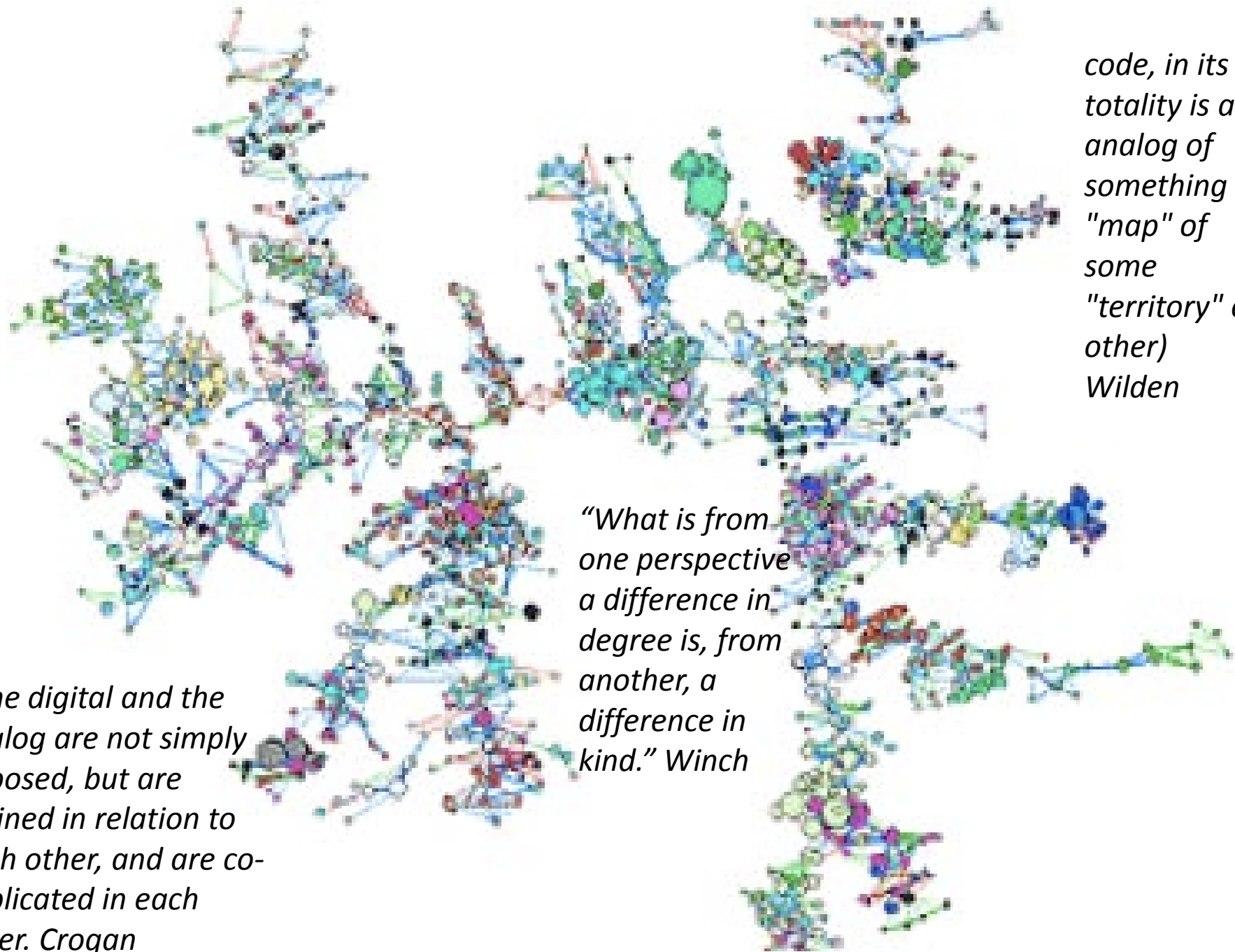




# Theoretical and Methodological Challenges (and opportunities) of Virtual World Research

Suzanne de Castell Simon Fraser  
University (York University, 2010-  
2011)



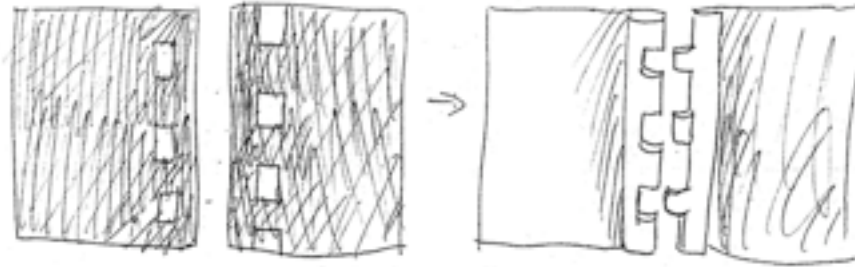
*code, in its totality is an analog of something (a "map" of some "territory" or other)  
Wilden*

*"What is from one perspective a difference in degree is, from another, a difference in kind." Winch*

*...the digital and the analog are not simply opposed, but are defined in relation to each other, and are co-implicated in each other. Crogan*



# Duck/Rabbit!- When Worlds Collide



The 'real/virtual' distinction, derrida  
and the diagonal...

