



**The Information Apologue:
Play and Internet Access in the Children's Library**

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Abstract

This paper presents the ethnographic study of a free public computer center providing high-speed Internet access and software specifically for children under age 14 in an inner-city library. It is the purpose of this study to develop an understanding of the center by investigating the disparity between actual use of the center by children and the cultural justifications given for the purpose of such centers by adults, the larger culture, and universal service policy. The prevailing use of the center is play, which is analyzed using a theoretical framework developed from the work of Gadamer (1989) and Huizinga (1950). The center's culture is dominated by the tension between differing understandings of its purpose: as a place for ritual and play vs. and as a place for the transmission of information and for work. The cultural narrative of transmission that the computer presents to adults is termed the information apologue.

The Information Apologue: Play and Internet Access in the Children's Library¹

Computers and Internet connections in public places are often proffered as an answer to the “digital divide”— the concern that in an information society, those without the economic resources to access information technology are disenfranchised from participation in public life. A variety of public and private programs work within this rationale to provide the public free access to computers and Internet connections, yet little is known about exactly how these public access sites are used. In the place of actual knowledge rests an overarching narrative of technological progress and, more specifically, a shared understanding of the computer as the transmitter of information, information that is to be learned. This vision guides the policy mechanisms that produce publicly-funded computer centers. It is the purpose of this study to empirically investigate a public computing site offering free Internet access, and in this manner illuminate the actual use of these computers, as well as the disparity between the actual use of free Internet access and the cultural justifications we give for it.

Internet outreach programs are likely to target certain populations perceived to be especially critical, such as youth and the economically disadvantaged. This study will use ethnographic methods to examine a public access computer site that is located in a depressed area and reserved explicitly for youth. This paper will describe the use of the site by children, and demonstrate that a critical tension rests between the understanding of the site held by adults as a place for work, and the understanding held by children who use the site for play.

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Policy and an Instrumental Technology

Consider the Internet in this instance as an *apologue*, meaning “an allegorical story intended to convey a useful lesson” (Oxford English Dictionary, 1989). The Internet is understood as more than the computer, as more than the network. The idea that technology generally and the Internet specifically is both created and understood through culture is not a new one (cf. Stefik, 1996). In this tradition, the Internet is applicable as an *apologue* in many senses: Through cultured understandings, the Internet conveys a secondary meaning implicit among its community of users but not explicit on its face— but more than mere allegory, the Internet’s meanings contain lessons: some uses are valued and others are devalued. For instance, we will readily accept the computer as a device of production, and the appropriation of public funds to support access to it is palatable when couched in terms of creating productive members of society— or moving society as a whole toward the information economy (Castells, 1996).

The major recent policy initiative to address this concern in the United States is the Telecommunications Act of 1996, which explicitly expanded the concept of *universal service* to include new technologies like the Internet. Traditionally, universal service refers to a program to ensure widespread use of telephony through subsidy.² The 1996 act proposed an institutional model in which schools and libraries are the core access point for otherwise disenfranchised users, and receive substantial public subsidy to provide this service (1996 § 254 *et seq.*).³ At the present funding level, up to \$2.25 billion will be disbursed per year under this program (USAC, 1999, p. 15; FCC, 1999).

² The phrase “traditional” is somewhat problematic here, as this definition has gradually evolved from subsidy actions of the FCC, and before 1996 had not been codified in law. Some analysts argue that the definition here called “traditional” is invalid, as it is not supported by any initial legislative intent (Mueller, 1997). For a clear discussion of recent policy, see Aufderheide (1999).

³ Hence the change of terminology from *universal service* to *universal access* in many circles, to reflect the institutional access model as opposed to a subsidy for every home.

It has been argued that universal service as a concept was originally unique to the United States, in that rationales under universal service are unlikely to be based on equity or welfare (Rapp, 1996). Although the stated motives for universal service are varied, many rationales are economic and focus on system benefits– in this manner arguments for universal service are very comparable to those for universal education (Sawhney, 1994). This policy discourse about universal service provides the societal text from which the information apologue can be extracted. Policy goals map very well with the transmission model in Carey’s distinction of understanding communication as *ritual* vs. as *transmission* (1975, 1977, 1989). The policy framework and cultural context values a “secular” use of the computer to retrieve information over a distance. This is a purely instrumental understanding of the technology, consistent with rationales to both realize economic and efficiency gains as compared to other forms of communication and to develop a more productive workforce and realize system benefits. Fully socialized adults are constrained by this understanding of the information apologue to justify the computer as predominantly a tool of transmission. Consistent with current policy’s emphasis on the school and library, access to the Internet can be seen as granting the ability to transfer skills and information.

Play and a Relational Technology

In contrast, one might expect that children not yet socialized to the information apologue would be free to justify the computer as not merely useful for transmission, but also for *ritual* communication– a way to maintain society across time rather than exchanging messages across space (Carey, 1989). In this approach, it is not the content exchanged that is relevant, but the cultural understandings developed through interaction. This brings up the activity most commonly associated with children: *play*. “Ritual is play” as Huizinga notes (1950, p.5), and research in mass communication generally has

overwhelmingly focused on an understanding of communication as transmission (Carey, 1989). Research has ignored play except as functionally explainable. Understanding communication as play, however, invites us to “... think beyond the rational, utilitarian, extrinsic, and almost always instrumental reasons individuals give for their attention to, and interest in, the programs and publications– and now Web sites– of their choice.” (Glasser, in press).

While television, radio, newspapers, and other forms have been analyzed in terms of play (cf. Stephenson, 1964, 1967; Glasser, 1982), there is no reason for play to be restricted to these media. On the contrary, many communication researchers have addressed computer-mediated play (cf. Danet, 1995), although recent work on computer-mediated communication is largely from a psychological perspective (after Turkle, 1984, 1995) or focuses on the topic of virtual community (cf. Jones, 1995, 1997, 1998; Smith and Kollock, 1999). The present study (after Glasser) will utilize Hans-Georg Gadamer’s analysis of play (1989), and the framework of Johan Huizinga (1950).

