

# Introduction to Muds

---

Computer-mediated communication (CMC) is a relatively new phenomenon. When the American defense department, through the Advanced Research Projects Agency (ARPA), funded the ARPANET 1969, an important characteristic of this computer network was that there did not exist any central computer that controlled the network. The architecture of the network made it possible for information that traversed it to take any way between two different points in the network.<sup>1</sup> This characteristic is useful if parts of the network are congested or even eliminated. Many have repeated that this ability was deemed important for a network with its origins in military purposes and goals, but this has been contested by some of the very engineers that built the ARPANET. Whatever the case is about this specific issue, the ARPANET was the kernel in what was to become the global Internet.

The original goal of the ARPANET was to facilitate the availability of remote computers for research purposes. The possibility to send electronic mail existed from the beginning, but was of a subordinate importance. Already after a year it became clear that the most popular use of the computer network was to send e-mail and share information, rather than to get access to remote computing resources. Even if the largest part of the computer *traffic* consisted of transferred information, electronic mail was what the users spent most of their time on. Within a year, the first electronic distribution list, *SF-lovers*, had been started. Symptomatically, the list did not purport to treat a “serious” research subject, but science fiction (SF) literature.

Also simple programs to communicate synchronously were invented early in the history of the Internet. A program called “talk” (sometimes called “phone”) allowed two persons to write and read each others messages on the computer screen and it quickly became popular. Already in the middle of the 1970’s, conference systems for synchronous communication between several participants were developed (Bretz et al., 1976).

As of earlier and still today, most of the computer traffic on the Internet consists of asynchronous communication<sup>2</sup>. Statistics from National Science Foundation network (NSFnet) from the mid-1990’s showed that 72% of the traffic on the Internet consisted of

---

1 Information about the history of the Internet comes from Hafner and Lyon (1996), Levy (1984), Reid (1994) and Rheingold (1994a).

2 The terms synchronous and asynchronous denote if the data traffic/communication is simultaneous or non-simultaneous. In a purely technical sense, *all* communication mediated by *any* technical means (telephone, computer etc.) is asynchronous; there is always a certain, if small, delay in the communication (for example some tenths of a second in a telephone conversation with someone on the other side of the world). However, in a purely technical sense, *all* communication is mediated by *some* kind of medium that creates a delay, be it the very air that the sound waves have to traverse in an ordinary conversation.

There is however a fundamental difference between what I call synchronous and asynchronous communication. Synchronous communication happens in real time, i.e. all parties are simultaneously “present” and the delay is small. Asynchronous communication (sometimes called “store-and-forward”) always passes a middle phase where it is stored (on a web-server or mail-server for example) before it reaches the recipient(s).

asynchronous communication, 2% consisted of synchronous communication and the rest, 26% could have been either asynchronous or synchronous communication<sup>3</sup>. With the popularity of the World Wide Web in the second half of the 1990's in mind, the figures are probably even more skewed in favor of asynchronous traffic today.

However, this thesis will concern synchronous communication on the Internet. Despite the fact that only a small part of the total traffic on the Internet consists of synchronous communication, the figures above does not say very much about the *time* spent on synchronous and asynchronous communication. Since the computer traffic generated by muds consists of strings text that is transferred at the same time it is written, it will be heavily underrepresented in any figures regarding the *amount* a traffic. The amount of text written at a comparatively leisurely pace, at a keyboard, is minuscule compared to asynchronously transferred megabytes of pictures and sounds. The snapshot from the introduction showed how much time the then-current (autumn 1998) crop of SvenskMud users had spent playing the game. Less than 1 000 persons had at that time spent a total of more than 50 man-years in the mud. Today, two years later, SvenskMud has become considerably more popular, so popular that there is now a limit of 100 simultaneous users in order for the performance of the computer system not to degrade.

This chapter is an introduction to muds and it consists of three parts. The first part is a short history of muds. The second part consists of a number of metaphors that have been used to explain what muds are. The last part presents some different phenomena that has been described by researchers who have studied muds.

## Mud history

Muds have a 20-year-long history and a prehistory before that. I divide the history of muds into three periods here, i.e. prehistory (-1979), the early years (1979-1988) and the Internet years (1988-).

### *Prehistory; Interactive fiction*

The precursors to muds were single-person text-based interactive adventure games. Many of the games borrowed ideas and concepts from role-playing games such as "Dungeons & Dragons". In these games, a single adventurer/user, with the help of simple commands, typically moves around and explores a number of rooms or caves where he discovered different "objects". These objects were typically monsters, weapons, food, treasures, potions etc.

The first computer-based adventure game, Adventure /ADVENT<sup>4</sup>/Colossal Cave was written in 1976-1977 (Goetz, 1994, Hafner & Lyon, 1996). The opening "scene" of Adventure reads:

---

<sup>3</sup> These figures are based on public information from NSFnet that has been prepared and compiled by Professor Jacob Palme at the Department of Computer and Systems Sciences at Stockholm University.

<sup>4</sup> Adventure was first run on a DEC PDP-10 computer. The operation system, TOPS-10, only allowed file names with six letters.

"You are standing at the end of a road before a small building. Around you is a forest. A small stream flows out of the building and down a gully. There is a sword beneath a tree next to the stream."

Adventure and its followers became very popular and quickly spread over the Internet. Despite later inventions such as muds and advanced graphical computer games, there is still a hard core of fans who play and cherish these games that nowadays go under the term "Interactive Fiction" (IF)<sup>5</sup>. The term itself says something about how it feels to use these games when they are at their best, i.e. like descending into a good book.

Goetz (1994) uses the term "hypertext fiction" to describe the precursors to Interactive Fiction. Hypertext fiction includes fantastic stories by Borges from the 1940's, and two early experiments of interactive television drama from England (1950's) and Czechoslovakia (1960's), where the viewers suggested and voted on which continuation they wanted to see in a television series. But, interactive literature blossomed only with the arrival of computers:

"Suppose that, instead of giving the reader two or three choices at every branch point, you gave him hundreds. And suppose that branch points came not every page, but every sentence. The resulting hypertext would be too large to list in a tree fashion. Instead, the effects of each choice must be computable. This means that the fictional world must have a representation which can be altered in detail and in ways not foreseen by the author. Furthermore, the list of possible choices is too large to present as a menu; it must be presented implicitly; for instance, by allowing choices to be specified using a subset of English. The resulting hypertext is an adventure."

Goetz, 1994

The final word in the quote above, *adventure*, is of course a flirt with the first game of this kind, *Adventure*. The main difference between the description of Adventure above and a mud is that a mud allows many simultaneous characters – in some systems several hundreds – to connect and interact with the game and *with each other* at the same time.

### *The early years; emergence*

Inspired by single-person adventure games like Adventure, Roy Trubshaw and Richard Bartle at Essex University wrote the first mud in 1979-1980 (Bartle, 1990). This mud was originally called "MUD", but the name has retroactively been changed to "MUD1" so as to tell it apart from the class of games it gave rise to. The game became very popular a year after its completion, when it became possible to connect to the game by calling through the modem pool at the university. When the number of modems became a bottleneck, some of the users started to create their own muds. Bartle (1990) describes the first decade of mud activities in Britain. These resulted in some twenty different muds around 1990 of which six were operated on a commercial basis.

