Banu, in Tamil and English (Figure 89, p. 528). At 11:00, I mentioned that Banu is a dance teacher in the community. I explained that for years before I had arrived, Banu had been organizing young people in the community to perform cinema dance, with the group traveling to different communities to perform. Cinema dance, like cinema music, in India combines various forms and genres, both Indian and Western. A Tamil gentleman on the Philadelphia side perhaps did not hear me mention the term, “cinema” dance. He asked Banu if she was teaching classical dance. She replied, “No. Break dance.” Numerous people laughed. I then explained that although the people of Vellambi are tribal people who live in the mountains, they are within a two-hour bus ride of a city (Nagarcoil), and they have TV, and FM radio stations that play the latest cinema music. This exchange illustrates and contradicts the popular misperception, and romanticization, that tribal people are living fully in a timeless past.

The second time was at approximately 31:50. I asked Banu if she might explain the meaning of the words of the "One Garden" singing-game (Activity 2). Banu was sitting next to Rajammal, who was the senior member of the group which had traveled to Chennai. Banu conferred for a few moments with Rajammal, in Kani Pasai (Figure 102, p. 534; Figure 103, p. 535). Banu then explained, in standard Tamil, to Dr. Vasu in Philadelphia that the words referred to chasing birds away from a field that had recently been planted with new seeds (Figure 104, p. 535). Dr. Vasu then conveyed the explanation to the children in his room, in English (Figure 105, p. 536). This series of relayed and translated exchanges clearly illustrates -- and serves as an excellent example of -- a basic structure of the fieldwork research process, namely: it is often outward-looking young people of the group whose culture is being studied who are the key and pivotal figures in the research process. It is these individuals who can communicate both with the with the elders of their community (who may be most fluent in the local dialect), and visiting scholars.

The third time Banu spoke was when she helped to teach children on the Philadelphia side to play "Please Give!" (Activity 8) (69:00 to 81:00; Figures 114-20, pp. 540-3).
543-6). This sequence was for me one of the most interesting and satisfying sequences in the two videoconferences. "Please Give!" was perhaps my favorite from among the 14 activities that I collected in my fieldwork: I like the way it gives

players an opportunity, through role-playing, to express mixed emotions about sharing; and I feel that the conversational question-and-answer nature of the activity could be well-used for language-practice exercises.

To play “Please Give!,” the players sit in a circle, and one player asks the player to her right if she can borrow something from that player. The player being asked to give, offers a number of reasons why she can not, or does not want to, give the requested object, but then finally she gives it. Then the next player, who is sitting to the left of the one who has just received the object, requests the object. And around the circle it goes.

It would seem that it is not essential to the activity what the object is, but it so happens that the traditional object for this activity is an iiraaLi. An iiraaLi is a wooden object which is used to pick lice eggs out of one’s hair. As noted in my discussion of this activity (pp. 295), the subject of lice eggs, and picking them out of one’s hair, is related to what is shared in a community, and what is kept to one’s self; what is public knowledge, and what is not.

As much as I liked the “Please Give!” activity, it was not presented from the Chennai side in the first videoconference (in 2004), as I felt that the idea of an iiraaLi might alienate some of the Tamil people at the Philadelphia site. I did not want to present the Tamil people on the Chennai side of the videoconference as

being unclean in any way. It is simply a fact of life in forest areas in south India (and often also in cities) that there are often many bugs, and sometimes these bugs get into one's hair.

Tamil people who are in the USA are often sentimental about the culture of their motherland, and want their children to have some exposure to it. Most often what they have in mind are classical arts. It is somewhat unusual to have cultural exchange meetings with people of such different incomes and lifestyles as was the case in the 2004 and 2005 videoconferences. Even when there are folk performances for the general public in India (and elsewhere), it is rare for there to be actual conversation between members of the performing and audience groups. This may in part be due to the language barrier -- outsiders may not comprehend the local dialect -- but it may also be due to the fact that the middle or upper class people may have mixed feelings about interacting with members of a folk community, beyond an employer-employee relationship.

A question then for a facilitator of communication events involving such different groups is, "How can such delicate issues be negotiated? How can one help people to engage in conversation and relationship so that they might forget such divisive and unpleasant issues?" One task of the ethnographic videoconferencer is to stress common elements among parties in the videoconference, so as to promote the humanization of the other and give bonds a chance to grow.