Play is not studied here at the level of analysis of the individual, as “[P]lay is not to be understood as something a person does.” (Gadamer, 1989, p. 104). Although neither Gadamer nor Huizinga were concerned with communication per se, their analyses are readily applicable. Play is fundamentally relational– it is a “mode of being” subsuming both the object of play and the consciousness of players. For this reason, you cannot play alone. Play requires, “not necessarily literally another player, but something else with which the player plays” (p. 105-106). Play is “experienced subjectively as relaxation” or pleasure, although it may require considerable effort, because it “absorbs the player” and in this way frees him or her from the burden of initiative– making decisions with consequences (p. 105). Play requires a demarcated space to play (a playing field, explicit or implicit) and may be limited in time (Huizinga, 1950). “Every game presents the man who

plays it with a task... the purpose of the game is not really solving the task, but ordering and shaping the movement of the game itself.” (Gadamer, 1989, p. 107). While in subjective play the rules may not be explicit, play is “ordered” and all games have rules (Huizinga, 1950). Although the game may involve a task, it has no goal as such, but rather “renews itself in constant repetition.” (Gadamer, 1989, p. 103). Finally, games are voluntary, and playing a game can be synonymous with expressing freedom (Huizinga, 1950).

Under this framework, play can be defined as the relation in which people and objects engage voluntarily in an ordered approach to a limited task that is self-renewing and experienced subjectively as pleasurable. As the small literature to date suggests (e.g., Glasser, Stephenson), if one accepts play as an explanation for communication behavior involving other media, it would follow that play would explain use of the Internet, particularly in a population of children who are likely to be less inhibited about engaging in activity that may be defined by outward appearance as “playful.” Free access to the Internet can then be seen as providing an object of play or a focus around which children can play, and as well as the more expected understanding of a communication medium as a means to play with distant others. This theoretical framework is consistent with earlier research, although the most directly comparable study explaining the Internet in terms of play was restricted to on-line discourse exclusively (Ruedenberg, Danet, and Rosenbaum-Tamari, 1995).

Method

This study investigates the meaning of public Internet access via ethnography of the users at Electronic Discovery Centers (EDCs) in the San Francisco Public Library System. Public in this case refers both to a resource available to anyone (not even a library card is

required), and also to a service supported by government funding.⁴ EDCs are clusters of computers⁵ in library branches throughout the city equipped with high-speed Internet access⁶ and children's software titles. These clusters are available to use for no charge, and are reserved exclusively to serve children under the age of 14 and the adults that accompany them. The EDC is then a useful crucible in which to examine the meaning of this technology as public Internet access initiatives are writ large over the nation.⁷

Fieldwork for this project consists of four parts. Most central are (1) non-participant observation and (2) unstructured interviews with children, parents, librarians, and library volunteers at the Electronic Discovery Center. In addition, this project will draw from (3) analysis of internal library use metrics such as sign-up sheets, and (4) internal and external documents published by the library to describe and evaluate library programs. Fieldwork began in January 1998 and is ongoing.

Non-participant observation and unstructured interviews were conducted at Electronic Discovery Center (EDC) locations in the San Francisco Public Library System over a six week period from May to June, 1998. Primary data collection during this period

⁴ The terminology of "public" vs. "universal" and "service" vs. "access" is very confusing in this debate: Public Internet access sites are supported by the public via universal service policies (also called universal access policies) in the U.S., and public service policies in European countries provide universal access. While acknowledging the use of these public sites is far from universal, this paper will refer to the policy in question as "universal service" and the centers in question as providing "public access," although other literature may refer to such differently.

⁵ EDC computers at the main library have Pentium 166MHz processors, and are running Windows 95. Each computer is equipped with a Microsoft EasyBall mouse, a keyboard, headphones, and a 15" monitor. Computers are connected via an Ethernet LAN to a Windows NT Server that provides access to CD-ROM towers containing children's software. Branch libraries have similar configurations but typically access software with CD-ROM drives specific to each computer. At the time of this study, the computers did not have printers, but printers have subsequently been added.

⁶ The main library is connected to the Internet via a T-1 line, while branch libraries are connected via either ISDN or T-1 lines.

⁷ The EDC program predates the implementation of subsidies to libraries for universal access under the 1996 Telecommunications Act, but it is exactly the type of program intended to receive funding under the Act, and indeed the library has applied for funds and expects to receive them (Boutilier, 1998).

was spread over twenty sessions averaging four hours each.⁸ Observation/interview sessions occurred at various days and times. Children’s librarians at the center reported the times when the EDCs were busiest, and observations were then made during a variety of days and times within this subset.⁹ Secondary data collection involved follow-up visits to the Main Library EDC at various days and times to answer specific questions that arose during later analysis.

Children generally are required to sign up for 30 minute time slots on the computers in the EDC. In order to gain an (admittedly rough) estimate of EDC use, in addition to the observation and interviews detailed above, the children’s librarians stringently required that all users sign up and were extremely careful that all use was recorded for a ten day sample period (six days during the week and two weekend days).¹⁰ The sign-up sheets during this period were then used to estimate traffic.¹¹

Finally, it is important to note that the theoretical framework presented here was arrived at inductively. The structure for this study was emergent, in that it was not initially conceived as a study of play, and rather was initially seen as an exploratory evaluation of the use in the EDC that later turned to play as an analytical framework based on early results.

Setting: The Electronic Discovery Center

Most observations occur at the Main Library, a recent and striking addition to the landscape of the Civic Center area of San Francisco. In 1988, San Franciscans approved a \$109.4 million bond measure to construct a new main library building and renovate aging

⁸ Data was mainly collected from the Fisher Center in the San Francisco Main Library, but also at the Chinatown Branch (1 session), and at the Mission Branch (1 session).

⁹ As school was in session during this period, no sessions were scheduled for weekday mornings.

¹⁰ Thanks to Linda Geistlinger and the librarians and volunteers on duty in the Fisher Center for their invaluable help in this effort.

branches. Facing City Hall across Marshall Square, the seven-level result is an example of ultramodern architecture (see Figure 1). Off-white tones and metallic colors highlight the wide, arching stairways under natural light shining down from skylights above the central atrium. Truly impressive in scope, the “New Main” contains 11.4 miles of open stacks and 24.6 miles of closed stacks (City and County of San Francisco, 1995).