# VERUS

(Virtual environment/real user studies)



Cartoon by Peter Steiner. [The New Yorker](#), July 5, 1993 issue



## **DO YOU PLAY *WORLD OF WARCRAFT*? DO YOU USE *SECOND LIFE*?**

**We'll pay you to come and play in our lab for an hour, and be videotaped.**

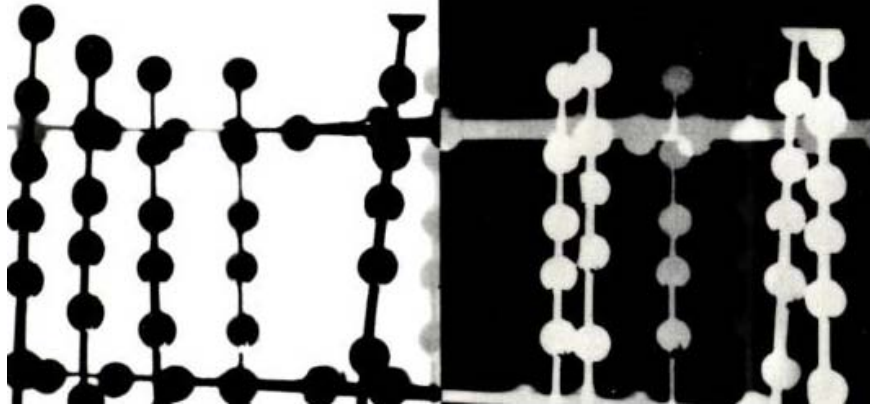
**We're looking for both experts (e.g. you have a couple of 60+ characters in *WoW*, or you really know your way around *Second Life*) and novices (e.g., you haven't really played either that much). Both men and women are welcome.**

**Email [verus2010@gmail.com](mailto:verus2010@gmail.com) to arrange a time & place to play.**

**We'll give you free space on campus to play *WoW* or *Second Life*, and we'll give you \$10 for ½ - 1 hr session plus another \$10 for filling out a survey. You will be videotaped. Feel free to bring a friend.**

**SENSE AND  
SENSIBILIA**

**J.L. AUSTIN**  
RECONSTRUCTED FROM THE MANUSCRIPT NOTES BY  
**G.J. WARNOCK**



“unreal wears the trousers”

# Connections across the great divide

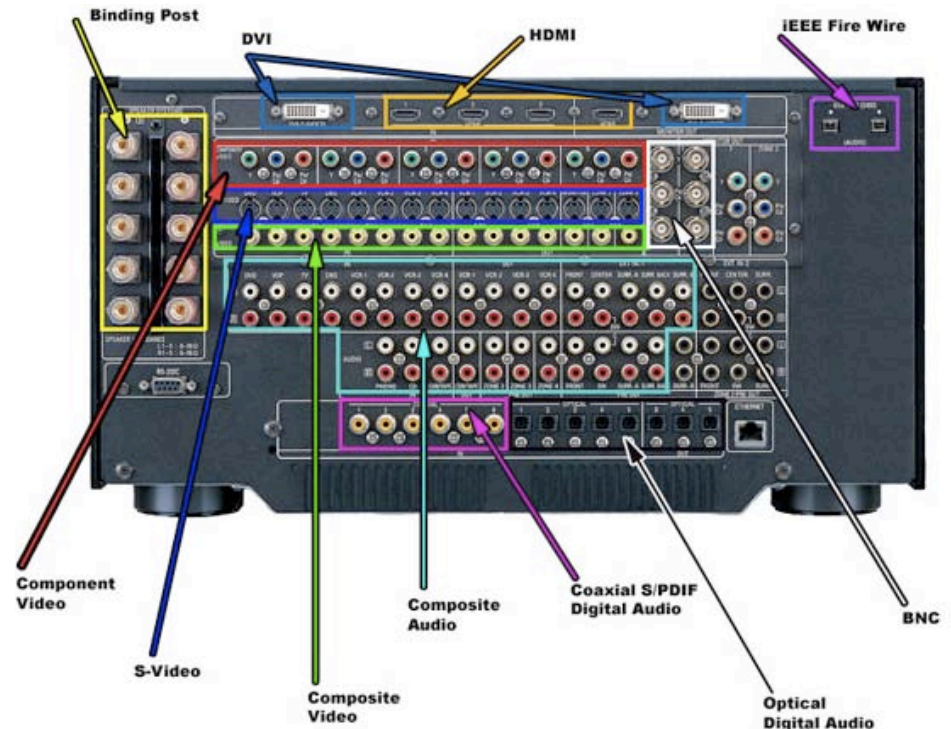


Austin's point was that this term, 'real', gets its meaning from what is set in opposition to, so the way to understand what 'real' means is to examine the various and several uses of the word "*unreal*".



- So, what is ‘unreal’, nowadays? A question worth pondering...
- And who or what is an ‘agent’ in the virtual world?
- People are agents who ‘code’ games, but don’t games code their players?