Achieving this might -- temporarily at least -- involve avoiding elements that might alienate members of the groups from each other. I found that two factors that helped to bring together the members of the two groups were their respect for and interest in 1) myself, and 2) in Tamil language and traditional verbal arts.

Although I had decided against sharing the “Please Give!” activity in the first videoconference, in the second one, I felt it would be possible. For one thing, we in Chennai had visited a Chennai school some days beforehand, and we had taught the game to the children there. This had involved translating the words into standard Tamil. For this event, “iiraaLi” had been translated into “sippu,” which means comb in Tamil. A comb is still an item having to do with personal hygiene, so this meaning in the game is still there, but not as intensely as when an iiraaLi is the central object.

After the session at the school, I asked Banu if she had if she had taken it as an affront to Kani culture to translate some of the Kani Pasai words into Tamil. She assured me it was ok, because there had been a practical need for making such translations. If we would have used the Kani words, the children in Chennai would not have been able to learn the games in a short period of time. Banu said the point was to teach the games, not to teach Kani Pasai. I apologetically discussed with Banu and Murugan my apprehension about the iiraaLi word and

object being the centerpiece of the “Please Give!” activity in the videoconference, and they said that translating the word to sippu would be fine.

I was aware that enabling tribal people to participate in an international videoconference was a delicate issue. There is the idea in Anthropology that one should not pollute one’s subjects with modernity. I would offer the following four responses to this position:

1) To consistently obey the dictum of not affecting people, one should also refuse members of folk and tribal communities’ requests for help in learning to read and write. It would seem that refusing such a request might be unfair. So if reading-and-writing can be taught to interested individuals -- why not electronic literacy also?

2) Back in 2002, as part of the Graduate Student Videoconference Series, I participated (from a site at Penn, in Philadelphia) in a videoconference with Robin Japanangka Granites and other members of the Tanami Network in Central Australia (Figure 56, p. 511). The Tanami Network, founded by Aboriginal people and others in 1992, is a global tribal peoples’ videoconference network. Later, I visited Robin and some of his colleagues in Australia. When I told Robin about my research project with tribal people in India, he requested

my assistance in helping those people to begin videoconferencing, and in time perhaps join the Tanami Network. I kept this request in mind, and discussed it with members of the Kani people. Although Robin and the Tanami Network were not directly involved with the 2004 and 2005 Chennai-Philadelphia video-conferences, the Tanami Network could certainly be considered to be an inspiration for these events. Thus, although I did introduce videoconferencing to the Kani people in practical terms, in a sense I was being used by some tribal people (in Australia) in their effort to link up with other tribal people (in India), an effort that it seems has yet to come to fruition.

3) As discussed elsewhere in this dissertation, the Kani people of Vellambi, even in their village beside the forest, are already awash in radio, television, and CD and DVD players. This project merely give them a chance to record and transmit elements of their own culture. Traditions are dwindling in folk and tribal communities around the world, in part because they are kept out of the new digital communication loop.

4) Kani people were invited to participate in these videoconferences primarily as teachers -- and they were treated as such. This minimized the danger that they might feel overwhelmed by the technology, or by their videoconference partners.

2) The 16 October 2004 Chennai-Philadelphia Videoconference: Annotated Log.

Activity	Minutes:Seconds
Beginning of recording.	0:00
From Both: Tamil state song.	1:00
From Both: Singing (to assess delay).	4:30
From Chennai: “One Stone.”	13:30
From Phila: “Enna Biscuit?” (as a finger game).	18:00
From Both: “One Pot.”	20:30
From Both: “A Bunch.”	27:00
From Chennai: Lyrics are projected.	31:00
From Both: One-on-one conversations.	35:00
From Chennai: Language play (What is this? A nose...).	48:00
From Phila: “Ring around the Rosie.”	59:00
From Chennai: “Monkey Jumping” (finger game).	64:00
From Both: Cinema song, “Appadi Podu.”	69:00
From Phila: “Acka Backa” (finger counting-out game).	70:00
From Chennai: “A Fruit” (finger counting-out game).	73:30
From Chennai: “Running.”	75:00
From Chennai: “Sandalwood Ash.”	76.30
From Chennai: “What Kind Of?”	77.30
From Chennai: “What Use?”	78:00
From Chennai: Rajammal sings, children dance.	81:00
From Phila: “Head and Shoulders, Knees and Toes.”	83:30
From Both: “One Pot” again.	85:30
From Both: “What Kind Of?”-related dialogue (with hand puppets).	90:30
From Chennai: Website address is projected.	94:00
From Both: India national anthem.	95:00
From Both: Waving goodbye.	96:00
Videoconference ends, and recording ends.	96:30