Nearly as impressive as the New Main itself is the startling contrast of the pristine library building and the adjacent neighborhood of the Tenderloin, one of San Francisco’s poorest. Although as the flagship of a large library system the New Main draws patrons from throughout the city, those living near the library have a median family income of \$12,754, with 27.5% of the population in the library’s census tract in poverty by Census Bureau definitions (1991). The median family income is below \$30,000 in eight of the nine adjacent census tracts (U.S. Census, 1999b). In comparison, San Francisco as a whole averaged 12.3% of the population in poverty, and a median family income of \$37,854 (U.S. Census, 1991, 1999a).

Beyond simple motives like the addition of much needed space, the construction of the modern main library was an attempt to give a modern face to an institution created over 100 years ago.¹² The pinnacle of this modernization effort is the Fisher Children’s Center, an airy, brightly-colored series of rooms on the second floor providing comfortable furniture sized to the dimensions of small children, exhibition space for reading stories and meeting authors, large windows, and sunny spots to play and read. The Center houses the New Main’s collections of books, periodicals, and videos for children in several languages, presided over by a long, curving wooden librarian’s desk at the center, usually occupied by two children’s librarians.

¹¹ Thanks to Emily Murase for the many hours spent doing data entry for this dataset.

The EDC consists of three islands of computers in the Fisher Center. These islands are located on one side of the wide entryway and fenced by a wall to one side (containing the Fisher Center's bulletin board), half-height book stacks to the front (picture books and videos) and rear (foreign language books), and the librarian's station. Each square pedestal supports four computers arranged in groups of two, and each group of two computers has an attendant collection of three child-sized chairs.¹³ Filtering software is not employed by the library, instead each computer is marked with a warning notice posted by the library. Two round child-sized tables are nearby, as are two adult-sized well-cushioned chairs for larger visitors. The space of the EDC is not closed off on any side, and if the library has any business at all, there is always a steady flow of people moving near and sometimes through the area. No partitions separate computers, and while the space of the EDC is loosely demarcated by half-height shelving, the EDC is very much a public part of the Center (see Figure 2).

Observations were generally done from the child-sized tables in the EDC with a laptop computer. While at the EDC, the researcher attempted to be unobtrusive, but sat close enough to patrons to overhear conversations and to observe details of computer use. During later sessions, non-participant observation was occasionally interrupted for brief, unstructured interviews with children, adults, librarians, and library volunteers. The open nature of the EDC made obtaining informed parental consent impossible, as many children visit the library without a parent. As a compromise, printed notices informing visitors that they may be observed as part of a research study were posted prominently. The researcher

¹² The first free library was founded in San Francisco on June 7, 1879. (City and County of San Francisco, 1995)

¹³ When ordering chairs for the center, library planners toured another nearby computer center at the San Francisco Exploratorium (a hands-on museum of science and art) and noticed that groups of children tended to cluster around the few available computers. Anticipating this demand, they placed three chairs in front of every two computers at the EDC (Boutilier, 1998).

dressed professionally, wore a library ID card at all times, and carried a clipboard when present in the Center– similarly equipped library staff members are a common sight there. In addition, in follow-up visits some patrons at the center who consented were photographed.¹⁴

The Objects of Play

From the librarian-conducted survey of sign-up sheets described earlier, it can be estimated that approximately 110-200 children use the EDC each day (see Table 1 for a summary of the survey results). These figures underreport use and may be somewhat misleading in that collaborative use among several people is a common tactic at EDC computers, and yet only one child need sign up per computer, per time period regardless of the number of people actually using the computer. About one child in ten also brings along an older sibling (such as a babysitter) or adult (such as a parent or grandparent) that uses the EDC with the child, yet again only the child need sign up. There is generally a waiting period for the EDC computers, so we can extrapolate from the survey's estimate of average time signed up per child to say that each child, on average, probably remains in the Center for at least an hour.¹⁵

(table 1 here)

The EDC computers were intended by the library not simply as a means to access the Internet, but also as a vehicle to provide an “extensive digital collection” (City and County of San Francisco, 1996). Through grants from a number of software companies, the

¹⁴ The quality of the photographs is, unfortunately, far less than ideal. In order to capture activity of interest, the researcher waited for a long time after obtaining consent before taking photographs, and in many cases moved away from the subjects. Photographs were taken after they appeared to forget they were being observed. The result in some cases resembles surveillance camera footage as the researcher moved quickly to capture activity seen from a distance, without being obtrusive.

library was able to compile a large list of children’s software titles on CD-ROM that patrons could access from the EDC computers at no charge. These titles were divided into two categories by expected age of the user, “Early Learners” and “Cool Kids Stuff.” These two categories are presented in a menu system to users when they first encounter an EDC computer. After selecting a category, some subset of 12 topic categories is listed. Internet access from these computers takes the form of a single menu item out of 36 total items (labeled “Information Superhighway”) out of 36 available choices on only one sub-tree (“Cool Kids Stuff”) that, when selected, launches a Web browser. See Table 2 for a recreation of the menu system and choices available. The Internet is likely the most popular activity at the EDC, especially for older children.¹⁶ It represents 1/36th of the available options on the EDC menu system, yet accounts for approximately half of the observed use of these computers.

(table 2 here)

When the Internet is being used, how is it used? The three most frequent uses of the EDC’s Internet connection are, in no particular order,¹⁷ (1) participating in text-based real-time chat systems, (2) playing arcade-style games,¹⁸ (3) playing multi-user dungeon games (MUDs/MOOs).¹⁹ Viewing static Web pages, as opposed to one of the three above activities encapsulated within the Web browser, is much less popular, excepting browsing pages

¹⁵ Although children waiting for a computer are not required to remain in the Center, they overwhelmingly do. In addition, the majority do not visit other areas of the Center while waiting (e.g., to read books) but wait in the EDC itself, interacting with other computer users.

¹⁶ Younger children may not be able to operate the menu system at all, and are often put in front of a software title chosen by a parent, librarian, or volunteer.

