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Gender Differences in Text-Based Virtual Reality

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Electronic communication has been claimed to be a medium that allows more equitable gender communication, in the absence of physical and social status cues (Graddol and Swann 1989). Furthermore, computer-mediated communication has been argued to be "anarchic," lacking in established conventions of use (Ferrera et al. 1991), resulting in a breakdown of traditional hierarchical differences in communication. In contrast, Herring (1993) presents results about activity on email lists that illustrate that men still dominate the discourse and choice of topic, as well as exhibiting a more adversarial rhetorical style.

Curious as to whether gender differences of more subtle sorts are carried into cyberspace, I took a look at gendered behavior in a text-based virtual reality, or MUD (multi-user dimension), in which I am a participant-observer. For roughly three months, I recorded interactions that I witnessed between male and female-identified characters. I found that indeed there are differences in how men interact versus how women interact: men use more physically violent imagery during conversation, and women are more physically affectionate towards other characters than men are.

What is a MUD?

A MUD is a text-based virtual reality, offering users access to a virtual landscape and other simultaneously connected users. In this paper I will discuss a variety of MUD called a MOO, or "MUD, Object Oriented" (Curtis and Nichols 1993). Text descriptions tell users what they see as they move around the virtual environment, which may be modeled after a house, a town, even another planet. Users interact with the environment and one other via characters, which have names, genders, and descriptions determined by each user.

For instance, if I type the command to look at a character, I see her description, as shown in A:

[1]I obviously owe a big debt to the people in JHM for making this paper possible, and a mere footnote hardly seems sufficient. Many thanks also to people who gave me comments and/or talked to me about this stuff in more detail, both in the MOO and irl: Judy Anderson, Jeff Blaine, Paul Dourish, Michele Evard, Tari Fanderclai, Charlotte Linde, Larry Masinter, Doug Orleans, Erik Ostrom, Rebecca Spainhower, Tom Wasow. Special thanks to Jennifer Grace for a conversation on MediaMOO in fall of 1993 which planted the seed for the idea of looking at physical interactions between characters for gender differences.

```
<<Example A.>>
A short woman in a black dress who wishes she were reading something trashy
everytime she opens an academic journal. Her shadow is in the shape of an
unfinished dissertation right now.
She is awake and looks alert.
```

These are the two primary modes of communicating in the MOO. A character may either say something directly (with a double-quote, as in the first example) or "emote" (with a colon) to narrate thoughts or actions. (In Examples B-F, the ">" (right arrow) indicates the line that I typed in the MOO buffer, and below it is what I and other characters saw after the MOO interpreted the command.)

```
<<Example B.>>
>"hi
lynn says, "hi"

<<Example C.>>
>:sits down for a rest.
lynn sits down for a rest.

<<Example D.>>
>:wonders how old Puff is.
lynn wonders how old Puff is.
```

Other useful communication options include the possibility of directing speech to or paging another character. A page results in a private communication only visible to a particular player, not visible to anyone else in the room (Example F). Any other character in the same room as the "speaker" can see directed speech (Example E).

```
<<Example E.>>
>`jpd how are you?
lynn [to jpd]: how are you?

<<Example F.>>
>page jpd how did you get a connection?
Your message has been sent to jpd.
```

Gender Research in MOO

The users of some MOOs experiment with gender a lot: many take on neuter characters or switch their declared gender regularly. Given the difficulties of tracking gender differences in such an environment, I based most of my conclusions on interactions in JaysHouseMOO

(JHM), where a small set of people interact frequently, many of whom know one another "in real life" (abbreviated "**IRL**" in the MOO) and who don't switch gender. Most of the regulars in the MOO have been using the medium for at least a year, so they are quite "socialized" in its use.[2]

The gender breakdown on JHM is roughly 3/4 regularly active male characters and 1/4 regularly active female characters. It is not possible to get accurate comparative statistics on character activity because characters may be present in a virtual room with other characters but not attending to the conversation. (Many users are connected from offices or while working at school, with a MOO window beside a work window, and are therefore subject to distractions in the real world.) As a result, my numbers in the following sections are really only suggestive of trends at best.[3]