Parallel with commercial developments, some students at Aberystwyth University in Wales developed a mud called AberMud around 1987-1988. The mud was the first of its kind, it was built for running on a Unix system (Unix is the operating system of most

---

5 There are some web sites that chronicle these games (Adventureland, <<http://www.lysator.liu.se/adventure/>> and The Interactive Fiction Archive, <<http://www.ifarchive.org/>>) as well as a USENET newsgroup, <rec.games.int-fiction>.

Internet servers) and it was also the first mud whose source code was spread over the British university computer network JANet and the Internet. Most of the early mud activities took place in Great Britain. Nowadays the Internet is the natural hub and much of the activities have migrated across the Atlantic, to the United States.

### *The Internet years; maturity*

After AberMud, the genie was out of the bottle. The number of publicly available muds has steadily increased during the last ten years. They passed 275 in April 1993, 500 in the beginning of 1995 and, depending on which WWW site you query<sup>6</sup>, 1500 or 3000 in the beginning of 2000. The number of people who today have first-hand knowledge of muds can probably be counted in hundreds of thousands or even millions of persons.

All early muds are built on a strictly hierarchical, competitive, adventure-based model. Successful players could alone or together solve quests, kill monsters and find treasures, and through these activities gain experience points and power and strength within the mud. Finally a character could reach the status of “wizard” and the user would earn the right to extend (program) the mud, but this goal usually demanded hundreds of hours of game-play.

This changed in 1988 when Jim Aspnes at Carnegie Mellon University created TinyMud, the first purely “social” mud (Bruckman, 1992). TinyMud did away with adventure gaming elements such as health, death, money, monsters or experience points, but instead emphasized social interaction and programming. In TinyMud, as opposed to adventure muds, everyone was allowed to program and create new objects. In social muds, a source of status and prestige is this ability to create new, interesting objects that are appreciated by other users. Another source of status is the pure “verbal” ability to express oneself and entertain other users through the keyboard.

From these social muds, a separate strand of muds has been developed that are used for a variety of academic and other “serious” purposes. They are used as meeting places for academics from different disciplines, learning environments of different kinds, both for children and adults, and even as a “virtual support centre by survivors of sexual assault” (Reid, 1994, p.19).

As muds have been used less for gaming and more for other purposes, the need to distance some present applications from the gaming origins has resulted in a bonanza of naming practices in the literature. One strategy has been to redefine the meaning of the “d” in “mud”. Sometimes it stands for “dimensions” and other times for “domain” instead of the original “dungeon” (multi-user dungeon). Another strategy has been to choose a totally different, much more respectful-sounding name such as “text-based virtual realities”, “social virtual environments” or “multi-participant interactive fiction”. Other complex and imaginative names have also been suggested when these systems have been used for “serious”, instrumental purposes.

Most muds on the Internet are however today still adventure muds. Of those, most are based on Tolkien-inspired fantasy worlds. Others may be based on generic science fiction environments or on real or historical environments. Yet another type of muds are based

---

<sup>6</sup> There are two different www sites with lists of available muds which the “FAQ about MUDs and MUDding” refers to: <<http://www.mudconnect.com>> and <<http://mudlist.eorbit.net/>>. The latter has a considerably larger list, but such a list might also list many muds whose status is “pending”.

on environments from a specific series of films, television series or books, like Star Trek, Babylon 5, Robert Jordan's "Wheel Of Time" or Terry Pratchett's "Discworld" books.

## What are muds?

"A MUD is a software program that accepts 'connections' from multiple users across some kind of network (e.g., telephone lines or the Internet) and provides to each user access to a shared database of 'rooms', 'exits' and other objects. Each user browses and manipulates this database from 'inside' one of those rooms, seeing only those objects that are in the same room and moving from room to room mostly via the exits that connect them. A MUD, therefore, is a kind of *virtual reality*, an electronically represented 'place' that users can visit."

Curtis, 1992, p.1

To explain something, anything, in terms of – or as if it was – something else (i.e. by using a metaphor) is something we do more or less automatically to understand and explain the world we find ourselves in, and especially complicated or abstract aspects of it (Lakoff & Johnson, 1980). That is why early cars were called "horse-less carriages", film was called "moving pictures" and computers were called "thinking machines" or "electronic brains" (Martin, 1993). Metaphors are according to Lakoff and Johnson perhaps nothing less than the key to understanding understanding. When the metaphors we use to talk about something changes, that is an indication that the way we think about that something is also changing. Muds are a new phenomenon, unknown to most people. In order to explain what muds are, I will use a number of metaphors from the literature about muds.

A metaphor is not the same as the phenomenon itself. By using a metaphor, certain aspects of the whole are illuminated, but other aspects become more difficult to perceive at the same time. Using several different metaphors will give a more balanced picture. My hope is that the different metaphors presented here together will provide a clear picture of what muds are. I follow Stefik (1996) in using multiple simultaneous metaphors to understand a complex phenomenon. To him there is no one right metaphor for the Internet and "relying on a single metaphorical analogy would deprive us of a richer range of meanings and possibilities" (Stefik, 1996, p.XXI)

Despite this, I would like to stress that the best way to understand what muds are is to use one.

### *Muds as a teleconference by keyboard with a room metaphor added*

This metaphor, or rather the two metaphors, are the simplest and most basic ways to describe the two most important characteristics of a mud.

*Mud as a teleconference by keyboard* both hints on *what* a mud can be used for and *how* it is used. In this example, an alternative to the term "teleconference" could be telephone chat lines; there are no principal differences between them in the respects that are of interest here.

Different people are usually in different geographical locations when they use a mud. In this respect, muds do not differ from teleconferences or ordinary telephone calls. However, the communication in a mud is mediated by the Internet (e.g. by a computer

network) and not by the telephone network. In the same way that a person can call anyone else in the world as long as that person's telephone number is known, anyone can connect to any mud in the world as long as the address of that mud is known.

A teleconference by keyboard not only describes the communication in muds, but also another type of synchronous communication that is popular on the Internet – Chat. Different web chats or Internet Relay Chat (IRC) can be regarded as thousands of parallel channels where every subject between the heavens and the earth is discussed 24 hours per day. There are no limits as to how many people can participate in a discussion, or as to how many parallel discussions (channels) can be created (Mirashi 1995, Reid 1991).

*The room metaphor* refers to the fact that all muds are built on a metaphor of different “places” in the mud, in the form of “rooms” which are connected to each other and in between which a character can move. When the character is in a certain room, he or she can “hear” and “see” everything that happens in that room:

“Within the context of the virtual world, well-articulated virtual bodies, social structures and environments come into being [...]. Thus it differs from other remote presence technologies such as telephone, or Internet Relay Chat, because there is substantial embodiment within the virtual world”

Ito, 1994

### *Muds as text-based virtual reality*

Virtual reality is usually associated with a type of systems that presents a simulated three-dimensional environment for the user. By donning special equipment, perhaps goggles and a glove, the computer can enclose a person in a simulated environment and supply him or her with visual, audio and even tactile information about that environment. The person in turn supplies the computer with input by interacting with the virtual environment by pointing at or “grasping” a virtual object or by moving the body or turning the head. Position-tracking sensors keep track of the direction of the user's gaze and the computer supplies the virtual reality goggles with the corresponding view from the virtual environment.

For some, virtual reality is equivalent to the type of high-tech equipment that substitutes real sensory information with simulated information. However, defining virtual reality from the *technical equipment* or the *sensory information* does in fact not provide an answer to the question of what it is in such a system that actually maintains the user's illusion of finding him- or herself in a para-reality (Reid, 1994).