At 20:30, the children in Chennai began to demonstrate “One Pot.” In this activity, two players form an arch by touching the palms of each other’s upraised hands; and a line composed of the remaining players comes through the arch. I suggested that we try to play this activity together, with one side of the arch

supplied by a player in Chennai, and the other side of the arch supplied by a player in Philadelphia. A line of players at each location passed through the collaborative arch, weaving to one side and the other (Figure 61, p. 514).

Over the course of the two videoconferences, we would play “One Pot” a total of four times. Thus, it became a signature activity of the two videoconferences. It was a challenge to get it right visually. It took a good deal of physical adjusting to get the two arch players to match their images -- primarily because we were all seeing horizontally-reversed images of ourselves (Figure 61, p. 514; Figure 81, p. 524; Figure 106, p. 536). It might also have been fun -- when using a dissolve-mix -- to have the arch be supplied by one site, and to have the line that would pass under it be supplied by the other site (as suggested by Figure 107, p. 537).

The kind of visual collaboration we were attempting is only possible when a single visual arrangement of the participants’ images is seen by all. A special sense of achievement and delight seems to be produced by doing something verbally and/or physically coordinated and collaborative from the sites of a videoconference, especially when the sites are on opposite sides of the globe.

At 31:00, we in Chennai showed some of the words of “One Bunch” (Figures 65-6, p. 516). We did this using a very low-quality method: we projected this text from a laptop computer onto the back wall of our videoconferencing room, and

pointed our camera at this wall. An advantage to this method was that all of us in the Chennai room could easily see this text (on the back wall of our room). However, in future, it might be good to have a document camera for text that could just be on a small piece of paper; or to be able to show and share electronic text that could appear in a separate window.

At 35:00, we began a segment in which children in pairs (one from each site) engaged in conversation with each other. The questions (in Tamil) included, "What is your name?", and Where is your home?" By 38:00, the convention was established in Philadelphia that the camera would be stationary, and children could move into the "hot spot" when they wished to speak. This proved to be an excellent idea! For one thing, it avoided the blurs of camera pans. For another, it gave participants at a site active control regarding the site's visual output. We soon adopted the same practice in Chennai. It was clear that the front-row center person was in a one-on-one relationship with the person in the similar position on the other side of the videoconference (Figures 67-70, pp. 517-18).

At 41:40, the question was asked: "What do you do?" Answer: "I go to school." "What do you study?" A game developed: whatever answer was given, the person on the asking side could ask a new question about that answer. This followed the pattern of "What Kind Of?" (Activity 5), and "What Use? (Activity 6).

At 59:00, the children in Philadelphia demonstrated “Ring Around the Rosie” (Figure 71, p. 519). We in Chennai formed our own ring and followed along. After the children in Philadelphia sang, “Ashes, ashes, we all fall down!,” children on both sides of the videoconference, in their separate rings, fell down. However, because of the transmission delay, on the screen in the Philadelphia room, the images of the Chennai children falling down appeared almost two seconds after the Philadelphia children had fallen down (Figures 72-3; pp. 519-20).

This occurred two-thirds of the way through the event, but is especially useful to engage in this kind of simultaneous activity -- with vocal and physical components -- near the beginning of a videoconference, so people on both sides of the videoconference can be aware of the transmission-delay. Once the delay is demonstrated, participants can be aware that the people on the other end are going to take an extra second or so to hear and respond to each message.

At 69:00, children at both locations together sang, “Appadi Podu,” from the movie, *Gilli* (2004). I do not know whose idea this was, but people certainly seemed to enjoy doing this. Tamil cinema culture is shared by Tamils around the world.

At 81:00, on the Chennai side, Rajammal sang a song in Kani Pasai which some of the children in the same room danced along to (Figure 80; p. 523). Although it generally works well to have singing done on one side of a videoconference, and

to have players dance along at another site, this was not possible in this case, in part because of the language barrier: the children at the Philadelphia site knew some Tamil, but were not familiar enough with the Kani dialect to understand clearly the words of this song.