Hugs and "Whuggles"

In many ways, the interactions in the MOO are highly conventionalized, unlike Ferrera et al's (1991) claims about interactive written discourse on the computer. Not only do the users of the medium make use of many acronyms and abbreviations, but certain behaviors have evolved as well that facilitate communication in the narrow bandwidth of the text medium and add to a sense of community. In this paper, I will bypass many interesting questions about the structure of discourse in this medium and just focus on the roles and frequency of certain "physical" activities in the discourse. Hopefully the gist of the examples will be clear, if not every detail. (It should be noted that the group of MOOers I discuss here have developed their own unique style of interaction over time.)

When a character enters a virtual room, frequently other characters greet her with a wave or a hug, or even a "whuggle." A "whuggle" is a purely virtual interaction which is related to a hug. A new character on JHM had it explained to him in the discourse in Example G:[4]

```
<<Example G.>>
1  Buddy still wants to know what a whuggle is.
2  [...]
3  Mike [to Buddy]: it's like a hug
4  Jerry [to Buddy]: find the root word!
5  Rick says, "and like a wave..."
6  Mike says, "and like a pat on the head"
7  Buddy hides his face.
8  jill says, "but you can do it to inanimate objects not here too."
9  Damon says, "sorta like hug crossed with .001 strawberry shortcakes"
```

[2]The notion of socialization is one often-discussed by the characters themselves; the influx of thousands of new characters in a short time period on LambdaMOO, which my friends also maintain some contact with, has caused a lot of reflection on the topic of "mature use of the medium."

[3]To protect my sources, I have changed all the names in my examples.

[4]I have cut some irrelevant lines in many of my examples.

```
10  Mike says, "and it's often used sarcastically."
11  Rick says, "smaller than a breadbox."
12  jill hugs REM.  No.
13  Rick says, "and less threatening."
14  Damon says, "so, nonlethal in small concentrations"
15  Mike says, "on inanimate objects, for instance"
16  Jerry | WHUGGLE : We HUG in Graphically Lame Environments
17  Buddy whuggles all.
18  Buddy says, "I get it."
```

Examples of characters whuggling inanimate objects are shown in Example H (some of these were probably intended sarcastically):

```
<<Example H.>>
Rick whuggles reference-counting.
****
George whuggles his new headphones.
****
Largo whuggles AIX-dependant code.
****
Pete whuggles politics
```

Hugs and whuggles occur mainly during greetings but also during other interactions, often as a sign of affection or support. In one case, after a woman had to kick an annoying character off the MOO, another woman hugged her supportively and she returned the hug. There's another such case in Example I:[5]

```
<<Example I.>>
1 Shelley scrolls back and realizes she spammed.
2 Mike ? Shelley
3 Kelly [to Shelley]: Yes, well, we did too.
4 Shelley [to Mike]: okay, talked a lot
5 Mike [to Shelley]: we enjoyed the story.
6 Mike whuggles Shelley.
```

Although whuggling can involve inanimate objects and can be sarcastic, it is taken seriously enough when interpersonal to be considered offensive by one character on the receiving end of a "whuggle" he does not want, as shown in Example J:[6]

[5]The verb "spam" means roughly "fill up people's screens with garbage." This conversation occurred right after Shelley told a very amusing, multi-line story about a bad experience she had had while going home that night.

[6]As I discuss later, a character may emote that she has killed another one if she dislikes something the other character has said or done. Ted probably repeats his whuggle in J just to be extra annoying.

```
<<Example J.>>
1 Ted whuggles George.
2 George [to Ted]: HEY NO WHUGGLING.
3 George killed Ted!  Ted has left.
4 Ted whuggles George.
5 Ted whuggles George.
```