An important role for  
“ANTics”: Actor-  
Network theories and  
practices in VW  
research





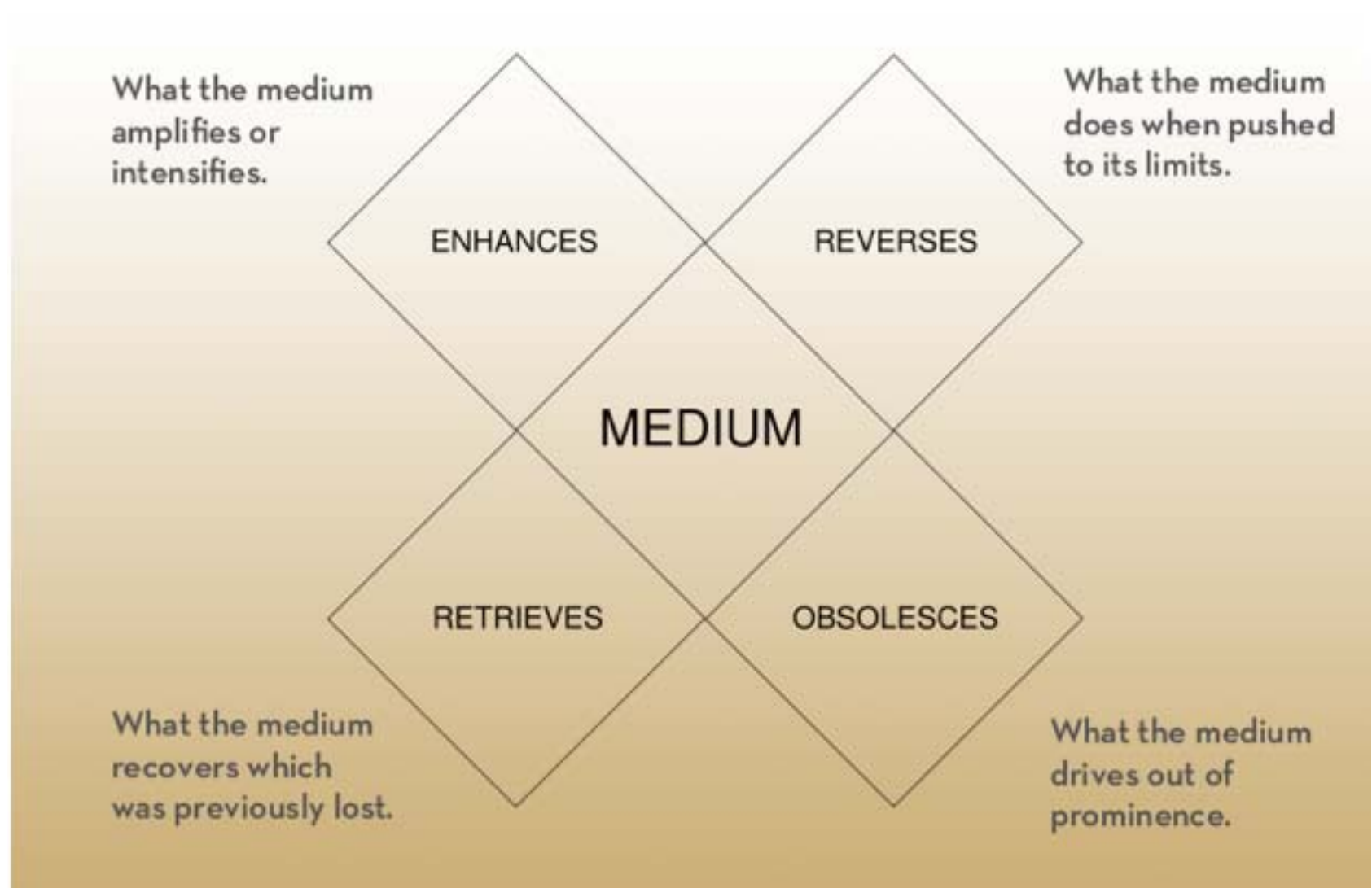


A 'real' WoW Raid





# McLuhan's "Tetrad"





"We shape our tools and thereafter our tools shape us"

-Marshall McLuhan



Reconstituting identities,





Communities...



## World of Warcraft (WoW) Level 80 Warrior and Level 80 Paladin SAME ACCOUNT! — Henderson

**Location:** Henderson, Nevada, United States

**Date Posted:** March 2

**Price:** \$600

[Reply to this Ad](#)

< 1 of 2 >



I'm selling my World of Warcraft account to someone interested at getting into Wrath of the Lich King with 2 geared characters. I've spent the last 3 years of my life playing this account. There is A LOT of time invested into these characters.

First is a lvl 80 Human Male Warrior. The warrior is wearing all epic quality gear most of which are the best pieces of armor available in the game. Using most of the best in slot 25man raid gear including:

- Valorous Dreadnaught Helmet
- Valorous Dreadnaught Shoulderplates
- Valorous Dreadnaught Legplates
- Chestguard of the Recluse



# Political order in four VW games



**World of Warcraft: 7**  
“Kingdoms”, race and hierarchy in 2 warring factions, appearance, activity and status restricted by role

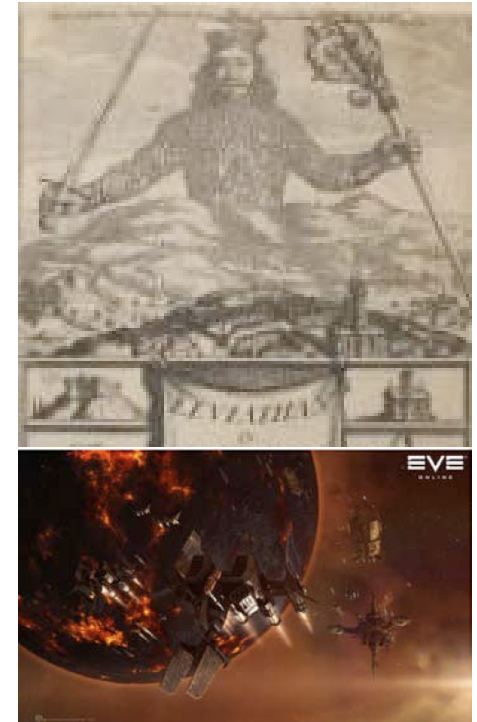


**Maple Story:**  
Individualistic pursuit of conspicuous consumption by grinding & micro-transactions.

**Second Life:**  
Political ‘sandbox’ far left to far right. Rampant capitalism, thriving sex trade  
Entrepreneurial and anarchic.