Another, wider definition instead emphasizes other aspects and describes virtual reality as the *experience* of finding oneself in a virtual – illusory, fictitious, non-physical – place (Rheingold, 1991). Curtis writes that “A MUD [...] is a kind of virtual reality, an electronically-represented “place” that users can visit” (Curtis, 1992). Reid adds that she regards virtual reality primarily to be an *imaginary* experience, rather than a *sensory* experience (Reid, 1995).

In the second half of the 1990's there has not been many references to muds as “text-based virtual realities”. It seems like the question regarding the reality of virtual reality and the status vis-à-vis muds was of primary interest at a period when both the concepts of virtual reality and muds were initially explored. A popular account of many of the relevant issues was provided already in 1992 (Woolley). During the second half of 1990's, the focus of mud studies has quite naturally shifted from their ontological status in the nature of

things to their actual use. Most researchers who study on-line relationships for example conclude that there is nothing “virtual” – in the sense of unreal – about relationships on the Internet.

### *Muds as persistent places*

A metaphor that overlaps the metaphor of muds as text-based virtual realities is to regard them as places or arenas that constitute an environment for communication and social interaction. From this perspective, muds are meeting places on the Internet that provide the props for communication between people. Some even sharpen the argument and claim that a persistent place is the *essence* of what muds put to the disposal of their users (Farmer et al., 1994).

Not only muds, but also other sorts of computer-mediated communication take place in a “place” that is *conceptual* rather than *perceptual*:

“Members of electronic virtual communities act as if the community met in a physical public space. [...] They say things like “This is a great place to get together” or “This is a convenient place to meet.” “

Stone, 1991, p.104.

“We “go to work” on the network and “drop in” to an online conference. Comments such as “See you online!” or “Let’s meet online” reflect the experience of the network as a place to conduct work or socialize. The phrase “I’m here” is common, expressing a sense of presence that links people on the network. Yet where is “here”? It is likely that the receiver of the message has no idea of the physical location of the sender: home, school, work, or on the road. “Here” has come to signify a virtual world on the network, shared with others, constituted by the group.”

Harasim, 1993, p.17.

The difference between muds and other types of computer-mediated communication is that *a mud* and the interaction within it is *structured as if this conceptual meeting place was a real, perceptual place*. This virtual place – recreated in the image of a perceptual place – exists also when a certain character or all characters are absent. When someone returns to the mud, it looks exactly as when it was left, unless someone has rebuilt some aspect of the mud in the meantime. Not only is the mud itself persistent, but also all objects that exist within it. These objects exist in the mud also when a certain character or all characters are absent. When someone returns to the mud, these objects will remain exactly where they were left, unless someone has moved them in the meantime.

### *Muds as storehouses of information resources*

Alongside visions of Internet as a meeting place are visions of Internet as an enormous storehouse of information and knowledge, a “digital library”. Research on digital libraries is predominantly based on previous research on information retrieval (CACM, 1995). Consequently the visions of digital libraries are usually described without any references to social spaces or social factors. Masinter and Ostrom object to this simplified model:

“However, a library is more than just a pile of books. Libraries are also social spaces. Treating the “electronic library of the future” as an information repository ignores many of the roles played by current institutions, where library users interact with their friends, colleagues, and professionals to finding material that is relevant for them.”

Masinter & Ostrom, 1993

The time has already run away from the specific idea of making (text-based) muds into centers of information by embedding or enriching these environments with information resources. The idea in itself is however still interesting. If this idea would be realized today, the choice would be a “mud” with a graphical interface. The advantage of embedding information resources in a mud (text-based or graphical) is that the metaphor of a real-world place is gotten “for free”, in addition to the social environment. In a virtual environment modeled with the real world as a template (with for example buildings, floors, rooms, bookshelves etc.), most people would have few problems to navigate and find information. A note in a virtual bulletin board could be a link to a web page from within a mud and so on.

### *Muds as texts*

There are several different ways to view muds as texts. *The first* is to compare the experience of using a mud with that of reading a tale. Since a mud tale is non-linear, the experience is not like reading an ordinary text, but instead like reading a *hypertext*. A hypertext consists of discrete “blocks” of text that are connected to (several) other blocks through links. Each block is relatively independent of any other block. There is no unambiguous “forward” or “next page” and no single best way to read a hypertext. The author of any specific block can usually not take for granted that the reader comes from any specific direction (has read any specific text beforehand), because a hypertext can be traversed in a nearly infinite number of ways. Mud hypertexts are furthermore usually collaborative works that can include hundreds of authors.

Where a traditional book is limited by a number of physical factors, such as how much information can be printed on a page, how heavy books most people are comfortable with lugging around etc., a computer-based hypertext is only limited by the size of the computer’s storage medium. The limited size of the computer screen itself becomes nothing but a window to a practically limitless space of text. Some muds can contain up to 20 000 rooms (Shah and Romine, 1995, p.3), i.e. 20 000 distinct spaces that could possibly be compared with a book with an equal number of pages, or paragraphs.

*The second* way to view muds as texts is to regard them as *interactive texts*. The computer system that runs the mud returns different texts depending on the different actions of the mud user<sup>7</sup>/reader. Also, the computer system that runs the mud can return different texts depending on the different “states” of the character. A character with a lot of money could be charged more for a service than a poor character, food in the mud

---

7 On top of the terms *person* and *character*, I here introduce the term *user* or *mud user* in this chapter. The term *user* more or less corresponds to *person*. *Person* refers to a physical person, with a life history and a variety of interests of which muds are only one. The term *person* is fine as a contrast to *character*, but the term is too generic to describe someone who, at a specific point in time, is using SvenskMud. When a person uses a mud, the person is referred to as a *mud user* in my text. A *mud user* is always also a *person*, but only a minority of all *people* are *mud users*.

could “taste better” – have more beneficial effects within the game context – the more hungry the character is and so on.

*The third way* to view muds as texts is to regard the computer code that the mud consists of as a text itself. By extension, computer programs become a sort of literature. The pre-produced computer code could perhaps be compared to the script that a playwright writes and that comes alive when actors perform it, on stage,.

*The fourth way* to view muds as texts is to regard them as *texts-being-written*. By using the mud, the mud user not only reads a text or interacts with it, but also writes the text in a manner of speaking, in collaboration with the other mud users and in collaboration with the original author-programmer.

These ways to view muds as texts represent different perspectives of the relationship between the mud system and the mud users/readers (see figure 2.1 below). The next metaphor however only deals with the texts that are exchanged between the mud users.

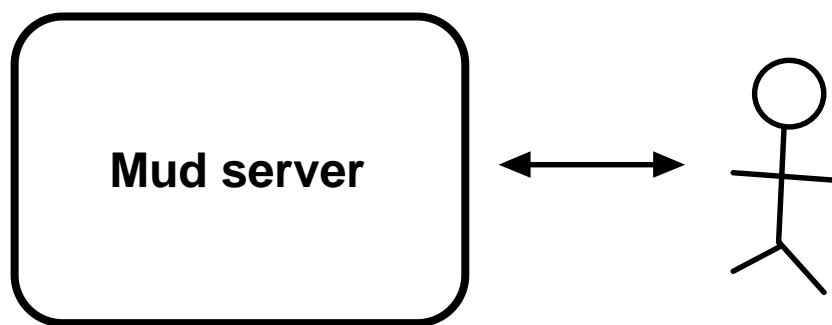


Figure 2.1. Viewing muds as (different sorts of) texts primarily emphasizes the communication between the mud user and the mud (computer) system.