In another instance, a woman who was whuggled by a random male character protested vehemently that she had been whuggled just because she was a woman, shown under K:

```
<<Example K.>>
1  Patrick waves to everyone and whuggle Marie and Karen.
2  Marie kills Patrick.
3  Marie chants, "Support a whugglee's right to choose!"
4  Karen too chants, but has told Pat he could whuggle her, so.
5  Marie gets disgusted
6  Marie thinks Donn is a nice male sounding name, so it's eir
male morph on lmoo.
[.. she changes gender and name here ..]
7  Donn [to Patrick]: OK, take that!  You whuggled a BOY!
8  Donn [to Outsider]: I'm pissed because Patrick chose to whuggle me
   based solely on my apparent gender at the time.
9  Donn says, "So, I changed it."
[..]
10  Donn nods Out.  But it's *frigging JHM here* I shouldn't have
  to put up with LM stule sexism bullshit.
11  Donn style
```

("LM" and "lmoo" refer to LambdaMOO, and a morph is like a secondary character owned by the original character. "Eir" is a third person possessive gender neutral pronoun used in the MOO.)

Several characters have argued that it is offensive to be whuggled by people they don't know well. One male whuggled by another male protested afterwards that there should be a protocol for whuggling: a character carries a list of acceptable whugglers, and if she is whuggled by one of them, then the result is a mutual whuggle event, i.e., `X and Y whuggle.`

The Good Manners guide, which characters can see by typing "help manners" in the MOO, proscribes random hugging (and other overly familiar behavior), shown in Example L:

```
<<Example L.>>  From Help Manners:
Behavior that would be rude 'face-to-face' is rude here, too.
It isn't reasonable to ':kiss' or ':hug' folks you don't know.
```

It would be overly simplistic, however, to assume that the standards of real life interactions apply transparently in virtual reality; the existence of a purely virtual interaction like "whuggling" is enough to debunk that notion. Lots of behavior involves a fantastical component, as the following examples under M illustrate:

```
<<Example M.>>
Ellen swings her Ellenaxe at the couch, the large-scale projects whiteboard,
and the conference hall lobby.
****
Bryan accidentally sets fire to Mike.
****
Ray takes off and nukes LambdaMOO from orbit.  "It's the only way to be sure."
```

Despite the grassroots movement against whuggling and hugging randomly, hugs do occur between characters who don't know each other IRL, and it is not always viewed as offensive. The etiquette involved seems to require that both parties feel affectionately toward one another. Example N illustrates that "help manners" may be intentionally disregarded:

```
<<Example N.>>
1  Marion would hug Jon if it weren't against Help-Manners.
2  Marion strangles help manners and hugs Jon, whom she doesn't know
from Adam.
```

I counted whuggles and hugs in 2 months of my logs, and found the distribution by gender shown under Example O:

```
<<Example O.>>
```

	M-M	M-F	F-F	F-M	M-T	F-T
whuggles	26	68	47	92	83	16
hugs	7	16	40	30	0	0

In this chart, **M-M** means "male whuggles or hugs male" and **M-T** means "male whuggles or hugs Thing." Clearly men hug and whuggle women more often than they do other men, a fact which supports Marie's conclusion that Patrick whuggled her simply because she is female.

One of the male-male hugs occurred in the context of my having asked why so few men hug in VR, two of the others occurred in the context of Marion questioning the Manners listing about not hugging people you don't know. The other four hugs were all perpetrated by one man, apparently seriously (in at least two cases, he hadn't seen the person he hugged in a long time). However, the response he got was not always positive: e.g., one recipient said, “hug me again and I’ll rip your face off.” Several of the male-male whuggles were meant to annoy, as in the case under Example J above.

The large number of hugs/whuggles initiated by female characters is particularly striking considering the proportions of male and female characters in the MOO. There are 200 male-initiated hug or whuggle events versus 225 female-initiated events. Given the disparity of 3/4 men to 1/4 women, a hug/whuggle event is almost 4 times as likely to be initiated by a female character.

Women are three times as likely to whuggle men as they are to hug them, but they are equally likely to hug as to whuggle other women. Why? It may be that the whuggle is seen as a “safe” form of affection in the MOO, while a hug has real-life significance. Men get whuggled, therefore, rather than hugged; other women,“safer” objects of affection who won’t “take it the wrong way,” can receive hugs.