At 90:30, hand puppets were brought out and used, upon my suggestion. The puppets were a tiger on the Chennai side, and a lion and a bear on the Philadelphia side (I had supplied these puppets, which my parents had given to me in my childhood). The children seemed to enjoy speaking to each other through these puppets (Figure 83, p. 525). Holding up a puppet and presenting that image on the screen -- whether or not one's face also appears -- seemed to relieve some of the self-consciousness and pressure that can develop when people seek to communicate primarily face-to-face in a videoconference. Using the puppets as a playful additional level of mediation seemed to relax people.

The children operating the puppets had these animals asking each other what their names and native places were, and what food they liked to eat. While using the animal hand puppets, a pair of children (with some suggestions from various adults) again used some of the words, and the pattern of interaction, that appear in the word game, "What Kind Of? (Activity 5). In this case, the words included: "What do you eat?" "Rice." "What kind of rice?" "Ponni rice." (Ponni means golden, and is also a brand name.)

3) The Oct. 2005 Chennai-Philadelphia Videoconference: Annotated Log

Activity	Minutes:Seconds
Beginning of recording.	00:00
From Both: Informal introductions and conversation	01:00
From Both: Tamil state song.	17:00
From Both: Children introduce themselves	22:00
From Chennai: “One Stone.”	26:00
From Chennai: “One Garden.”	31:00
From Chennai: “One Pot.”	37:30
From Phila: “If You are Happy and You Know It.”	47:30
From Phila: “Hokey Pokey.”	54:00
From Phila: “Heads and Shoulders, Knees and Toes.”	60:00
From Chennai: Reading e-mails.	66:00
From Chennai: “Please Give!”	69:00
From Chennai: “Tick, Tick.”	81:00
From Chennai: “Frog, Frog.”	84:00
From Both: “Acka Backa.”	86:30
From Phila: “Stink in the Barnyard.”	87:00
From Phila: Boys’ Q-and-A Routine.	88:30
From Phila: Girls’ “Enna Biscuit?”	90:00
From Phila: Puppet Q-and-A Routine.	91:00
From Chennai: “What Use?”	92:00
From Chennai: Reading e-mails.	93:00
From Both: High-fives.	95:30
From Both: “One Pot” again.	99:30
From Both: India national anthem.	102:00
From Both: Waving goodbye.	103:00
Videoconference ends, and recording ends.	103:30

Before the event formally began, at 00:00, a girl on the Philadelphia side held up a handheld video game for children on the India side to see. This might have sent a signal to the children in India that such a device is an important thing to have.

At 3:00, the children on the Philadelphia side said their names as the camera panned across them, from left to right. It might have been good to have made a memory game out of this, such as to have a child tell his/her name, and then have a child on the other side of the videoconference say that name, followed by his/her own name, and so on. For example: “Hello! My name is A.” “Hello A, My name is B.” “Hello A and B, my name is C.” “Hello A, B, and C, my name is D.” Perhaps it could be worked into the game to have players also say from where they are speaking. Another possibility would be to have each speaker ask the name of the next speaker on the other side, as in: “Hello! My name is A. What is your name?”

When a participant greets a person at the other site, it might also be good to have the speaker extend and move his/her right hand (as if to wave, or shake hands). Or, they could hold their hands in the “VaNakkam” greeting position (palms together, fingers pointing upward). Such physical actions could make it clear who the present speaker is, and thus could serve as a substitute for full close-ups.

Involving participants in introductory back-and-forth verbal and physical exchanges would get them into the interweaving and interactive state of mind -- which is what I seemed to be seeking to facilitate in these videoconferences.

At 27:20, there were good matching shots: both wide. The composite halves formed a whole. Shortly thereafter, I asked Gates for a dissolve-mix (super-imposition). We did not have a plan regarding how to use this effect, so we just experimented with it for a minute or two (Figures 94-7, p. 530-2; Figure 107, p. 537; Figure 128, p. 547). This was an instance of applying to videoconferencing a visual technique from cinema and TV; and of mixing visual selves, identities.