¹⁷ These three activities stand out sharply as the most often seen, and there is widespread agreement among staff about this point, but it is difficult to determine the most frequent of the three as they are all very common.

¹⁸ These are often remarkably simple. One favorite is a version of “Pong” written in Java that runs within the Web browser and is free. Several other older action games are popular, including “Space Invaders.”

while attempting to find one of the three activities above. When Web pages are viewed, very rarely is there a goal in mind– this is the literal sense of the word “browsing.” Children and adults will carry on simultaneous, complex interactions with each other while using the network in this way. In chat and dungeon systems, they will consider the EDC to be what Goffman (1951) would call the “back region” relevant to the mediated interaction, and several children will participate in staging what should be done in the “front region,” that is, the chat or game system, through advice, discussion and negotiation.

In this fashion, children were typically simultaneously engaged in face-to-face interaction with peers, parents, and library staff, while engaging in mediated interaction via MUDs, MOOs, chat, and computer games. Even e-mail composition and the rare information retrieval task is accompanied by interpersonal interaction in the form of advice and collaboration. As an aside, it is relevant to note that interactive games and computer software generally are often overlooked in communication research with the implied assumption that they are not communication (or, possibly, that they are just not important). Even cursory consideration of children’s software will demonstrate that this is clearly misguided: although at times simple and mechanistic, children’s “learning” software is a persuasion attempt by the designers akin to television programming– an argument by creators for what is important.

A Fundamentally Social Context

Use of the EDC is fundamentally social. In the atmosphere of a children’s library, children are not shy about mingling with strangers of similar age. Groups of children use several computers at once and shout questions and advice to each other. Novices stand by

¹⁹ MUD may stand for Multi-User Dungeon or Multi-User Domain. MOO stands for Mud, Object-Oriented.

and observe those who are more skilled, adopting successful Internet search strategies and interesting URLs themselves (see Figure 3).

Parents often accompany children into the EDC and watch or use the computer with their child. Another volunteer explains, “Parents and children will come [here] together, especially with the small ones.” “Usually the child will know more about these things than the parent.” (This was observed to be true in perhaps half of the parent/child dyads visiting the library.)

Children will often look at the computer screen of the child next to them and ask question like, “Oh, you got that? I didn’t get that,” and, “How did you get in there?” Children that have already had 30 minutes on the computers will linger in the EDC to give advice (especially on games) to other patrons like, “use bombs!” and “you have to use shields now or you’ll die!” Recipients of this advice are sometimes hostile, but usually grateful, prompting for more by asking questions like, “What next?”

Multiple children (or children and a parent) often use one computer at the same time. They will devise sharing arrangements that turn the use of the computer into a game, such as, “you use this part of the keyboard and I’ll use this part,” and “I’ll do the mouse and you do the keys” (see Figure 4). This generates a large amount of discussion: “Go up!” “Go down!” “Don’t read it ALL!” A mother and child use a drawing program by sharing the trackball. They turn the program into a game by attempting to draw a particular form while both of them simultaneously use the device– each person with one hand overlapping the other (see Figure 5).

An Ordered Approach to a Limited Task

Note that few of the activities mentioned so far align well with the transmission view of communication as defined by Carey. Overall, the majority of use by children was

not describable as transmission, but rather as what Carey would call ritual play. As stated at the outset of this paper, play may have a task, but not a goal– even when children were observed searching the Web for specific information (a task one might choose as the exemplar of a transmission act) this was likely to be an act constructed as a game. For example, in conversation between two girls at adjacent computers, on the topic “What should we do?” one said, “Hey, let’s find the Spice Girls.” The two girls then engaged in simultaneous searches of the Internet with different results that were then compared. These searches bore every hallmark of a collaborative game, with overtones of an implied rivalry to see who could find more (or more interesting) information first. When the interaction became boring, a new topic was selected. In this example we see clear evidence of a self-renewing task, yet not a goal extrinsic to the play itself.

Web-based chat and visits to MUDs/MOOs are very popular ways to use Internet connectivity. Children appear drawn to conversations where they can pretend to have other identities and interact in situations that in face-to-face circumstances they would be barred from. This is compounded and complicated by the motive to interact socially face-to-face with friends while interacting socially on another level while using the computer.

Older children are drawn to chat about otherwise forbidden topics. One child repeatedly visits several chat rooms and offers (by typing) to, “give you a long, kinky massage.” Despite this, they often appear unfamiliar with the meaning of their words.

One child fills out a personal profile on Yahoo! chat, using the menu of choices to indicate that he is an “Executive” in the “Finance/Banking/Insurance” industry. He then visits several chat areas for his 30-minute session, pretending to be this imaginary person. “I do insurance,” he types. He appears drawn to masquerade as an adult primarily to watch other conversations without participating, except to comment on his constructed identity.

Groups of children that know each other will often sit close to each other and, from separate computers, access the same chat area. They will then use speech to coordinate their actions in the chat area (“You tell him!”) and confide insights about the other users (“Do you think he’s old? I think he’s old”).

The fluidity of identity on-line has been well-documented by other researchers (Turkle, 1995), but this desire to change one’s own identity is fully consistent with off-line understandings of play, especially among children. Psychology would classify this as “imitation play” (cf. Piaget, 1951), or as a “representation game,” and in so doing neglect the key point that all play is self-presentation (Gadamer, 1989). In considering the examples given above describing activity in chat and MUDs, recall that as a relation, play is self-presentation on several levels within the structure of the game. Although a child plays for him or herself, so too does an actor when play becomes “a play” (Gadamer, p. 109). To experience subjective pleasure, the value of play must be intrinsic.

Even the majority of e-mail use is best interpreted as play. Children tended to send e-mail to other children, and overall composed short e-mails that in content were very similar to chat conversations— discussion of shared events that resembled communication-as-play. The opening of free Web-based e-mail accounts was a favorite topic of conversation, especially among children around 10 who usually lacked the knowledge of how to open an account, yet desired access to the “game” of composing, sending, and receiving e-mail the older children played.