The fact that Things don’t get hugged at all supports the distinction made between hugging and whuggling in the explanation to Buddy in Example G above. Why women whuggle Things so much less often than men do is a tantalizing question. Perhaps women categorize “whuggling” as an action serving a social function rather than expressing an attitude towards an external object.

Killing, Burning, and Eating Characters for Fun

Aside from the hugging and whuggling, there is a lot of emoted physical interaction between characters, which is particularly interesting when analyzed against the backdrop of hugging/whuggling patterns. Because sifting through 3 months of transcripts by hand was practically impossible, I wrote shell scripts to extract emoted stuff and sorted through 19 days picked at random. I counted all cases of characters emoting that they were doing anything to another character, totalled in the row labelled **Total** in the chart under P.[7]

I then broke this **Total** down into common types of emoted action.[8]

In the chart, **M-X** denotes all cases of males emoting actions aimed at either all characters in the room (regardless of gender) or guests. Otherwise, the column labelled **F-M**, for instance, denotes cases of female characters emoting physical actions directed at male characters.

`<<Example P.>>`

[7]This list does not include common non-physical modes of interaction, like “jill eyes Mike warily.”
[8]See the Appendix for a terse listing of verbs included in each category.

	M-M	M-F	F-F	F-M	M-X	F-X
Total	114	66	10	79	18	4
Affectionate	5 (4%)	7 (11%)	1 (10%)	8 (10%)	2 (11%)	0
Neutral	17 (15%)	7 (11%)	2 (20%)	18 (23%)	1 (6%)	0
Pokes	15 (13%)	12 (18%)	2 (20%)	11 (14%)	2 (11%)	1 (25%)
Killings	18 (16%)	5 (8%)	1 (10%)	6 (8%)	1 (6%)	0
Consuming	10 (9%)	6 (9%)	2 (20%)	11 (14%)	1 (6%)	0
Other	49 (43%)	29 (44%)	2 (20%)	25 (32%)	11 (61%)	3 (75%)

Admittedly the categorization of emotes was a subjective process, based on my interpretation of each one's role in context and the action itself. My discussion of the categorization follows.

Affectionate behavior included "patting," "high5ing," "kissing," "tickling," "nuzzling," among others, but not whuggling or hugging (because those were counted separately). **Affectionate** actions are actions I considered to be at least superficially non-aggressive and apparently affectionate. They seemed to be meant well for the most part, but in a few cases the action might have been intended as provocative, as we saw with some of the **M-M** whuggles and hugs above: e.g., `Rob kisses Nat chastely`. Interestingly, there were a few cases of "made up" verbs used in this category (all involving one woman), shown in Q:

```
<<Example Q.>>
anne scritches Kit behind the ears.
*****
anne snurfles Pete.
*****
Kit nuffles anne, hee.
```

Most of the actions in the **Affectionate** category consisted of "patting" or "high5ing". Male characters initiated "high5ing" (to congratulate, sometimes possibly sarcastic), and both male and female characters patted male characters, either in reassurance or congratulation. Interestingly, aside from possibly the cases above in Q, most of the affectionate interaction doesn't appear flirtatious, while other sorts of physical interactions described below might be considered flirtatious.

In **Neutral** behavior I included "sitting on," "tagging," "shaking hands." The things classified as **Neutral** were usually context-specific non-violent actions (like "shaking hands"), or else one of the non-aggressive conventional jokes involving other characters, like: `Ray spraypaints "WAKE UP" on Diane in dayglo orange.` The items I classified as **Neutral** play numerous roles in the discourse (as do many of the other types of emotes in the chart): a character shook someone's hand in congratulations, for instance; and several characters randomly sat on another one when he walked into the room, perhaps as a way of acknowledging his arrival.

Pokes were instances of one character poking another one, e.g., `jill pokes Tom.` **Pokes** are frequently used to get another character's attention, when that character is not active in the conversation. As such, they tend to occur out of the blue, without contextual priming. For instance, if Karen is inactive and Tom wants her to participate in the conversation, he might give her a poke. If she is watching her MOO window, she may choose to respond.