**Eve Online:**  
A Hobbesian universe, “nasty, brutish and short”. Mercenary, ruthless and “piratical”





- the second major challenge is *epistemological*: What can we legitimately claim to "know" from anonymous and self-report data sources



# Mirror Images

296M | W9862

- Avatar Aesthetics and Self-Representation in Digital Games



“Do you make our avatar look like you?”

**CELIA PEARCE**





Who are the 'real' leaders virtually marching on Washington?

# LEADERS MARCHING



## Neal Boortz

Neal Boortz is part of the revolt!



## Dick Armey

Dick Armey is part of the revolt!



## Mike Huckabee

Mike Huckabee is part of the revolt!

[View all leaders in the revolt!](#)

The real Neal



America's Armey



Mhuckabee





### From Self- Report (survey):

Females in our survey were more likely than males to report making their avatar look like them (33.3% of females vs 14.4% of males).

Women were more likely than men to report selecting the same hair for their avatar as their RL hair (27.9% for women vs. 11.2% for men), and more likely than men to report selecting the same accessories (11.6% for women vs. 3.3% for men).

Across all players, the highest reported “look alike” devices were sex (17.9%), hair (15.5%) and race (11.3%).

Data	Hair	Race	Sex
Survey	15.5%	11.3%	17.9%
“Free play” (WoW, Second Life, EVE Online, Maple Story, Guild Wars)	11% (8/73)	31.5% (23/73)	78% (57/73)
Multiverse	36% (20/56)	44.6% (25/56)	82% (46/56)

### From Audio-Visual Data:

FAR greater numbers of players selected their RL sex, hair and race for their avatar(s).

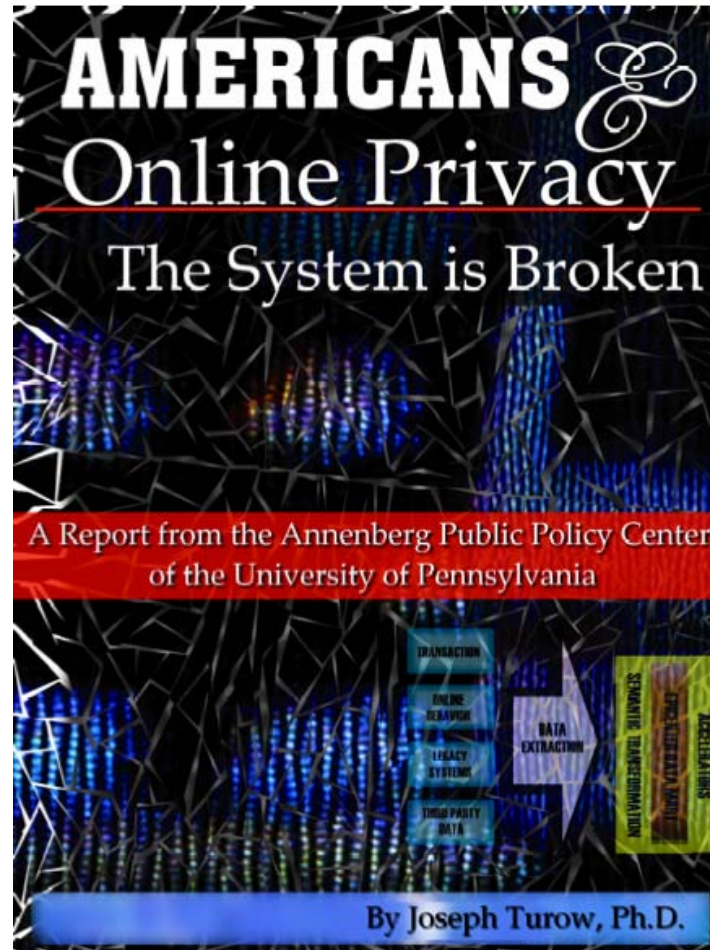
Significant under-reporting on avatar fidelity to RL gender:

Actual= Male/Male Avatar 79%; Female/Female Avatar 89%

# Ethical challenges:

what is private, and what is public in a virtual world? Does clicking "I agree" amount to 'informed consent' from the standpoint of research ethics?





*“You have zero privacy anyway...Get over it.”*

(Scott McNealy, Chief Executive, Sun Microsystems, Feb. 1999)

# "You have zero privacy anyway"



*"Jumping off the  
GW bridge sorry"*

(TC's Facebook  
status update, Sept.  
22)



Get Over It!