Voluntary and Pleasurable

The Telecommunications Act of 1996 was specifically aimed at reducing high technology access disparities across race and income (Hammond, 1997). Contrary to policy goals, children are drawn to use public access computers that have connections to the

Internet regardless of their access to Internet connections in the home. Children report social motives for Internet use and they enjoy coming to a public space to use this communication technology. While it might be expected that publicly available free computers connected to the Internet and children's software is a powerful draw for those without access to these resources elsewhere, in fact children are drawn to the collaborative, social atmosphere of the public access computer center regardless of their availability at other locations.²⁰ This atmosphere draws patrons with no computer at home, but it also those with other access.

It is true that other motives exist as well, including faster Internet connectivity at the library, more software titles to choose from at the library, and other activities at the library which are complementary to Internet/software use.

"My dad works at the Internet," a 13-year-old boy says. When asked if he has access to the Internet at home he says yes. When asked if he comes to the EDC because of the speed of the computers, he replies, "No, it's the other people and stuff," (he looks around the room) "you can talk to them." "It's fun."

Even solitary use of the EDC computers generally occurs with an audience and an interpersonal social context. In Figure 6, a child playing a game "alone" with headphones on completes a level successfully, and moves her hands and body in a playful dance to celebrate, while others look on.

Relevance to a child's school curriculum is an important consideration weighed when he or she decides what to do with the EDC computers. In most, but not all cases children make a clear distinction between work and leisure time, and the time spent at the EDC is considered to be *leisure*. Although there are school field trips, the majority of traffic at the

²⁰ Many children report that they request to be driven to the Tenderloin (the economically depressed neighborhood adjacent to the civic center, where the New Main is located) from the more affluent

EDC occurs after school, on weekends, and during the summer– times usually reserved for leisure.

When Ben, a 14-year-old boy, sees that the researcher is interested in what he is doing on the Web, he confides, “I’m working on a Web site for my school.” The researcher mistakes his volunteered statement to refer to what he is looking at on the Web right now, a Web site for Acura enthusiasts, and asks him what part of the Web site he is working on right now. He is visibly surprised and immediately corrects this misperception, speaking with exaggerated patience: “Nooooo! I found out about Web sites and stuff in a class, but I come here for ... *fuun*.” When asked if he uses the computers in the EDC to work on school projects, he realizes that he is not getting his point across, and speaks very slowly to clarify this distinction: “No, *that* is school, I come *here* for fun.”

Behaving as anyone would who has been released from work during a given time period by social convention, the children at the EDC are very careful to separate the spheres of leisure and work as much as possible and use a variety of strategies to protect the leisure sphere from encroachment. Chief among these is a comparison of Web and software activities to school curriculum they have experienced. If the activity seems too similar, it is rejected (and frequently tarred with the epithet “learning game” as in, “hey, that’s a *learning game!*” spoken as criticism by children observing).

This is not to say that children do not learn– learning is acceptable if it can be justified as leisure. In the minority of interactions in which a child performs an information-seeking task on the EDC computers, it is usually justified in this way. Over a span of two sessions at the EDC, Eric searched a variety of educational resources on the Web and used the library’s CD-ROM encyclopedia to find out about Honduras, from which his family immigrated. This was leisure because “liked it,” it wasn’t required, and it was open-ended.

Thus the use of the EDC meets another requirement of play: not only is it pleasurable, it is *voluntary*.

The Tension Between Play and Work

The EDC allows a rare opportunity to understand our interaction with this medium by exploring the contrast between adult and child. Because it is frequented by young children and the adults that accompany them, the EDC represents a liminal zone in which those who bring a strong predisposition about the purpose, use, and meaning of the technology– the adults– attempt to negotiate a shared understanding with those who have had no formal introduction to the technology, and may have little in the way of preexisting schema with which to understand it– the children. It is from this confrontation that the meaning of the public Internet access can be distilled.

Children realize they can leave work (which is for them, school) outside the EDC because it is defined symbolically as a place for “fun” by previous experience, bright colors, loud children, and most important, absence of the structure often associated with time spent using a computer in a classroom or a school computer lab. Adults have the opposite reaction to an activity’s relevance to school curriculum, and are engaged at combating the demarcation of the leisure sphere to exclude learning.

The librarians combat this distinction by attempting to label certain time periods as work– they have set up specific times devoted to “homework help” and as an incentive, they provide double the amount of time normally given on the computers.²¹ Parents combat this distinction by using mild deception– they encourage their children to visit Web sites and use software that they recognize as educational in the hopes that the child will not

²¹ As “homework help” is a new program, it is too early to tell whether or not this strategy will succeed.

recognize that it is. One parent describes the computers at the EDC with the following statement, intended as praise: “They’re great! I don’t think [my son] really notices that they are learning games.” If children persist in using the computers in ways that are obviously not educational, some adults become very distressed. Library staff who learn that the observing researcher is working on this research project frequently try to break the news gently (assuming inevitable displeasure)– they say with pained expressions and guilty voices, “They use it for games, you know.” One volunteer tells me in an angry voice, “The Internet, it is good for nothing. I don’t show them those games, but they find them somehow.”

From the above examples, it appears that Internet use in the children’s library might suggest an added factor in Carey’s distinction of communication as ritual vs. transmission– that of perception. In the EDC, children value communication that they see as ritual (play), while adults value communication that they can justify as transmission (learning). A “learning game” succeeds to the extent that it deceives the child into experiencing it as ritual communication while simultaneously presenting enough clues for the adult to understand it as transmission of valuable information. The valence of the most common uses of the network as perceived by both children and adults is summarized in Table 3.

(table 3 here)

Although many items in this table are self-explanatory, of note are two activities characterized by adults as negative: “overplaying” and “aimless interactivity.” Overplaying refers to the feeling, expressed by parents, that it is possible to become “too involved” or “lost” in play, as well as to experience “too much” play. Adults did not seem concerned that these behaviors were damaging, but rather objected to their pointlessness, as in “let’s get you something useful to do.” Aimless interactivity refers to the behavior (observed

regularly) of repeating a very simple action over and over, such as alternating in pressing the “back” and then the “forward” button on the Web browser endlessly, or playing a very simple game (such as a Java-based version of the paddle game Pong with the paddle set to be very large, and thus the game very easy). While children accepted these activities as a structured, self-renewing game, adults found the lack of complexity distressing. Any tolerance they might have for play was in this way reserved for games involving at least a modest complexity of task as well as relevance to school curriculum.