### *Muds as written conversations*

Everything a character “says” to another character inside a mud is properly speaking texts being written by people outside the mud, sitting at their respective keyboards. The texts themselves appear on each individual’s computer screen and move up the screen at the pace that new text arrives. The text/conversation is both embodied in letters and words as in a book and ephemeral as in speech.

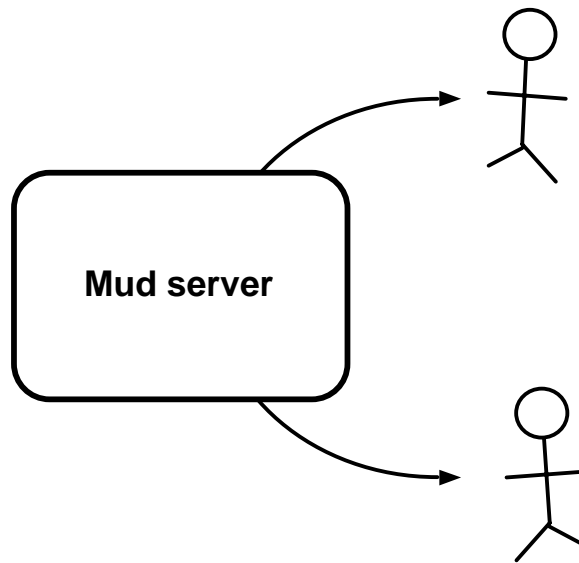
Many have commented on the characteristics of these sorts of texts and how they mimic the spoken language more than any other sort of text has done before (Bolter 1991, Collot and Belmore 1996, Ferrara et al. 1991):

“Early studies of written and spoken language [...] found significant differences between the two. For instance, writing is supposedly more detached, organized, decontextualized, impersonal, and elaborate than speech. More recent analyses of the two find that the differences correspond to the differences between edited and spontaneous [...]. MUD conversation, highly situated in a personal context and occurring in real time, shares many similarities with spoken language, since it is fairly spontaneous.”

Cherny, 1995a

The best approximation could be to say that these texts are “written conversations”; they share many of the characteristics of the spoken language but the communication evidently takes place through text.

The traditional dichotomy between written and spoken language is broken down in synchronous computer-mediated communication. Spelling is one example. Slips of the tongue are quickly apologized in speech (Goffman, 1981, p.222) but severely condemned when they appear in the form of spelling errors in a printed text. The tolerance for spelling mistakes in synchronous communication is closer to the spoken language than to (traditional) written language. Viewing muds as written conversations focuses on the social aspects of these systems (see figure 2.2 below).



**Figure 2.2.** Viewing muds as (written) conversations primarily emphasizes the communication between the mud users – mediated by the mud (computer) system.

Mud conversations are easily “recorded”, a characteristic that facilitates data collection for researchers. Moreover the recorded conversations are already rendered into words and the researcher does not have to perform the time-consuming work of transcribing a recorded conversation into a written text. Quite the contrary, the ease of collecting massive amounts of data challenges the researcher to think through his or her criteria for what data to collect.

## Mud phenomena

In this section, I will continue to explain what muds are, but this time in terms of some of the themes that have interested researchers. Each theme is merely touched upon here, swept over in one or a few pages, even though every theme in reality merits a separate Ph.D. thesis.

## *Playfulness*

Danet et al. (1998) argue that playfulness is an intrinsic aspect of all computer-mediated communication (CMC). The prominence of playfulness grows as we move from 1) word processing to 2) hypertext and interactive fiction to 3) e-mail and discussion groups and finally to 4) synchronous communication, where “the distinction between process and product breaks down” (ibid., p.45). Furthermore, “four interrelated features of CMC foster playfulness: ephemerality, speed, interactivity and freedom from the tyranny of materials” (Danet et al., 1998, p.44). Danet and her colleagues use expressive metaphors to compare this playfulness with playfulness in different arts:

“The computer is something like a piano keyboard. [...] In the exploitation of these and other possibilities of the computer keyboard, playful digital messages have fascinating affinities with jazz, graffiti, comics, the language of advertising, and improvisational theater.”

Danet et al., 1998, p.42

Danet and her colleagues have primarily studied IRC, which they compare to genres of play such as charades, masquerades, carnivals and parties. To the list of genres enumerated I would like to add activities that are related to adventure game role-playing games, “killer”<sup>8</sup> and live action role-playing games<sup>9</sup>. In muds, as apart from IRC (Danet’s object of study), it is also possible to locate the interaction between the participants in elaborated *environments*.

Danet et al. (1998) use Bateson’s (1972) concept of meta-communicative frames to show how the communication in IRC can be said to occur in a frame that consists of the meta-message “lets play (use) IRC”. This frame is subordinated to the frame of “real life”. The super-ordinate frame sometimes force its way into the frame of playing IRC, such as when it forces the person away from the keyboard (for example to answer the telephone) or when that person comments that he or she “is hungry IRL<sup>10</sup>”.

---

8 Killer resembles the games small boys played in pre-politically-correct times such as cowboys and Indians, thieves and police etc. Somehow bigger boys with nicer toys (for example paintball guns) sneak around and try to surprise each other in much the same way. When playing, the “playing field” can consist of a whole city and many players can partake at the same time. The game itself can go on for weeks. There is a strong competitive element that is lacking in other related activities such as muds, fantasy role-playing games, and live action role-playing games.

9 Live action role-playing games have become popular in Sweden during the 1990’s. There is a reference to a game that was played in Sweden in the very first years of the decade in Dalquist et al. (1991), and I take that to be one of the first in Sweden. During a live game, or campaign, a larger area is claimed as a playing field, for example part of a remote wood. A typical game is enacted in a medieval environment and can contain fantasy elements. The whole activity must be carefully prepared to succeed and there are handbooks nowadays (Käll 1998, Summanen & Walch 1998) that specify how to go about to arrange a game. These practical handbooks contain guidelines both for how to organise the event itself as well as for how to attain realism and handle dramatic elements during the event; clothes, weapons, food, settlements, plots, high-status roles, prophecies etc. Everyone partaking is assigned a specific role in such a way that a working social system is attained (i.e. not everyone can be the king). The game to a large part consists of interacting and improvising in a believable way for the duration of the game which typically last for a weekend or a week. “Extended improvised theatre” could perhaps have been an alternative name for live action role-playing games.

10 IRL stands for “in real life”. The acronym is conventionally used to contrast an on-line role/behavior to the super-ordinate frame of real life. In role-playing muds, out-of-character (OOC), is an alternative way to express the same concept, e.g. “What do you work with IRL” or “OOC: What do you work with?”.

There can exist several sub-frames within the frame of “lets play IRC” (or “let’s play mud”). Danet et al. (1998) describe no less than five nested frames at a specific event, a pretend-party in IRC. Within the frame of “let’s play IRC” (subordinate to the frame of real life), the participants first decide to have a party, to have fun (frame three). Within the frame of this pretend-party, the participants again invoke a new sub-frame, “let’s pretend”; let’s make-believe we smoke marihuana (frame four). Finally, within this frame, the participants perform and put on a show for each other (frame 5). The meta-message of the last frame is “let’s show each other what we can do with the keyboard.” (Danet et al., 1998, p.59).