At 32:19, while we were discussing the lyrics of the "One Garden" activity, Banu conferred with Rajammal in Kani Pasai, their tribal dialect (Figure 102-3, pp. 534-5), and then asked me, "May I speak in Tamil?" I said, "Yes." Banu then recited the words of the song (in Kani Pasai) and began to comment on them (in Tamil). However, the Philadelphia picture that Banu was seeing showed only children, most of whom did not understand Tamil very well. Banu hesitated, feeling -- and accurately so -- that she was not being understood by the individuals whom she was seeing and addressing. I called out to Chris (the cameraperson on the Philadelphia side), "Could you put a grown-up in the picture, who understands Tamil?" Dr. Vasu appeared in the Philadelphia picture. Banu continued in Tamil, addressing Dr. Vasu; and then he, speaking English, conveyed the information to the children in the Philadelphia room (Figures 104-5, p. 535-6; Figure). Similar chains of communication were used a number of times in the 2004 and the 2005 videoconferences. At other times, communication was direct. For example, I

encouraged Dr. Vasu to speak directly (in Tamil) to the Tamil children in the Chennai room, and at times he did so.

At 60:00, “Heads and Shoulders, Knees and Toes” was being demonstrated from the Philadelphia side, and an adult there chimed in with the Tamil word for each body part -- this was very helpful for the children in Chennai, who were trying to dance along (Figure 112, p. 539). The girl who was leading the activity in Philadelphia then began giving the Tamil translation for each word -- heads (thalai), eyes (kannu) and ears (kaathu), mouth (vie), nose (mukku), etc.

At 66:00, I read e-mails that had been sent from around the world. They were printed in a room next to our room in Chennai, and the printouts were handed to me (Figure 113, p. 540).

A teacher in New York had written, “I am enjoying every moment of the webcast. This is just awesome. This webcast, among other things, has successfully bridged two groups of kids who are literally worlds apart culturally, socially, and economically. I hope this is only the beginning of a long-term relationship between these two communities. Congratulations!”

My cousin Dudley in Australia had written, “Could each group line up and come towards each other, one by one, like in a bridge, but in a flowing circle with their

arms raised, or as a greeting?" A few moments later, Dr. Vasu said, "We will form a line, and they will clap, like that person said." An adult in Philadelphia asked, "Maybe have the kids do high-fives?" Dr. Vasu replied, "Ok. Let's do high-fives." It was decided that we would do the high-fives near the end of the videoconference.

At 69:00, I introduced "Please Give!" (Activity 7). I said to the children in Philadelphia, "One thing this activity is about sharing or not sharing things. Now, do you always share things with your friends?" One child in Philadelphia shook her head, "No." Someone else said, "Yes." Then I said, "Sometimes, right? So this game, I think it is about these mixed feelings about sharing or not sharing. Basically, in the game one player asks the next, "Can I borrow something of yours?"

At 69:30, the playing of "Please give!" began in Chennai (Figure 114, p. 540). At 72:00, I asked Banu, who was sitting nearby to me in the Chennai room, "Might you try to teach the children in Philadelphia to perform that in Tamil?" And I asked the adults in the Philadelphia room, "Do your children want to learn this game?" There were affirmative responses, and Banu, speaking in Tamil, began to explain the activity. However, only children were on camera in the Philadelphia picture, and as they did not seem to understand what she was saying, Banu stopped speaking. The Philadelphia cameraperson very

intelligently redirected his camera toward Krithika (a Tamil adult), and Banu continued her instructions (Figure 115, p. 541). Krithika, who happens to be a schoolteacher, relayed the information, in English, to the children in the Philadelphia room with her. As we had agreed, Banu translated the object being shared in the game, “iiraaLi” (Kani Pasai for “wooden pick used to pick lice eggs out of one’s hair”), to “sippu” (Tamil for comb). The Philadelphia children played the game well: it seems clear that this could be a good language practice activity (Figures 117-8, p. 542).

At 96:00, as the high-fives are being attempted, I said to the Chennai cameraperson, “Please move her hand a little closer to the center.” Before he could pan his camera, the mixer operator in Philadelphia moved the picture dividing line so that it was equally distant between images of two children. On the Chennai side, two boys helped the next high-fiver get in the right position. They understood the problem (that when one moves in one direction, one’s image on the screen moves in the opposite direction), and worked to overcome it. It was a collaborative effort, adults and children working together. A number of high-fives were achieved eventually (Figures 125-7, pp. 546-7).

4) The 1 December 2005 Megaconference: Description and Commentary.