Killings were cases of a character emoting that she killed another one, e.g., `Marie kills Shawn`. **Killing** of other characters is a ritual behavior that originates in gaming MUDs, where characters can be killed by monsters or other characters. In MOO, if character X emotes that she kills character Y, this usually signifies that X strongly disapproves of something that Y has done or said. (Nothing actually happens to the character "killed," she is still present and able to participate in the conversation.) "Killing" is treated more or less seriously by different characters; in my counts, certain characters were responsible for most of the killing. All of the **F-M** killings were perpetrated by one woman. I was responsible for the one **F-F** killing (the object wasn't in the room at the time, but had said something to another female character that really annoyed me; interestingly, I was censured for this by a male character, but given the tension in the situation, it was perhaps appropriate to avoid silliness). Three out of five of the **M-F** killings were perpetrated by one male, on different females. Seven of the **M-M** killings were done by one male. Examples of killings are shown under Examples R, S, T.[9]

```
<<Example R.>> ***** F-M: *******
1  Henry squawks, "remember I am a female & not a feminist so I like to be babied"
2  Marie kills Henry.
3  Henry [to Marie]: Stone says "remember I am a female & not a feminist so I
like to be babied"
4  Marie kills Stone
<<Example S.>> ***** M-M: *******
1   Reardon should program sometihng
2   George . o O ( @verb something:foo )
3   Mike [to Reardon]: how about a typo-remover
4   Reardon [to George]: something useful
[..]
5   Reardon killed Mike!  Mike has left.
<<Example T.>> ***** M-F: *******
1  Penfold [to anne]: no.
2  Penfold [to anne]: yes.
3  Penfold [to anne]: no.
4  anne [to Penfold]: stop teasing me or i'll yammer about valentine's
day and love and all.
5  Penfold killed anne!  anne has left.
```

In general, it appears to me that men seem to view killing as joking criticism, and at least one woman views it as expression of more serious criticism. There aren't enough cases in

[9] "Killing" is parallel to whuggling in some interesting ways: characters may "kill" things just as they may whuggle things. In my three months of data, females killed things 6 times, killed males 9 times, killed females 3 times. Males killed things 16 times, killed females 13 times, and killed other males 57 times.

the 19 days I singled out for me to be sure about intentions, though; and since most women don't do it at all, it's tough to conclude anything about how women use it.

The **Consuming** category contains all cases of a character "licking," "biting," "eating," or "snacking on" another character. **Consuming** characters seems to be a recurrent theme, often in response to mention of food in the MOO (one visitor recently suggested that JaysHouseMOO be renamed FoodMOO, since food is such a common theme). Generally "biting" and "licking" seem to be just mild teasing, possibly flirtatious. There are nearly as many **M-M** cases as **F-M** cases, which may mean that the notion of "flirtation" has to be widened a bit (another possibility is that the actions mean different things in different gender contexts).[10] Notice below in Example U that Carl smiles after he is bitten by Henry, from which we might conclude that the biting was not taken as criticism, but as teasing:

```
<<Example U.>>
1  Carl wonders if Henrys life is just made of hardware errors ?
2  Carl grins sorta
3  Kurt's hardware is made of life errors.
4  Bryan is a hardware error.
5  Carl hsms
6  Henry nods Carl re hardware errors.
7  Henry [to Carl]: Well that and problems with the DMV.
8  Henry isn't meant to drive cars.
9  Carl [to Henry]: It just always sounds like it, sorry.
10 Carl is meant to drive slaves, but.
11 Carl eyes himself warily.
12 Henry bites Carl.
13 Carl grins
```

```
<<Example V.>>
1  Harry walks over from the dining room.
2  Harry bites Jeani
[..]
3  Harry pokes Jeani.
[..]
4  Henry says, "Assuming it happens, of course."
5  Harry [to Jeani]: TALK TO ME.  isn't that what you said?
[..]
6  Harry accidentally sets fire to Jeani.
7  Shawn [to Henry]: Early/mid.  Actually, it's a wtf.  I'll prolly be putting
it in
8  storage while I look for a rental ..
9  Jeani [to Harry]: Oh, hi.
```