Errors of spelling are often ignored or forgiven in synchronous communication, but sometimes they are instead picked up and used as resources in the running conversation. One way that the playfulness of the medium is expressed is through the ways the participants reflect, correct and joke about spelling errors. The spelling errors themselves are inevitable in an environment where fluent speech means speedy typing and where speedy typing generates an endless flow of spelling mistakes. Irony, puns and play on words are usual which is perhaps not very surprising in an environment solely consisting of, words and with a heritage from the hacker pioneers that were the first to explore the computer as a tool and as a medium<sup>11</sup>:

```
Hardware hats the stupid server.  
  
Moebius likes hats  
  
PatGently serves the stupid hats.
```

Edited from a longer sequence in Carlstrom (1992).

In the example above, “Hardware” is frustrated over the delays in the server (computer) that hosts the mud, but he (or perhaps she) accidentally writes “hats” instead of “hates”. This spelling error is quickly picked up first by “Moebius” who replies that he likes hats and then by PatGently who rearranges the words in the sentence (Carlstrom, 1992).

Authenticity can be a problem in computer-mediated communication (Aycock och Buchignani, 1994). The term “spoof” is used both as a noun and a verb in computer-mediated communication to signify unattributed or erroneously attributed communication. Spoof is counteracted in most systems, but that does not always stop the creation of such texts, to be used as jokes, to gain advantages or to create confusion. Below is an example that shows how a character explores and stretches the frames of the medium to play a trick on another character:

```
1 Reggie squirts a cloud of Love Potion in billy’s direction.  
  
2 Billy’s eyes meet Reggie’s gaze from across the room. It’s Love  
at First Sight!  
  
3 Xyphus looks at Melina  
  
4 Billy declares her undying love for Reggie
```

---

<sup>11</sup> A specific advice to would-be hackers in a text entitled “How to become a hacker” is to “develop your appreciation of puns and word-play” (Raymond, 1999, p.246).

5 Billy winks suggestively at Reggie  
6 Billy says, "lots of spoofing here"  
7 All eyes turn to Billy as she starts making kissing noises at Reggie  
8 Reggie says, "nah...its just the potion, Billy!"  
9 Billy declares her undying love for Reggie  
10 Billy goes home

Example from Carlstrom (1992).

In line 6, Billy comments that there is a lot of spoofing going on since she (or possibly *he*, the person at the keyboard) did not write the text that she (the character) uttered in lines 2, 4 and 5. Her interpretation about spoofing is of course the correct interpretation of the course of events, but in line 8 Reggie provides an alternative explanation and attributes Billy's actions to the effects of the love potion. The truth of the matter is that the "Love Potion" is an object in the mud, programmed to generate certain fixed sentences (2, 4, 5, 7, 9) with the names of the "squirter" (Reggie) and the "squirtee" (Billy) inserted in the appropriate places. Billy does not understand, or does not appreciate the joke and leaves the room in line 10 (Carlstrom, 1992). For all I know, the love potion might have had further effects in store that were only waiting to happen but were interrupted when Billy left the room.

### *Is it for real or just a game?*

Muds are virtual places, inhabited by real people acting through invented characters. What is the status of actions within the mud? Are they for real, or is everything just a game? It is possible to establish two different perspectives, two different ways to view muds. One is to treat acts in these virtual worlds as real actions with effects on the real people who sit at their keyboards. The other is to regard everything that happens within a mud as part of a big game that does not have anything at all to do with the reality outside of the mud.

Cherny (1999) suggests that actions in a mud are performative. A performative utterance describes an event that happens *when* the performative utterance is expressed and *because* it is expressed (Searle, 1969). To express such an utterance transforms or produces a specific situation. "I hereby sentence you to five years in prison" or "I promise not to play with muds anymore" are examples of a performative utterances.

Text in a novel is performative. "Nothing happens except what the author tells the reader is happening – all of which is accepted (in the world of the novel) as occurrence" (Young, 1994). Utterances expressed by characters in a movie are in the same way accepted as truths within the reality of that movie. The question then is if everything a character in a mud utters, "happens" in the mud *when* and *because* it is uttered. Cherny writes that:

“Every uttered action is understood to occur at its utterance, in the context of the MUD conversation. There is some evidence that users view such emotes<sup>12</sup> as events that “happen” [...] as soon as they are emoted; they are thus nondeniable, like performatives. One woman described to me her distress at being hugged by a guest she didn’t know and then her attempt to negate the event:

1 The guest hugs Karen.

2 Karen is NOT hugged by Guest.

Despite her attempt in line 2 to retract the hug, another character later referred to “the guest who hugged her,” suggesting that he perceived it as nondeniable, or at least, nondeniable by her. In some sense, the action occurred as soon as the message showed up on people’s screens”

Cherny, 1999, p.221

Let us first state that actions in a mud are performative *within* the mud, just as text in a novel is performative. How then does these actions relate to the world outside the mud? A recurring question is whether muds are just games or whether they are extensions of life with gamelike qualities? From the FAQ file [Frequently Asked Questions] with “Basic information about MUDs and MUDDing”<sup>13</sup>, the question receives the answer “It’s up to you. Some jaded cynics like to laugh at idealists who think it’s partially for real, but we personally think they’re not playing it right.”

Everyone knows that the actions in a mud do not correlate to actions outside it, they only describe, or prescribe, actions that happens within the mud. If this perspective is extrapolated far enough, it could be argued that *anything* is, or should be, permitted within a mud. Actions in a mud signify nothing special; everything is “pretend” and nothing happens “for real” as all there is to it is descriptions of actions that only carry significance within the mud. If a character is harassed, there is always the option to leave the room, to @gag the perpetrator<sup>14</sup>, or in worst case to disconnect from the mud. Dibbell refers to this attitude as “the-gag-and-get-over-it school of virtual rape counseling” (Dibbell, 1998, p.20). The issue becomes a question of to what extent a person is accountable for the actions of the character he or she plays/directs within the mud. In game muds, where role-playing is encouraged and sometimes even stipulated, the question of reality versus game becomes even more difficult to answer than in the social mud Dibbell describes.

In Lucasfilm’s Habitat, a mid-1980s multi-user graphical virtual environment, the question of the status of the virtual world vis-à-vis the real world was furthered through a wild discussion about what rules people *wanted* the virtual world to contain. The specific catalytic question was whether (virtual) violence should be allowed within Habitat:

---

12 The emote command is used to convey feelings, gestures and non-verbal communication visible within a mud. If a character called “Reggie” writes “emote nods vigorously” on his computer terminal, all characters in the same room (including himself) would receive the message “Reggie nods vigorously” on their respective computer screens. The term “emote” is actually a command to the mud host computer. Other commands for communicating in the mud are “say”, “whisper” and “page” (talk/send a message to a character who is in another room).

13 The FAQ is regularly posted to several Usenet newsgroups and published at various places on the Internet, for example at <<http://www.mudconnect.com/mudfaq/index.html>>.

14 The @gag command in certain types of muds hinders all utterances from a person to appear on your computer screen (but not on the screens of other people whose characters are present in the same room).

“At the core of much of the debate was an unresolved philosophical question: Is an Avatar [character] an extension of a human being (thus entitled to be treated as you would treat a real person) or a Pac Man-like critter destined to die a thousand deaths or something else entirely? Is Habitat murder a crime? Should all weapons be banned? Or is it all “just a game?”

Morningstar and Farmer, 1991, p.290

In the heated debate that divided Habitat, one character took to shooting others at random to demonstrate the pointlessness of violence. A poll showed that half the population believed that violence should not be a part of Habitat while the other half thought that the risk – or the possibility – of violence was an important part of what made Habitat fun. The end result was a compromise; violence was allowed, but only outside city limits, in the wilderness. For some, this was not enough. A prominent anti-violence proponent – who happened to be a priest in real life – founded the first church in Habitat, The Order of the Holy Walnut. The guiding principles of the church forbade its members to carry weapons, steal or partake in violence of any kind (Morningstar & Farmer, 1991).