When selecting software titles or Web sites for younger children, and when encouraging some uses over others for older children, adults in every case prefer the uses indicated by table 3. Storytelling software (books on CD) and software and Web sites with direct relevance to school topics top the list.

Play in Daily Life

One final piece of evidence is necessary to complete the case that the EDC is best understood using play– that of substitutable uses. On one visit to the library, the researcher was leaving the library building and saw a group of three children who appeared to be about 12 standing outside the library entrance discussing whether or not to go in. It was a sunny day in San Francisco, and they were debating whether they should go “do the computer” or “play ball in the lot.” These informants saw playing ball as an activity directly substitutable for time spent at the EDC.

When considering what place visiting the EDC occupies in the greater framework of the lives of its users, observation will not yield results, as informants could only be observed after they arrived at the EDC. In this situation there is a natural tendency to ask the users themselves the research question at hand. While the reports of users can in many instances be helpful, we must remember that frequently the children are not likely to have

thought deeply about this question. A preferred technique is to provide the subject with an easily answerable question about routine parts of life upon which inferences can be built (Denzin, 1996).

To gauge how visits to the EDC enmeshed with other aspects of the users' lives, children were asked "What did you do just before coming here?" "Where are you going after you leave here?" "What do you usually do at this time every day?" "If you decided not to come here, what would you do instead?"

Overwhelmingly, it appears that for the children who visit the EDC, it serves as a functional equivalent to unstructured play and other leisure activities. The children answered: "watching TV," "just stuff around the house," "playing with my friends," "playing ball," "playing outside," and (most common and least informative) "nothing." Additionally, after school when it is raining is the busiest time for the EDC– the library staff believes that the EDC is a substitute for playing games outside. Adults, in contrast, frequently bring children to the EDC and leave them while they perform other tasks– in this way, for adults the EDC it is the functional equivalent of babysitting. Institutional access points may favor those most at ease with the institutions concerned. In the case of libraries, those children whose parents visit libraries to read books and magazines are likely to bring their children and introduce them to the EDC.

The Lessons and Implications of Play

It is telling that in proposing the EDC program, the library has formulated one of the goals of the project in the words "...to extend access to remote resources" (City and County of San Francisco, 1996). The library was born within the historical moment of print, and in analyzing the activity in the EDC, we can see that the adults prefer the paradigm of print. They seek linear texts and rhetorically reward information seeking

behavior similar in form to a card catalog lookup as “learning.” The internet is conceptualized as a “remote resource.” The children, on the other hand, have a more fluid conception of how libraries and communication technology should work, and prefer to use this technology in a very exploratory fashion where the content in many cases is not the most important feature of the interaction, but one of the least. The EDC becomes a site for shared experience and community building among peers, rather than an electronic book. After witnessing this interplay between meanings of the computers in the EDC, one comes to consider this struggle in the form of an apologue.

The dominant way to understand computers at present is as processors of information. This is not simply a functional description, it is one with moral overtones. Whenever the Internet is referenced in terms of the transmission of information, the adults perceive this situation as positive. For the adults, the computer is most often a synonym for information, with the overtones of print. This is the information apologue: a narrative in which the EDC is a symbol representing the improved book, progress, enlightenment, and civilization. The children who visit the EDC have no information apologue to guide them, and they see the network as a nexus of social activity and play– or occasionally as an information source– as they see fit.

In one sense the story of public Internet access told here might be taken to be very discouraging. If consulted as a taxpayer or policymaker, one would imagine a reluctance among anyone surveyed to invest such large sums in providing a technology that substitutes for play. The computer has spread into almost all parts of modern society– except that of the lowest socioeconomic status. The unpleasant reality hidden behind appeals for “electronic literacy” that are quickly replacing the pleas for “media literacy” of times past is that familiarity and skill with the personal computer at its present level of development is an individual’s insurance policy against having to resort to the lowest rungs

of the occupational ladder. To what extent public access points could act to restore equity in this situation on a large scale is unclear. The data presented here show unexpected uses for unexpected reasons that do not map well with transmission-oriented policy goals.

When considered another way, the story told here is extremely promising for a number of reasons. Aside from the implications of the data presented here for designers of children's software, creators of Web sites, and library planners, two major points are relevant:

First, social science has an obligation to be true to the human animal in ways that policies do not.²² We know that *all* humans engage in play, and that they will continue to do so regardless of any cultural privilege given to work, "productive" activity, and the goals of policy initiatives. Study of play can lead us to understand behavior as valuable in new ways. For example, through experimentation (play's cousin), lay users have an under appreciated role in network innovation, and "a wide base of advanced telecommunication users" promised by universal service policies can cause long-term benefits for an economy (Bar & Riis, 1997, p. 186).

Second, consider Innis' argument that each new communication technology has the effect of enlarging the area of reception while reducing the points of distribution (Innis, 1951). In Carey's words, with other technologies "... large numbers are spoken to but are precluded from vigorous and vital discussion." (Carey, 1989, p. 168). Internet use is too varied a phenomenon to describe accurately with a single broad statement, and even if a single statement explanation were possible, the Internet is too much in flux to allow much hope that the statement would be reliable over time. But having said that, the tendency observed here at the EDC was not one of monolithic institutions appropriating knowledge and reducing discussion, but rather a picture in which interpersonal interaction was

generally preferred by users.²³ For this situation to remain promising, we must hope that interpersonal interaction will not be commodified and appropriated in the same manner that “news” and “information” have been in the past, or better still, we must insure via policy that this will not happen.