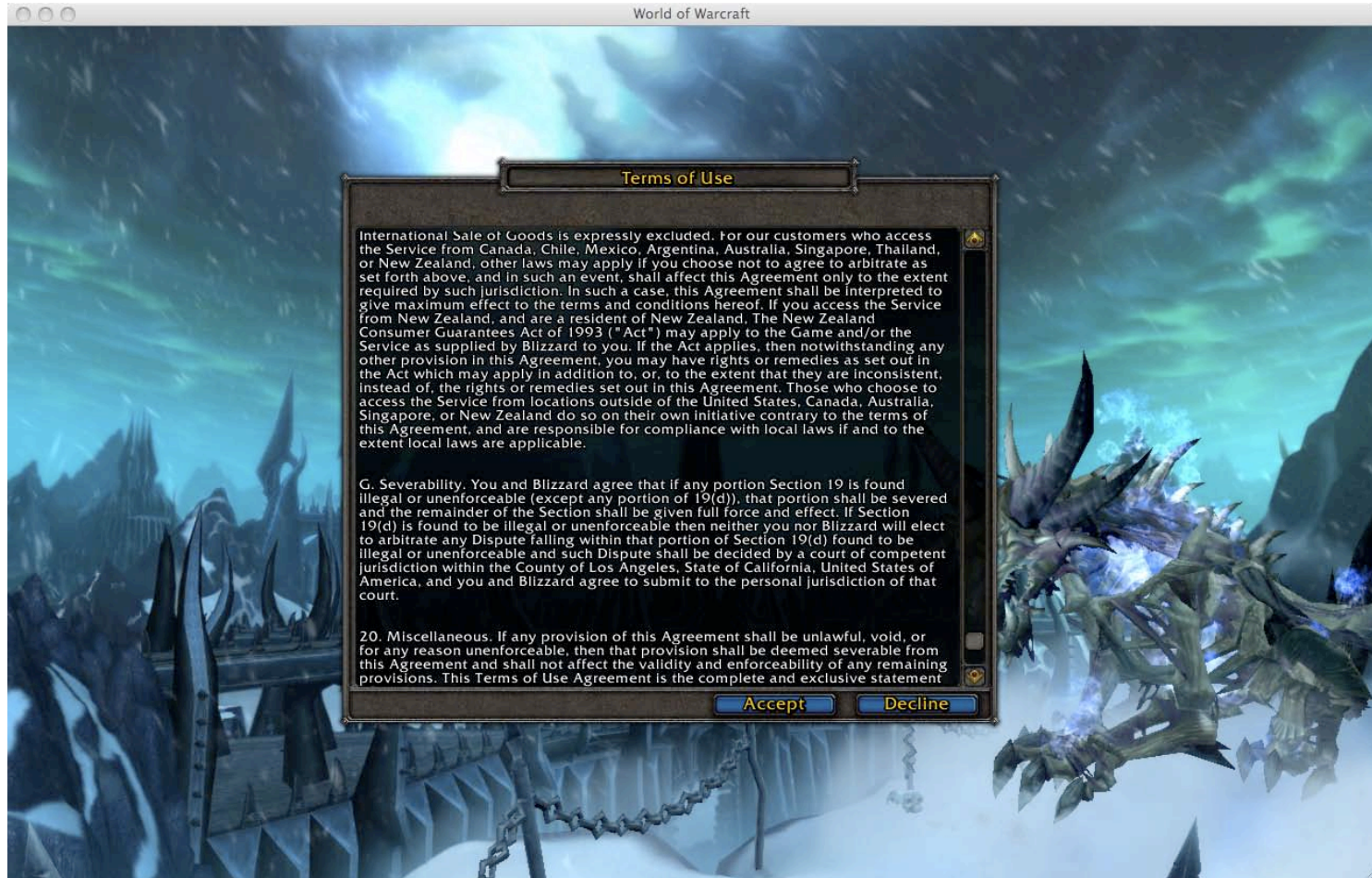


“I Agree”: Is virtually consenting informed consent?

Internet research and  
the ethics of third party access

To continue, promise us your first-borns

# Accept/Decline?





# Purpose of study

- What does informed consent mean?
- Do users realize what they are agreeing to?
- Would they agree if they actually did know?
- Are you agreeing to allow companies to give your information to anyone they see fit?
- Is 'informed consent' truly obtained in the process of clicking through?



# Informed Consent

- **Legally effective informed consent shall:**
- **Be obtained from the subject or the subject's legally authorized representative.**
- **Be obtained under circumstances that provide the subject with an opportunity to consider whether or not to participate and that minimize coercive influences.**
- **Not include any language through which the subject is made to waive or appear to waive any of his/her legal rights or any language that releases the investigator, sponsor, or institution from liability for negligence.**

# We examined...



- How EULAS are constructed, construed, and communicated
- EULAs/ToS from World of Warcraft and Second Life and derived survey questions from these
- User understandings from a sample of participants



# WoW Questions

- |  |     |    |
|--|-----|----|
| 1. Have you ever produced art or written stories that use World of Warcraft characters?  | Yes | No |
| 2. Have you ever installed programs that help you play the game? (e.g .modifications like CT Mod)?   | Yes | No |
| 3. Have you ever produced machinima (creating animation out of game graphics) or any other type of fan labour?   | Yes | No |
| 4. Would you consent to giving Blizzard the authority to surrender your personal information to law enforcement agencies, including your IP address, account information and history, billing address, online screen name, and preferred server? | Yes | No |
| 5. Do you agree with the statement that for your payment you do not own the game, but that Blizzard grants you a license to play the game?   | Yes | No |
| 6. Did you understand that if you agree to the EULA, you have also agreed to the Terms of Use (which is another document)?   | Yes | No |
| 7. Did you understand that you may not register for an account to play the game unless you agree to the Terms of Use?  | Yes | No |



# Would you consent to...

...giving Blizzard the authority to surrender your personal information to law enforcement agencies, including your IP address, account information and history, billing address, online screen name, and preferred server?