The question at hand has not been resolved and it might not be possible to resolve it. The example above emphasizes how complex the question is. An interesting effect of the “great debate” in Habitat is that it made the participants elaborate and express their differing values, goals and concerns. By bringing these tensions to light, they created a common understanding of the present situation and an opportunity to go beyond what had been. The great debate thus became a symbol for an important event in Habitat’s history and no matter the opinion of a certain person, the event in itself helped to create a common history that was intensely meaningful for the participants. The great debate represents a chain of acts that promoted the development of a unique Habitat community. Dibbell (1993) analogously describes how a “virtual rape” upset a whole mud but at the same time helped to transform the mud into a “society” through the ensuing discussions.

### *Recreating real life in virtual reality*

One of the most important and powerful characteristics of muds is the room metaphor. A mud gains much of its suggestiveness and strength from the fact that the made up, fictitious world is created in the image of the real world. The room (spatial) metaphor creates a context for interaction and we get much for free as the mud is “furnished” with objects we recognize. Many of the rules in muds are modeled on the real world and “explicit spatial metaphors allow users to transfer navigational skills developed in the domain from which the metaphor is drawn” (Dieberger, 1995). When a new object is encountered in a mud, we can fall back on our pre-conceptions and our intuitive understanding to make sense of the function and the workings of a virtual room, a tape recorder or a weapon. In the same way, we can easily understand what happens when we say, whisper or shout something in a mud. And our pre-conceptions can be utilized to embed information in objects we are acquainted with such as notes, drawers, bookshelves etc.

Despite the fact that much can be won by letting virtual objects work in much the same way as their physical counterparts do, there are no *technical* limitations that prevent things that are impossible in the real world to be possible in a mud. There are limitations also in a mud, but they are not the same as in the real world. It is possible to defy the

physical limitations of the real world, but a mud is instead limited by the discrete and finite structure all computers have.

Examples of popular mud abilities that break against real-world limitations are for example the ability to communicate with anyone, anywhere in a mud (comparable to telepathy) and the possibility to join anyone anywhere in a mud (comparable to teleportation). Moreover, many actions are possible in a mud that we do not even have real-world terms for. The possibility to anytime see who else is present anywhere in the mud and the @gag command described in the previous section (selective “noise” filtering) are examples of such actions. Furthermore there are no *technical* reasons to make it impossible to create invisible objects. Using such an object would remind the uninitiated of – magic. There are no technical hindrances to fit a hundred people into (something described as) a cubby-hole or why (something describes as) a small cottage cannot be as large as a civil service department on the inside, complete with endless corridors and doors that lead to new corridors.

A mud could feasibly be “structured” like an extremely confusing, topsy-turvy wonderland (and some have). The reason most muds are not, is because they would then not be as easy to understand and navigate. The examples of positive transfer between the real world and the mud described above would be invalidated if contradicted enough times.

How much “should” a mud resemble reality and how much can the image of reality be re-negotiated? It is a matter of striking a balance between comprehension and power in a mud. “Explicit spatial metaphors allow users to transfer navigational skills developed in the domain from which the metaphor is drawn, *but constraints of the metaphor may limit the efficiency of the user interface*” (Dieberger, 1995, my emphasis). Dieberger extends this reasoning:

“Spatial concepts in user interfaces are hidden for a reason: the spatial metaphor can be an obstacle to navigate efficiently. For example when navigating using a strict building metaphor one has to navigate the whole way from location A to location B. Similarly in a space defined by a folder tree navigation may require to move up to the root node and then all the way down to reach another node at the bottom of the folder tree.

A quicker and more efficient way to get from A to B in these examples is a shortcut from A to B – for example by defining an alias in the folder-tree or by defining a magic door in the building example. These features allows to tunnel through the space in one step. This tunneling feature is a disruption of the spatial metaphor however as it connects two remote location in a single step. The spatial separation of A and B normally has a reason – for instance to group related files into folders. The shortcut disturbs this organization. Note that while we have an accepted word for such a feature in the file space, we do not have one for the building structure. It should also be pointed out that this connection makes the distance between A and B asymmetric – while A is close to B now (via the new connection) B is still as far from A as it was before, because both alias and magic door typically are one-way connections.”

Dieberger, 1995

In some muds, what is useful is permitted. In other muds, real-world limitations are applied as far as possible to keep a specific atmosphere (for example to maintain a relationship of variable distances within the virtual world). Although these limitations are arbitrary from a technical point of view, they are meaningful within the context of the values, purposes and goals of the mud in question.

### *Absence of physical bodies and space*

In “The hidden dimension: Man’s use of space in public and private”, Edward Hall defines proxemics as “the interrelated observations and theories of man’s use of space as a specialized elaboration of culture” (Hall, 1966, p.1). Hall divides all possible social distances between humans into four categories; intimate, private, social and public. In his model, the borders between one social distance and another are part cultural part biological. Biology determines the proportion between the different senses that are involved in communication. Tactile feedback and body heat is for example only present in intimate communication. None of this exists in a mud, because we do not bring our senses with us when we connect to a mud, only our imagination.

Stimson writes on the absence of space and place in sociological (ethnographic) studies that “the modern sociologist goes with tape-recorder in search of the word but rarely with camera in search of the material image, and thus reduces social life to one medium of communication.” (Stimson, 1986, p.641). Stimson’s description of what is often lacking in sociological studies is, point by point, a list of what can not exist at all in muds except as textual descriptions: surfaces, materials, spaces, colors, acoustics, smells, light, fabrics etc. Another thing missing is the meaning they convey in terms of cost, mood, taste, history etc. He gives an example of what these factors can mean by describing the impression such qualities make on a visitor in a very special room. The room in question is where the Professional Conduct Committee at the British General Medical Council treats alleged cases of professional misconduct:

“This is a room in which serious matters are discussed: the room has a presence that is forced upon our consciousness. This is a room that, even when unoccupied, impresses on the visitor a solemn demeanour and subdued speech. When occupied, it retains its solemnity, and speech is now formal, carefully spoken, and a matter for the public record. Visitors in the gallery speak only, if at all, in hushed whispers, for their speech is not part of the proceedings. We know that this is expected of us, and the commissionaires’ admonition on entering – ‘no talking, no eating, no rustling of papers or tapping of pencils, no cameras, no tape-recorders’ – is superfluous.

Nothing has yet been said in public. But we know from the arrangement of this room, the objects in it, and the appearance of those present, that what goes on here must be taken seriously. [...]

Consider the representations of individuals who have contributed to the history of this organisation. They are preserved in oil or marble. Other forms of representation – a photograph, for example, would not fit here – for a photograph is not an enduring product, nor is it a special product, for anyone can take a photograph or have a photograph taken.”

Stimson, 1986, pp.643-645.

The absence of physical, embodied presence affects many aspects of communication within a mud. As a sensorial experience, muds are very poor as we predominantly only use our sight to read and in a limited scope our hearing and touch when we write on the keyboard. Virtual worlds are not sensual environments, as there is no touch, breath, voices, bodies or body odors, no surfaces or adornments and no physical space.