To conclude, in recognizing the information apologue and resistance to it, in joining theories of play and Carey’s distinction of ritual vs. transmission, and in legitimating the neglected academic study of play, we embrace a powerful analytic describing a broad sweep of human activity, as has been seen in the small crucible of the Electronic Discovery Center. This study suggests two directions for future research. First, quantitative assessment of EDC activity (or use at other computer centers) would provide useful triangulation with the largely qualitative data gathered to date. While games may not be formal, the data given here indicates that a large percentage of computer and Internet use by children at public centers takes the form of play— one might then expect a preponderance of formal game sites if studying, say, Internet use among children. Second, while this study focused on children and play with new communication technologies, an interesting question for further research would be the application of play theory to adults in this context, as this is where the sociological emphasis has been. That children play seems less surprising, yet the theoretical framework identified here suggests that much of the activity undertaken by adults using the Internet could be understood as playful.

²² While in an ideal world this might not be so for policy.

²³ It is important to note that the interpersonal interaction observed was almost always mediated by corporations in ways not possible with off-line communication. This point clearly warrants further research and perhaps some skepticism about claims for a technology that is more free.

Bibliography

- Aufderheide, Patricia. *Communications Policy and the Public Interest: The Telecommunications Act of 1996*. New York: Guilford, 1999.
- Bar, François and Riis, Annemarie Munk. From Welfare to Innovation: Toward a New Rationale for Universal Service. *Communications and Strategies*, 26(2), 1997, 185-206.
- Boutilier, Sybil; Grants and Special Project Director, San Francisco Public Library System. (personal interviews). January-May, 1998.
- Bijker, Wiebe E. and Law, John (eds.). *Shaping Technology / Building Society: Studies in Sociotechnical Change*. Cambridge, Mass.: MIT Press, 1992.
- Carey, James W. Mass Communication Research and Cultural Studies: An American View. In J. Curran, M. Gurevitch, and J. Woolacott (Eds.) *Mass Communication and Society*. Beverly Hills: Sage, 1974, 225-248.
- Carey, James W. A Cultural Approach to Communication. *Communication* 1(2), 1975. 1-22.
- Carey, James W. *Communication as Culture*. New York: Routledge, 1992.
- Castells, Manuel. *The Rise of the Network Society*. Cambridge: Blackwell, 1996
- City and County of San Francisco. *The Main Library and the San Francisco Library System: A brief history*. (internal document for library employees). San Francisco, Calif.: 1995.
- City and County of San Francisco. *San Francisco Electronic Library Project: Program Proposal to the National Science Foundation, Network Infrastructure for Education Program*. San Francisco, Calif.: 1996.
- City and County of San Francisco. *Interim Report on San Francisco Electronic Library Project: The first year*. San Francisco, Calif.: 1998.
- Carey, James W. *Communication As Culture: Essays on Media and Society*. New York: Routledge, 1989.
- Danet, Brenda (ed.). Play and Performance in Computer-Mediated Communication. *Journal of Computer-Mediated Communication*, 1(2).
- Denzin, Norman K. *Interpretive Ethnography: Ethnographic Practices for the 21st Century*. Thousand Oaks, Calif.: Sage, 1996.

- Federal Communications Commission. *Twelfth Order on Reconsideration, CC Docket No. 96-45*. Washington, D.C.: Federal Communications Commission. May 27, 1999.
- Gadamer, Hans-Georg. *Truth and Method* (2nd rev. ed.). J. Weinsheimer and D. G. Marshall, (trans.). 1989. New York: Continuum.
- Glasser, Theodore L. Play, Pleasure and the Value of Newsreading. *Communication Quarterly*, 30(2), 1982, 101-107.
- Glasser, Theodore L. Play and the Power of News. *Journalism: Theory, Practice, Criticism*, 1(1), forthcoming.
- Goffman, Erving. *The presentation of self in everyday life*. Garden City, NY: Doubleday, 1959.
- Hammond, Allen S. IV. The Telecommunications Act of 1996: Codifying the Digital Divide. *Federal Communication Law Journal* 50(1), 1997, 179-214.
- Huizinga, Johann. *Homo ludens: A study of the play element in culture*. Boston: Beacon Press, 1950.
- Innis, Harold A. *Empire and Communication*. Oxford: Oxford University Press, 1950.
- Innis, Harold A. *The Bias of Communication*. Toronto: University of Toronto Press, 1951.
- Jensen, Klaus Bruhn and Jankowski, Nicholas W. (eds.). *A Handbook of Qualitative Methodologies for Mass Communication Research*. New York: Routledge, 1991.
- Jones, Steven G. (ed.). *Cybersociety: Computer-Mediated Communication and Community*. Thousand Oaks, Calif.: Sage, 1995.
- Jones, Steven G. (ed.). *Virtual Culture: Identity and Communication in Cybersociety*. Thousand Oaks, Calif.: Sage, 1997.
- Jones, Steven G. (ed.). *Cybersociety 2.0: Revisiting Computer-Mediated Communication and Community*. Thousand Oaks, Calif.: Sage, 1998.
- McLuhan, Marshall. *Understanding Media*. New York: McGraw-Hill, 1964.
- Mueller, Milton. "Universal Service" and the new Telecommunications Act: Mythology Made Law. *Communications of the ACM*, March 1997.
- Murase, Emily M.; Boutilier, Sybil; & Sandvig, Christian. Strategies for Promoting Access to the Internet Among Children and Youth: A Case Study of the San Francisco Public Library's Electronic Library Project. *INET '99: Proceedings*. Reston, VA: The Internet Society, forthcoming.