The 1 December 2005 Megaconference, and the 18 May 2006 Megaconference Jr., provided additional videoconference data for this dissertation's research project. However, in these cases, I was no longer the primary organiser of the events, and what I did needed to fit into a pre-existing system of videoconferencing, rather than into a system of my own design. This adjustment proved to be a challenging, educational, and useful experience for me.

As mentioned above, Megaconferences are 12-hour events consisting of numerous brief videoconferences. Megaconferences are webcast, so a viewing audience can watch all 12 hours. In the 1 December 2005 Megaconference, I once again helped Tamil children share their songs/chants/dances/games. This time, however, the children on the Chennai side were from Ayodhyakuppam, one of Chennai's sea-fishing communities: they presented versions of the activities I had collected from tribal children in Tamil Nadu's western mountains. In our approximately 25-minute videoconference segment, we in Chennai were joined by students and teachers at a school in Pennsylvania.

The configuration used during most of this Megaconference was a multi-window grid featuring a large window in the upper left, and five smaller windows to the right and below. In each 25-minute segment, the speaker's image was usually in

the large window, and up-to-five listening sites were represented in the five smaller windows. People were not shown their own image in these five windows. This created a very complex situation for the director, who had to choose who would appear in what window, for what viewer. Each party, it seems, saw a different combination of images. Thus, there could be no up/down or left/right visual relationships between the sites' windows.

The children in Philadelphia learned a couple of the Tamil activities (some in Tamil, some translated into English), and also taught a couple of similar English-language activities to the children on the Chennai side. However, I did not have the chance to communicate very much beforehand with the students and teachers at the school in Pennsylvania, and thorough online rehearsals were not possible, and so my formal experiments in collaborative performance could not move forward very much in this event.

5) The 18 May 2006 Megaconference Jr.: Description and Commentary.

In this event, I and some of the children of Ayodhyakuppam were joined by students and teachers at schools in 1) Northern Ireland, 2) Minnesota, and 3) Pennsylvania. People at the Northern Ireland site sent in the lyrics of some

activities similar to those we were planning to present from Tamil Nadu (please see Figure 51, p. 505).

During the rehearsal process for the May 2006 Megaconference Jr. videoconference, it became clear to me that medium shots often do not provide very clear communication in videoconferences, so we settled on the method of having children come close to the camera when they wanted to speak, or interact with a distant speaker. As I wrote to one of our videoconference partners:

> We in Chennai will at times be encouraging our students to move their faces close in front of the camera when they speak. Sometimes this kind of close-up makes a videoconference lively, giving a sense of sureness about who is speaking, and then, who is being spoken to. If one addresses a group, individual responses from members of that group may be slow in coming. So please consider allowing your students to also come close to the camera at times.

This method of having participants do the "camera work" themselves, by moving up to the camera and placing their faces in front of the camera, proved to be a very effective -- and gave the participants at each site a fair amount of control over the situation, which I always consider a good thing.

In the course of preparing for the May 2006 Megaconference Jr., teachers and students of the Omagh School in Northern Ireland sent via e-mail the following set of lyrics:

MEGACONFERENCE JNR

The table below is a summary of the activities that our students know that are similar to the ones on the programme and would like to share these during the segment.

Type of Game	Site	Game	Comments
Finger Play with Talk	Omagh	Thumb War	See Below
Counting Out using fingers	Omagh	My Mother and your mother	See Below
Say and do	Omagh	Mother May I	See Below
Hand clapping singing	Omagh	Under the Bramble Bushes	See Below
Ring with singing	Omagh	Dusty Bluebells	See Below
Line and arch singing	Omagh	Oranges & Lemons	See Below

Thumb War
1 2 3 4, I declare thumb war

My Mother and your Mother
My mother and your mother
Were hanging out the clothes
My mother hit your mother
A punch on the nose
What colour was the blood?
(Spell out any colour the chid wants)
And you are O U T.

Mother May I (Instruction Game)
One person calls out instructions
E.g. Conor take 2 baby steps forward
Conor must say "Mother May I" before he can move or else he is out

Under The Bramble Bushes
Under the bramble bushes
Down by the sea, boom, boom, boom
True love for you, my darling
True love for me.
And we'll get married
And have a family
A boy for you
A girl for me

Johnny broke a bottle
And he blamed it on me.
I told me Ma
Ma told Pa
Johnny got a beating
On the oo-ah-cha cha cha.

Dusty Bluebells
In and out those dusty bluebells
In and out those dusty bluebells
In and out those dusty bluebells
I'll be your master.