*“...this guy was a regular player of an online game...World of Warcraft.” Blizzard gave Roberson everything he needed to track down Hightower, including his IP address, his account information and history, his billing address, and even his online screen name and preferred server. “I did a search off the IP address,” said Roberson. “I got a longitude and latitude. Then I went to Google Earth...It uses longitude and latitude. Boom!... an address. I had him.”*



# Preliminary results

- The majority of users do not read ANY of the documents before clicking “I Agree”
- When asked questions explicitly, more users were **not** in agreement
- Points to a communications disconnect between legal documents and user “consent”
- Debate transferrable to other discussions where informed consent is assumed!



- While **I don't read the EULA or ToS**, I expect that they have the right to run the game, change it and do what they need to keep it growing. I don't like them using my personal information or turning over to another party even government **agencies without due legal process.**
- In general, I think forcing users to scroll through a long EULA prior to playing a **game is a bad way of communicating important legal information.** It's a nuisance and **nobody reads them.** I am, in fact, willing to sacrifice many of the rights mentioned in the above survey in order to play a game such as WoW, but I have never read more than the first few words of the WoW EULA and if the above questions are representative of what I have been consenting to, **then I certainly was not aware that I was doing so.**



# Significance

- Highlighting ethical issues beyond technical liability in the treatment of user data
- **User interpretation** of EULAs
- What does this mean for the research community regarding the ways user data is shared with US?



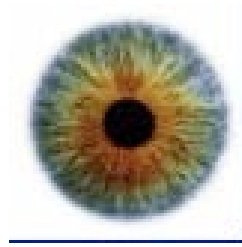
# And the opportunities?

- The biggest and best equipped research laboratory in the world, and one which can be used and shared on a global scale. And where we can try things we can't do in RL.
- One example...The Virtual Morris Water Maze



## Game-based VW experiments using video and eye tracking

- 1.** to help explore gender differences in spatial mobility and spatial ability
- 2.** to see whether (and if so, how) gender differences in real world contexts manifest themselves in virtual environments
- 3.** to help adjudicate between biological and socio-cultural explanations for reported gender differences in spatial ability



The Eyes have it: Measuring Spatial Orientation in Virtual Worlds to explain gender differences in real ones

- “This position paper for the CHI 2010 Workshop on Video Games as Research Instruments describes an experiment design that uses video games as a means of testing socio-cultural and biological theories of gender difference, in the context of a study exploring the connections between avatar behavior in massively multi-user networked virtual worlds and real world characteristics of players.
- It is hypothesized that real world behaviors (RWBs) of players mediate in significant ways between virtual world behaviors (VWBs) of their avatars and the real world characteristics (RWCs) of the players.

The controlled laboratory experiments outlined here will use audio-visual data of players (male and female, both novice and expert) and their in-game activity, as well as eye tracking technology, to see whether and to what extents gender differences in spatial mobility and spatial ability that have been identified in real world contexts are found in the same respects and to the same extents in virtual environments. This marks a significant epistemic shift in studies of gender and digital gameplay: from using gender as a theoretical lens to study videogames, to using digital play as a site and resource for studying gender.”

- Our approach involves “methodological bridgework”—finding and interweaving filaments of information, with differences in data types used to strengthen (rather than prohibit) their interconnection. Growing ‘connective tissue’ across research silos is the aim. How can humanistic, social, and scientific studies productively inform and develop one another?
- In this specific case, how can play-oriented virtual environments uniquely enable lab studies of spatial navigation and mental rotation that tellingly inform questions of whether the gender differences in spatial ability reported are evidenced in virtual world experiments that replicate the salient conditions of the MWM (the ‘gold’ standard’ test of gender differences in spatial ability)
- Does game-based experience result in improved spatial ability (as measured by the VMWM)? And, if it does, can we show evidence (Novice/Expert:Male/Female: N=16) sufficient to challenge F<M findings? (And, if so, could that kind of experiment, methodologically, help us adjudicate between biological and cultural explanations for gender differences?)
  - *Play, paradoxically, affords the same levels and kinds of engagement and attention and effort as ‘serious’ activity does. Incentivizing successful performance through ‘prizes’, and using a friendly, fun-focused task completion environment, in this case of a fun-fair sideshow in the context of a larger play-oriented virtual world has our subjects fully engaged, as our video-data confirms. Game-context affords high attention, effortful participation, thus strong assurance that we are measuring spatial ability at its limits.*





Project Editor

- Project
  - Setup
    - Observer Source
    - Coding Scheme
    - Independent Variables
  - Observations
    - Video Target
    - Observation001
      - Observer Source
      - Event File
      - Media File
      - External Data
  - Analysis
    - Data Profile
      - Data Profile
      - Exclude Selection
      - Behavior Analysis
      - Manual Analysis
      - Log Sequential Analysis
      - Reliability Analysis

Recording

Start Recording

Stop Recording

Event Name	Behavior
Start	00:00:00
Current	00:18:24.127



New Settings

	Value	Unit
Codes	<input checked="" type="checkbox"/>	
Event Log	<input type="checkbox"/>	
Video File	<input type="checkbox"/>	
External Data	<input type="checkbox"/>	
Observation T	<input checked="" type="checkbox"/>	
Playback Con.	<input checked="" type="checkbox"/>	
Unicode	<input type="checkbox"/>	
File Separator	<input type="checkbox"/>	
Plugin File	<input type="checkbox"/>	

Score defaults by entering source/default in

Indexed ...