- Nye, David E. *Narratives and Spaces: Technology and the construction of American culture*. Exeter, UK: University of Exeter Press, 1997.
- Rapp, Lucien. Public Service or Universal Service? *Telecommunications Policy*, 20(6), 1996, 391-397.
- Ruedenberg, Lucia; Danet, Brenda; and Rosenbaum-Tamari, Yehudit. Virtual Virtuosos: Play and Performance at the Computer Keyboard. *Electronic Journal of Communication / La Revue Electronique de Communication*, 5(4), 1995.
- San Francisco Library Commission. *Internet Use Policy*. San Francisco, Calif.: December, 1998a (adopted).
- San Francisco Library Commission. *Guidelines for Use of Computer Terminals*. San Francisco, Calif.: December, 1998b (adopted).
- Sawhney, Harmeet. Universal Service: Prosaic Motives and Great Ideals. *Journal of Broadcasting and Electronic Media*, 38(4), 1994. 375-395.
- Simpson, J.A. and Weiner, E.S.C. (eds.). *Oxford English Dictionary* (2nd ed.). New York: Oxford University Press, 1989.
- Smith, Marc A. and Kollok, Peter (eds.). *Communities in Cyberspace*. London: Routledge, 1999.
- Stefik, Mark (ed.). *Internet Dreams: Archetypes, Myths, and Metaphors*. Cambridge, Mass.: MIT Press, 1996.
- Stephenson, W. The Ludenic Theory of Newsreading. *Journalism Quarterly*, 41(3), 1964, 367-374.
- Stephenson, W. *The Play Theory of Mass Communication*. Chicago: University of Chicago Press, 1967.
- Turkle, Sherry. *The Second Self: Computers and the human spirit*. New York: Simon & Schuster, 1984.
- Turkle, Sherry. *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster, 1995.
- Telecommunications Act, 47 U.S.C.A. § 254 *et seq.* (1996).
- Universal Service Administrative Company (USAC), *Federal Universal Service Programs Fund Size Projections and Contribution Base for the Second Quarter 1999*. Madison, WI: January 29, 1999. See: http://www.fcc.gov/ccb/universal_service/quarterly_filings/1999q2/2q99usac.pdf

TABLE 1. Summary of EDC Use Counted by Librarians and Volunteers		
	Weekday	Weekend
measurements	6	4
avg hours available/day	8.4 ^a	5.5 ^b
avg # of unique names signed up/day ^c	110 ^d	111 ^d
estimated avg. hours/name	.9	.6
avg. # of available time slots/day	200	144
avg. # of slots unused/day	0	0.3

^a On Fridays, the EDC is available for 5 hours, on Mondays, the EDC is available for 7 hours, other days the EDC is available for 7 hours.

^b On Saturdays, the EDC is available for 7 hours, on Sundays, the EDC is available for 7 hours.

^c This number is very much an estimate, as children are not asked to sign up with their complete name (although at times some do). Uniqueness was determined by researchers analyzing notation on the tally sheets to determine single names that had been signed up for multiple periods (e.g., "ditto marks", etc.), as well as handwriting similarities with, say, a unique first name and last initial.

^d According to observational data these numbers considerably underrepresent use. The sign-up sheets are not designed to accommodate sign-ups of more than one child per terminal, while terminals are used by multiple people 25-50% of the time.

TABLE 2. Software Available at the EDC
(In the order of the menu system hierarchy presented to users.)

Early Learners	Cool Kids Stuff
<p>Fun Stuff Jumpstart First Grade ^a Kid Pix Studio ^a Where in the World is Carmen San Diego? Jr. Detective Edition ^a</p> <p>Story Time Arthur’s Teacher Trouble (bilingual) ^d Arthur’s Birthday (bilingual) ^d Dr. Seuss’ ABC Four Footed Friends Just Grandma & Me Little Monster at School (bilingual) New Kid on the Block Sheila Rae the Brave (bilingual) ^a</p> <p>Learning & Exploring Bailey’s Book House ^a James Discovers Math Millie’s Math House ^a Sammy’s Science House ^a Trudy’s Time and Place House ^a What is a Belly Button?</p>	<p>History Oregon Trail II ^a</p> <p>Encyclopedias Encarta ^a OurTimes ^a</p> <p>Literature and Language Alien Tales ^a Kid’s Typing Sign Language for Everyone ^a</p> <p>Geography (empty)</p> <p>Animals & Nature 3-D Dinosaur Adventure Dangerous Creatures Dinosaurs Discovering Endangered Wildlife Eyewitness Virtual Reality: Bird ^a Eyewitness Virtual Reality: Cat ^a Undersea Adventure</p> <p>Science Place Bit-Bot’s Math Voyage ^a Magic School Bus Explores the Solar System ^{a,b} Math Workshop</p> <p>Art & Music Kid Pix Studio ^a</p> <p>On-Line Catalog (access to the text-based SFPL catalog)</p> <p>Internet Information Superhighway (connection to Netscape Navigator 3.0) ^c</p>

^a This title is also available at branch libraries. In addition to the list above, some branches provide the following nine titles: Adam: The Inside Story, Cross-Country USA, Eyewitness Virtual Reality: Dinosaur Hunter, Four Footed Friends, Magic School Bus Explores the Ocean, Stradiwakius, Thinkin’ Things (Vols. 1-3), Where in the World is Carmen San Diego?, and Where in Space is Carmen San Diego?

^b This title was listed as the most popular by the majority of informants, except those at the Mission Branch.

^c The default home page is preset to <http://nick.sfpl.lib.ca.us/edc/resource.htm>

^d The bilingual “Arthur” titles were listed as the most popular by the majority of informants at the Mission Branch, located in a predominantly Hispanic neighborhood of San Francisco.

TABLE 3. *Valence of Internet uses at the EDC, by point of view*

	positive	negative
from child's point of view	acquiring prestige among peers exploration novelty interactivity unpredictability	relevance to school curriculum difficulty
from adult's point of view	relevance to school curriculum exploration of knowledge solitary work predictability	overplaying exploration of culture aimless interactivity

FIGURE 1. Exterior of the San Francisco Main Library, where the majority of data collection occurred. This scene makes a sharp contrast with the poverty a few blocks away in the Tenderloin neighborhood, one of San Francisco's poorest.



FIGURE 2. *The Electronic Discovery Center (EDC) in the Fisher Children's Center, San Francisco Main Library. Two of the three "islands" of computers are visible. Notice that more than one person typically uses each computer.*



FIGURE 3. *A young child offers unsolicited advice to a stranger, speaking loudly so as to be heard over the headphones.*



FIGURE 4. *Two children make a game of using the computer by dividing responsibility for the input devices: “I’ll do the mouse and you do the keys.”*



FIGURE 5. *A mother and daughter add a level of complexity and structure to an open-ended drawing program by attempting to draw a house by both guiding the trackball at the same time.*



FIGURE 6. *A child successfully completes a level of a “learning game” and celebrates by dancing with hands and torso while others look on. She experiences this as play and ritual, while adults tend to define this game as the transmission of important information.*