Tipper ripper rapper on the shoulder
Tipper ripper rapper on the shoulder
Tipper ripper rapper on the shoulder
I'll be your master.

Oranges and Lemons
Oranges and Lemons
Say the bells of St Clement's
You owe me five farthings,
Say the bells of St Martin's
When will you pay me?
Say the bells of Old Bailey
When I grow rich,
Say the bells of Shoreditch
When will that be?
Say the bells of Stepney
I'm sure I don't know,
Says the Great Bell of Bow.

Here comes a candle to light you to bed,
And here comes a chopper to chop of your head

Figure 51.

The pre-event e-mail communication enabled the preparation of six types of activities for this event:

1) Finger play with talk.
A) "Fox Running, Crab Running" (Tamil activity).
B) "One Little Piggy" (USA activity).
C) "Thumb War" (Northern Ireland activity).

2) Counting-out games, using fingers.
A) "Acka Backa" (Tamil activity).
B) "Eeny Meeny Mine-y Mo" (USA activity).
C) "My Mother and Your Mother" (Northern Ireland activity).

3) Say-and-do games.
A) "Crow, Crow, Fly, Fly" (Tamil activity).
B) "Simon Says" (USA activity).
C) "Mother May I?" (Northern Ireland activity).

4) Handclapping singing-game.
A) "What Biscuit?" (Tamil activity).
B) "Under the Bramble Bushes" (Northern Ireland activity).

5) Ring singing-games.
A) "One Stone" (Tamil activity).
B) "A Bunch" (Tamil activity).
C) "Ring Around the Rosie" (USA activity).
D) "Duck, Duck, Goose" (USA activity).
E) "Dusty Bluebells" (Northern Ireland activity).

6) Line-and-arch singing-games.
A) "One Pot" (Tamil activity).
B) "London Bridge" (USA activity).
C) "Oranges and Lemons" (Northern Ireland activity).

In our 25-minute segment of the May 2006 Megaconference Jr., we did not have the opportunity to play all of these activities -- we simply had too much material

for this situation. And once again, there was no left/right or up/down relationship between windows, so that type of collaboration was not possible.

Megaconference videoconference segments seem to work best when they present parties videoconferencing which have already been videoconferencing together for some time, or when interaction between parties is meant to be wholly improvised. Nonetheless, it was thrilling to share play activities with additional videoconference partners, and with the wecast audiences.

In the 2004 and 2005 Chennai-Philadelphia videoconferences -- and also in the December 2005 Megaconference videoconference segment -- I and the children at the Chennai sites had demonstrated versions of the language-practice question-and-answer exercises that I had been developing throughout the entire research process. However, it was while preparing for the May 2006 Megaconference Jr. videoconference segment that I most fully conceptualized these exercises and committed them to writing (please see pp. 395-409).

These exercises were briefly demonstrated in the May 2006 Megaconference Jr. videoconference segment -- although only at the Chennai site. Some question-and-answer exchanges did occur between the sites during the 2004 and 2005 Chennai-Philadelphia videoconferences: during the one-on-one conversations (Figures 67-70, pp. 517-8), and the puppet-play (Figure 83, p. 525) in the 2004

videoconference; and during the puppet-play that also occurred in the 2005 videoconference (91:00 to 92:00). It was frustrating for me that I was not able to facilitate more question-and-answer interactions -- in play and in conversation -- between people at the different sites, in the May 2006 Megaconference Jr. videoconference segment, and indeed in the other videoconferences discussed in this dissertation also.

Regarding videoconferencing for school-age children in general: The terms, “virtual field-trip” (in the USA), and “virtual study-trip” (in India), have come to refer to students meeting others in distant places via videoconference. Such activity can, in some cases, be seen as a less rigorous version of ethnographic videoconferencing. Some virtual field-trips involve students conversing with other students. This is a reciprocal situation, and typically no payment is made by one party to the other. Other virtual field-trips involve students receiving a lesson from a presenter at a museum, library, aquarium, or other such community, cultural, or educational institution. In these cases, money may be paid to the presenters and their institutions. A good deal of work is involved: to begin with, the lessons need to be designed, and the presenters need to be trained. People of a local culture need to derive sustenance and livelihood from their local culture in order for them to value it and care to develop it, and it would seem that providing learning experiences via videoconference could be one way of deriving such sustenance.