[10]Most of the men in the MOO are heterosexual or bisexual; I don't know of any gay men there. Likewise there are a few bisexual women, but no out lesbians.

```
10 Harry killed Jeani!  Jeani has left.
11 Jeani feels all grimy.
12 Harry [to Jeani]: you're not supposed to do that!
13 Harry [to Jeani]: how come?
14 Jeani says, "What, feel all grimy?"
15 Jeani says, "Well, I wasm ucking around and putting together sun
stations and stuff."
16 Harry [to Jeani]: ask me to talk to you and then not talk to me.
```

The case in Example V is probably an example of a bite being used as a poke would be used normally; Harry comes into the room and bites Jeani immediately. He then pokes her a little later, in a more explicit effort to get her attention, followed by a little burning and killing. Harry is clearly criticizing her, and she is largely ignoring his physical emotes; she also sounds likes she doesn't recognize what she has done to annoy him (explained in line 16 finally).

In fact, Example V illustrates the difficulty in classifying the use of different emoted actions; their role in the discourse may have less to do with their imagery content and much more to do with placement relative to other items in the discourse.

Types of things in the **Other** category include ritual jokes like those in W:[11]

```
<<Example W.>>
Ted runs atta Damon
*******
Mike thrashes you and pummels you severely in a very British manner.
*******
Henry thwaps Mike, and without any silly feature.
*******
Shelley accidentally sets fire to Harry.
*******
Ted shakes Parker.
*******
Ted dips Conner in gasoline and ignites the result. WHOOF!
*******
Kit grabs hold of Henry and stuffs him into the dictionary.
```

as well as more context-driven jokes that seemed more "physically" consequential (in their imagery) than what I classed as **Neutral**. Examples are in X and Y:

```
<<Example X.>>
```

[11] These are "ritual" because they are encoded in commands that allow players to emote them by simply typing the command and the "object"—usually another character—they are directing the action at. E.g., if I type "thwap Damon," everyone sees `lynn thwaps Damon, and without any silly feature.`

```
1 Tom says, "....can you speak, Mikey, without paste?"
2 Kit [to Tom]: EAT MY PASTE
3 Mike pastes Tom's lips together.

<<Example Y.>>
1 jill does feel lightheaded.
2 Conner places a brick on jill's head.
```

It is interesting to note that the **Other** category contains the largest percentage of the physical emotes in all columns. This may in part be due to the relative ease of executing the "ritual" commands. However, in the **M-M** and **M-F** cases, it is nearly half the total emotes counted, while in the **F-M** case, it is just a third (with **Neutral** emotes being a larger percentage, almost a quarter of the total, than in **M-M** or **M-F** interactions).

Discussion

So, why all the violent or physically aggressive imagery? It must be said from the outset that based on my observations, actual serious disputes between characters happen in quotes, not emotes. Characters don't "stage" fights with the various violent imagery available in MOO verbs (i.e., the "ritual" forms I mentioned), nor do they "ad lib" violence. The violent imagery that I counted in the MOO is situated within conversation between characters, often very playful conversation, where emoted actions are as much speech acts as are direct quotes. As we saw, some physical emotes serve particular purposes: hugs and whuggles express affection, killing expresses criticism, pokes are attempts to get someone's attention. Other physical emotes, like biting or accidentally setting fire to someone, may function in conversation frequently as a form of attention-giving; a response that is phatic, rather than contentful, and says "I'm participating," and possibly "don't ignore me."

As I showed, not all emoted actions are acceptable however; hugs and whuggles must be negotiated. It strikes me as amusing that violent imagery is okay (while it may actually be somewhat disturbing to some people, I don't have any cases recorded of anyone asking anyone to stop setting fire to another character, or stop cutting someone up into little bloody pieces), but expression of affection is a sensitive issue in the MOO. This is probably because many characters in the MOO are highly sensitized to issues around sexism. A particularly problematic case of sexist (and hostile) emoting is "netrape," which is an often-discussed complaint on some MUDs (e.g., LambdaMOO). The case described in Dibbell (1993) was upsetting enough that the character responsible for the emoted actions was kicked off the MOO (i.e., "toaded"). Given the concerns that some females have about netrape and harassment, it seems plain that cyberspace is not free of abusive or hierarchical behavior (contra Graddol and Swann 1989).