Scoring Options ...

Two video feeds are shown. The left feed shows a person in a white lab coat sitting at a desk with a computer, interacting with a device. The right feed shows a close-up of a person's face, smiling.

Observer Selection

Video Input 1  Video Input 2  Video Input 3  Video Input 4

Start Recording

Stop Recording

Edit

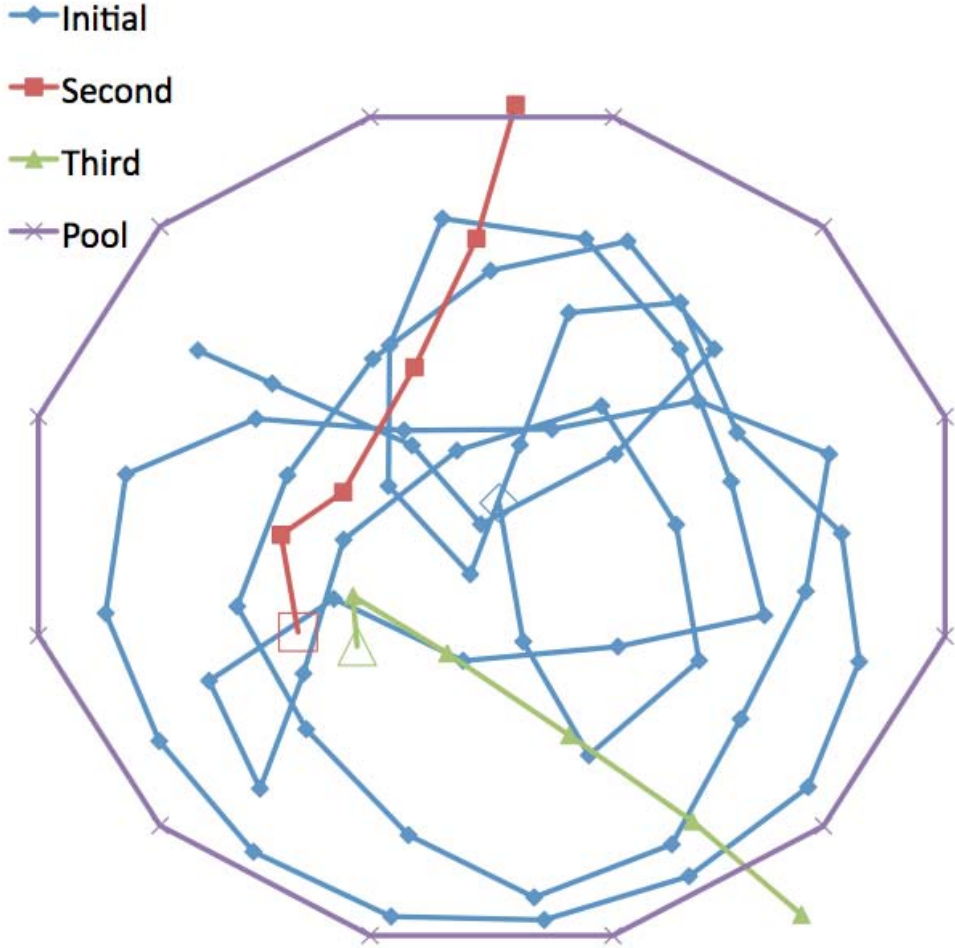
# The VMWM pool in Second Life



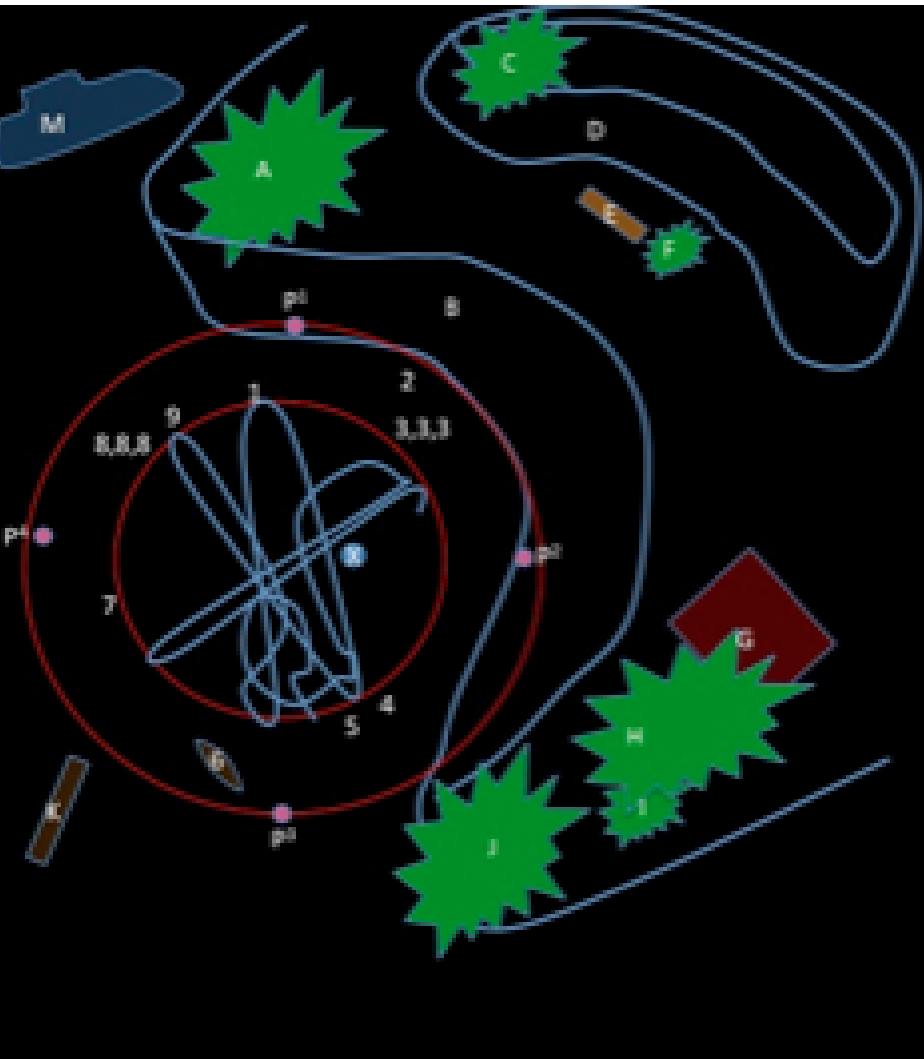
“...ready to try again, Rat?”



# Three trials in VMWM



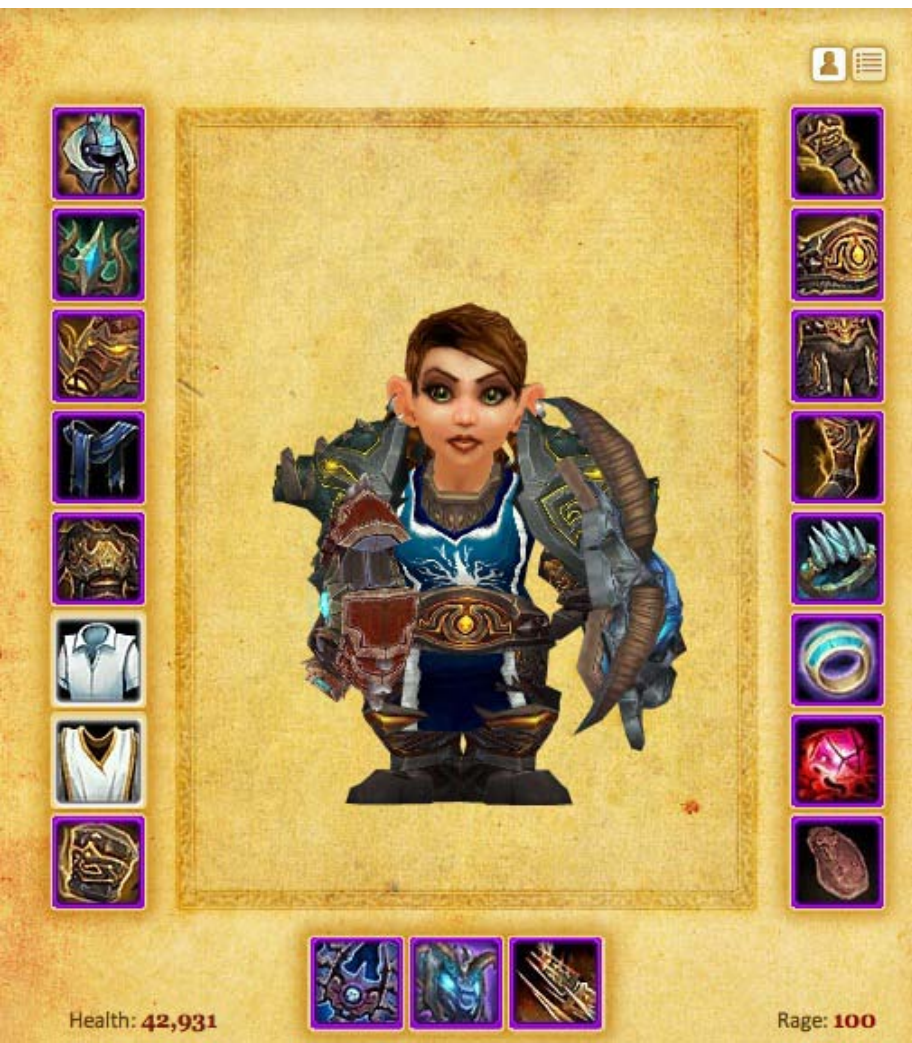
# Qualitative analysis



RS108\_P17 entered the pool and did a large curl back to her starting point. She then entered the pool again, this time going towards the pink pole (p1) then the pink pole (P3). There she curled into the middle of the pool and crossed the pool again, this time towards the flamingo, which can't be seen from far away). She then turns around and curls towards the pool edge near the potted plants. She does a sharp turn towards the Wooden Walkway. At the pool side, she does a sharp turn again, back to the potted plants. There, she turns sharply, but time



# 'play' between worlds



This player's two DIFFERENT (??) avatars



Wherever you go, there you are