What exist in their place are textual descriptions of these phenomena, and every mud has to rely on the mud users to fill the many gaps in the fabric of the virtual world. Mud

ethnographers and users alike have commented that an active imagination is necessary to be able to appreciate these worlds made of text. The active imagination can transform the textual descriptions of environments, objects and other characters into a conceptual whole, a virtual world. This conceptual world – created in the image of a perceptual world – is still a far cry from the every-day perceptual world we live in. It is difficult to imagine that someone could be affected by the presence of other characters in a virtual environment in the same way they are affected by the physical presence of other people in a crowded elevator, at a rock concert or when taking part in a demonstration. The very strongest and most intense of human feelings such as the collective behavior of the crowd or the ecstasy of religious fervor are excluded from virtual environments.

Lynch's analysis (1960) of the effects of the physical, perceptual objects that make up a city is yet another enumeration of factors that are absent in virtual environments until we, to the extent it is possible, re-invent/simulate them. The elements of the city that Lynch describes are routes (streets, pavements, canals, railroads), nodes (crossings, squares, roundabouts, train and subway stations) and landmarks (signs, shops, buildings, churches, mountains). These parts of the city help us understand the environment and move around in it.

The absence of physical space makes it impossible for a specific room to feel crowded or deserted non-regarding if the description of the room states that the room is a cathedral or a closet. All rooms are by default equally "large" and differ from each other only through their description<sup>15</sup>. A character is always at the same distance from every other character present in a room. It is not possible to be adjacent to one character or to be on the other side of the room compared to another character. Every character present in the same room is present in the same a-physical space as we are in when we participate in a telephone conference call.

### *The simulated body*

The subject of the previous section was the absence of embodiment in muds. In this section I will write about the presence of simulated bodies (the bodies of the characters) in muds.

In a mud, our identity is a product of what we declare ourselves to be and what we choose to tell others about ourselves – be the information we give away true or false. In a mud, we are all "self-made people" in the most literal sense of the term (Reid, 1994). We choose everything for ourselves; name, sex, appearance<sup>16</sup>, age, family, life history, ethnic and religious background, nationality, occupation etc. Curtis (1992) points out that many descriptions of characters contain various degrees of wishful thinking; he can not keep track of the number of characters he has met that have been described as "mysterious but unmistakably powerful".

One of the more provocative aspects of the hands-on construction of the self in a mud is the possibility to swap gender. In real life, gender is a non-negotiable part of who we are, a basic principle that structures human interaction. Why is it that gender swapping

---

<sup>15</sup> Unless the room is specially customised, for example to only house a certain number of characters.

<sup>16</sup> The possibility to define a character's appearance can be limited in adventure muds, but is often unregulated in social muds. However, in conversations in both social and adventure muds, a person can describe his or her real-life appearance (and the description can be true or not).

can be so provocative in muds? Reid (1994, p.76) suggests that “there is no cause for branding role-playing a Dwarf as deception when a reasonable person could not truly be deceived; it is only where virtual existence holds close parallels to actual life that the possibility and accusations of deception enter the equation”.

In some muds it is possible to choose among a wide variety of genders. On top of the traditional two there also exist a choice of neutral, animal or plural and the range can at times be completed with imaginary genders that are lifted out from the pages of science fiction novels. Bruckman (1993) believes that gender can become an “object to think with” when it becomes a characteristic that is as easy to change as writing the appropriate command in a mud. Reid (1994, p.78) speculate that “men who have experienced first hand [...] sexual harassment [...] may be less likely to perpetuate the social structures that enable such harassment. At the same time, such virtual fluidity acts to erode the places from which many of us speak”. Both of Reid’s quotes correspond to Goffman’s comments regarding the imposter:

“Sometimes when we ask whether a fostered impression is true or false we really mean to ask whether or not the performer is authorized to give the performance in question, and are not primarily concerned with the actual performance itself. [...]

Paradoxically, the more closely the impostor’s performance approximates to the real thing, the more intensely we may be threatened, for a competent performance by someone who proves to be an impostor may weaken in our minds the moral connection between legitimate authorization to play a part and the capacity to play it.”

Goffman, 1959, p.59.

Reid describes her first-hand experience of a virtual sex change. In her case, gender at first became less of an “object to think with” and more of an “object to caused confusion”:

“It is indeed a truly disorienting experience the first time one finds oneself being treated as a member of the opposite sex. My own forays into the realm of virtual masculinity were at first frightening experiences. Much as some of us may deplore what we see as the negative sides of our culture’s sexual politics, we are brought up to align ourselves with gender-specific social navigation mechanisms. Once deprived of the social tools which I, as female, was used to deploying and relying on, I felt rudderless, unable to negotiate the most simple of social interactions. I did not know how to speak, whether to women or to “other” men, and I was thrown off balance by the ways in which other people spoke to me. It took much practice to learn to navigate these unfamiliar channels, an experience that gave me a greater understanding of the mechanics of sexual politics than any other I have ever had.”

Reid, 1994, p.77.

Some only find positive aspects in the possibility to change gender and consider it to be one of the most fascinating aspects of using a mud while other oppose the behavior. Reid (1994) enumerates three different grounds for that opposition. 1) They consider it cheating when a male person takes advantage of the attention, helpfulness and chivalry female characters often can be endowed in muds. 2) They regard such portrayals as immoral since they are not true. 3) They feel uncomfortable interacting with someone whose sex they do not know. The matter becomes worse if they find out afterwards that they have interacted with someone under false pretenses.

The issue is of such complexity that there is no consensus about what is appropriate or not. There do exist many anecdotes about new-won insights and betrayal, confusion and complications when the virtual world has been intercepted and punctured by a discrepant reality.

An interesting case is described in van Gelder's early (1991) article about the introvert male psychiatrist who for several years played the role of an extrovert, seriously handicapped woman on CompuServe's chat lines. The article also describes the hurt and the stress the truth caused when it was finally uncovered after years of role-playing/deception.

### *The body-body duality*

The subject of the previous section was the presence of a simulated body in muds. In this section I will write about the relationship between the simulated body and the real body. The basic fact is that everyone who uses a mud finds him- or herself in two places at the same time, inside the virtual world of a mud and in front of the keyboard of their computer:

"[In a] MUD, all characters are technically objects, as well as all scenery and all props. The simultaneous identification and distinction between the real person and the character object are a complex matter. [...] [The] sense of embodiment is an entirely constructed feeling".

Cherny, 1995b, p.2.

Furthermore, movement and interaction in a virtual environment always require the opposite actions of the person outside a mud:

"Immersion in the mud content, whether for purely social or gaming purposes, always requires a partial bracketing of "real life," a stilling of most motion of the physical body, and a turning of attention to the text on the screen"

Ito, 1996

Below is an example from Cherny (1995b). It illustrates the complexity of the relationship between the person and the (simulated body of the) character.

```
Karen arrives from the eastern end of the patio.
lynn waves.
Shelley waves.
ls [to Karen]: Hi. I just walked you here at your request since
you're in the car and nowhere near a computer on the net.
Penfold whuggles Karen.
Tom eyes Karen warily
lynn eyes Karen and ls warily.
Tom says, "WHY"
ls says, "she, uh, thought it would be cool to hang out with you
guys."
lynn laughs
Tom says, "BUT SHE ISN'T"
ls says, "oh, but she is."
lynn says, "hang out in scrollbar?"
Penfold shakes Karen.
```

The explanation is that the person behind the character “Is” had talked to his wife – the person behind the character “Karen” – on the telephone and informed her about the ongoing conversation he had in the mud. She then asked him to move her character there. “Is” describes the duality between the person and the character when he comments that “I just walked you (the character) here (to the virtual room) at your (the person’s) request since you’re (the person) in the car (in the real world)”. Both the person behind the character “Karen” and the character itself – just as everybody else using a mud – is in two places at the same time. However in this case, the person behind Karen wants to be “together” with her friends in the mud despite the fact she does not even sit at her computer. Instead she plans to read the conversation afterwards (in “scrollback”). Penfold shows his discontent by “shaking” Karen (the character) in the mud.