Example Z (amusingly) shows some female characters discussing explicit sexual harassment and pointing out that on this MOO (JHM) it is not allowed. Notice that most of the men are joking around in the "background" harassing one another, rather than adding to the conversation contentfully (aside from Jon in line 11).

```
<<Example Z.>>
1 jill recalls some friend telling her people get raped on Lambda...
[..]
2 Sandy [to jill]: People can get netraped on any system, not just Lambda. It's
bad to associate that characteristic to one place.
3 jill [to Sandy]: sure, it's just that's the first thing I heard about Lambda.
4 Karen nodsnods Sandy.  "Although different places do have different
attitudes towards harassment."
5 Sandy [to jill]: It happens considerably less on lambda than on most places.
6 Tanya thinks harassment is much less tolerated here
7 Henry harasses Tanya!
8 jill wonders what happens to harassers (and can't find her dictionary).
9 Sandy [to jill]: Here and OpalMOO will toad you for even STARTING to be
sexually abusive...or abusive at all.
10 Bryan harasses Henry for no apparent reason.
11 Jon sure doesn't tolerate it (or like it, at least)
12 Carl hair-asses Carl
13 Carl ouches
14 Karen nodsnods Tanya.
15 Jon eyes Carl warily.
16 jill is glad to hear this, "thanks, Sandy."
```

Conclusion

Although "bodies" in text-based VR are merely disembodied elements in larger speech events between characters, fleetingly mentioned as objects of burning or biting or whuggling, there are clear gender differences in the use of references to those bodies. Women hug and whuggle one another, but don't interact physically in many other ways.

It may be worth pointing out that most of the female-female conversations on the MOO occur either with an audience of male characters, or in private pages; private paged conversations are by far the norm, in fact. Since page conversations are limited to 2 participants, a party atmosphere can't develop, which happens in larger groups and often leads to lots of emoted physical jokes. Women are quite capable of joining in on the multi-party jokes; however, they usually aim the physical emotes at male characters.

I speculate that women's use of physically aggressive emotes with male characters is an example of women adapting to the different discourse style in male-dominated groups (cf. Goodwin 1990). Women on the whole seem to prefer using less violent imagery than men use (hence the **Neutral** category being larger and the **Other** category smaller in the **F-M** column than in the male-initiated columns in P).[12] It is probable that physical emotes have different significance in different gender contexts; one woman, for instance, who was

[12]My own response to "killing" for instance, is rather negative—I find it somewhat nasty. Several men I have talked to about "killing" said that they don't find it nasty at all!

the target of a violent emote originating from another woman, paged me and asked me privately what she had done to deserve it... which at least suggests that the interaction was marked in some way. There are certainly individual differences (such as men who don't use violent imagery at all and women who use more than other women) but the overall pattern is nevertheless suggestive.

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Appendix

Consuming: lick, bite, munch on, snack on, drink, eat, chew up.

Affectionate: snuggle, pat, high5, kiss, snurfle, nuffle, tickle, pet, nuzzle, scritch, touch.

Neutral: scratch, feed, take, sit on, change name of (letterman), stick a sticker on, shake hands with, spraypaint, whisper into, filter, unwind, tag, accumulate, do, jump on, snapshoot, lift, burp, drag.

Killings: kills, killed.

Pokes: poke.

Other: burn, cut up, ignite, shove, push over, run at, skip across a lake, shake, thrash, poison, beat up, corrupt, terminate, kick, blow smoke at, try to X, knock, hypnotize, sic a dog on, bonk, thwap, bap, paste lips, grab and stuff, rap, put a brick on, give head, pinch, run over, scan, nuke, set fire to, hose down, nail down, cut off head, mangle, mail hair to, tap, do hopskotch on, attack, shave, dunk, break, inflict harm on, swing axe at, bury.