Something that makes this example unusual is the way a character is referred to explicitly as separate from the user. Usually, you are your character and you refer to it as “me”. Especially in social muds where “distance” or dissimilarity between the person and the character usually is smaller than in an adventure mud.

A practice that makes the body-body duality even more complex is the habit of having several different windows open on the same or different muds on the computer screen. A person can then jump from role to role, from mud to mud as quickly as his attention can move between the different windows on the computer screen.

Several different people can theoretically use the same character even though this seems to be very rare. In a bachelor’s thesis, Serpentelli (1992) describes how she and her colleague(s) create a character in common, Dr. Sherry, for their joint study of muds<sup>17</sup>.

### *The body-bot duality*

The subject of the previous section was the relationship between the real body and the simulated body in muds. In this section I will write about the relationship between the simulated body – formally an “object” within a mud – and some other special objects in a mud. The objects of interest are so-called “bots”<sup>18</sup>, semi-autonomous objects that can act, talk and sometimes move around in a mud. Leonard has popularly chronicled the history of bots in *Bots: The origin of new species* (1997). The equivalent to bots in adventure muds are called “non-player characters” (NPCs) or simply “monsters”. An example of a bot is Harry:

“The original Harry NPC [...] is an annoying, nonpersonable, nosy, talkative, rambling, irrelevant, boring, begging, whining, bad comedian of an NPC who appears under various names on different Muds. Harry will walk around the main town following players, spewing unasked-for bad jokes, whining when players sell items to the store, and stealing any items it finds lying around. Still this is one of the more complex creatures on Muds, who responds to player conversations and actions. Of course, the most common actions it meets from players is the business end of a sword.”

Shah & Romine, 1995, p.211

There are two different issues involved. The first is the impersonation of humans by bots – regarded as immoral and detrimental to human relationships by some (Weizenbaum

---

17 Dr. Sherry Turkle, whom the character was named after, later describe her perplexity when she encounters traces of (as she rightly suspected) “herself” in a mud (Turkle, 1995, pp.15-16).

18 “Bot” is short for robot. Robots are built by tangible materials; bots are built by intangible software code.

1976, Friedman & Nissenbaum 1997) – and the other is the addition of automated behaviors to a character, thereby making that character behave “bot-ish”. What is it then that characterizes the interaction of bots? Typically they have a very limited vocabulary or a limited range of possible behaviors. Certain words or actions can causally trigger pre-specified utterances or behaviors. At other times, the mere presence of a character can trigger the bot who “comes alive” and entertains (or pesters) the mud users by committing acts or uttering phrases from its limited repertoire<sup>19</sup>.

There is no intrinsic reason why bots have to have a limited rather than an extended repertoire. Foner (1993) describes an extremely sophisticated bot called Julia who roams certain muds and who has two main functions; to feign being human and to assist characters in the mud. Julia is courteous and has abilities that goes beyond ordinary bots, and indeed beyond some mud users:

“[...] Julia will whisper to you if you whisper to her, hence protecting your privacy if there was some reason you whispered. She also tends not to respond to random conversation or gestures unless they mention her name; unless they are from a player who was talking to her very recently; or unless she was the target of a directed communication such as a page or a whisper: this helps to prevent her from becoming a pest.”

Foner, 1993

Then again, Julia is not an ordinary hack<sup>20</sup>, but a sophisticated program created at the Centre for Machine Translation at Carnegie-Mellon University (Foner, 1993). Among her “abilities” are the capability of handling situations she is not prepared for (i.e. not programmed for) in a number of creative ways and to vary her answers if the same question is posed several times:

Robyn says, “julia are you a human?”  
Julia says, “Is the Pope Polish?”  
Robyn says, “yes, julia, but are you human?”  
Julia winks at Robyn.  
Robyn says, “julia, are you a computer?”  
Julia is offended by Robyn’s suggestion.  
Robyn says, “julia, are you a woman?”  
Julia says, “I am female.”  
Robyn says, “and, julia, are you human?”  
Julia says, “Not when I’m having my period, Robyn.”  
Robyn laughs.

Foner, 1993

Automating character behaviors is usually done for one of two different reasons. *The first* is to create a “script”, to append a sequence of commands in such a way that a single command can trigger a long list or actions that are performed in rapid succession. *The second* is to extend the repertoire of behaviors of the character-as-an-object by letting it trigger and perform certain actions in a mud when the right “stimuli” is provided.

---

19 A typical act of bots/monsters in an adventure mud would be to indiscriminately attack any player that enters the same room the monster occupies.

20 A hack is a “quick and dirty [programming] job that produces what is needed, but not well” (Raymond, 1996, p.231).

Scripts are especially useful in adventure muds, for game reasons. A script for quickly entering a room, picking up an object and directly leaving the room – all at the speed the computer can execute the commands – can be useful if something dangerous that cannot leave the room dwells there, guarding the valuable object in question.

With an extended repertoire of behaviors that can be triggered automatically, the boundaries between characters and bots are partially dissolved. This can be used, again for gaming purposes, for example if a person has two characters who accompany each other in a mud. If the first character is attacked, the second may be pre-programmed to react instantaneously (one is tempted to use the term instinctively) to protect the character under attack, without having to rely on the comparatively slow reactions of the person at the keyboard. It can also be used for social or practical reasons in a social mud.

Any action can be a trigger; that someone enters the room the character in question is in, that anyone or a certain character says or does something special, connects to the mud etc. An example from Cherny (1995b) shows how an automated behavior makes fun of the distinction between people and characters:

```
1 lynn [to Jay]: so when you come back, I have a question...
2 Jay lies, "I'm awake, I'm awake!"
```

In line 1, “you” refers to the person, not the character. When a character has been inactive for some time, the mud can describe that character as “sleeping” if another character looks at it. This is a mechanism that Jay makes fun of by bursting out his lie every time someone mentions his name when he is “sleeping”, i.e. when the person behind “Jay” has been away from the keyboard for some time.

Cherny also describes a very interesting example of objectifying a character. A person was creating an object, a washing machine, in a mud. Something went wrong, so she transferred the working parts to her character (i.e. to an object of the type character that she had control over) in order not to “mislay” them. Through that process, she made her character into an object somewhere in-between an ordinary character and the object she was creating, a washing machine. When another character gave her some coins, passed over some dirty clothes and pressed the start button, she (the character) went through the washing cycle and automatically generated the appropriate pre-programmed messages. The character Tari “goes silent for a moment, then suddenly begins to spin round and round, water spraying everywhere” at the same time as she (the person) continued to interact with others (through the same character), even commenting on “her own” (the character/washing machine’s) behavior.

## Summary

This chapter has been a general introduction to muds and has not contained any information about SvenskMud at all. The purpose of the chapter has been two-fold. First to describe the manifold and complex world of muds, to provide the novice with an understanding of the complexity and variety to which these systems lend themselves and second to help the reader make sense of those rich and complex phenomena present in these virtual worlds. To accomplish this I have presented some of the metaphors that have been used to describe muds and issues from the research literature on muds.