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Virtually Reality

*An Ethnographic Study of Sociality, Being, and Money in a Multi-
Player Online Game-world*

Thesis submitted by

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in the

School of Arts & Social Sciences

James Cook University

Statement on the Contribution of Others

This thesis has been made possible through the support of the following people:

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David Simmonds, CEO, MindArk PE AB

Screenshots are included with the permissions of MindArk PE AB and the society hierarchy template included in figure 7 was obtained from the Entropia Planets Wiki and used under a creative commons attribution-sharealike 3.0 license.

Ethics Declaration

The research presented and reported in this thesis was conducted within the guidelines for research ethics outlined in the *National Statement on Ethics Conduct in Research Involving Humans* (1999), the *Joint NHMRC/AVCC Statement and Guidelines on Research Practice* (1997), the *James Cook University Policy on Experimentation Ethics. Standard Practices and Guidelines* (2001), and the *James Cook University Statement and Guidelines on Research Practice* (2001). The proposed research methodology received clearance from the James Cook University Experimentation Ethics Review Committee, approval number: 3962.

28/11/2014

X Rhian Morgan

Rhian Morgan
Mrs

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Abstract

Entropia Universe (EU) is a science-fiction themed massively multiplayer online role-playing game (MMORPG), with a real-cash economy. The cash economy means that players can deposit and withdraw money from the game, at a fixed exchange rate of US\$1 to 10 Project Entropia Dollars (PED). This study explores the impacts of this monetisation on the collective lifeworlds of players. The study focuses on online sociality, culturally located ontologies, understandings of virtual monies, and the experience of being in a multiplayer game-world. The primary methods of investigation are participant observation, semi-structured interviews, and the discursive analysis of Entropia related forums, websites, and player created media. The study applies post-phenomenological, ludological, and economic theory, in conjunction with cyber-ethnographic research methods, in order to analyse experiences of being in this digital capitalist space. The resultant ethnography draws together data gathered during a year of online participant observation and twenty semi-structured interviews with players, in a documentation of the existential, social, cultural, and economic dimensions of life in EU. In doing so, the study reveals how the monetisation of an MMORPG influences the composition and characteristics of a virtual world community.

The study demonstrates how the virtual lifeworld, in EU, is comprised of an amalgam of embodied, social, cultural, and economically situated experiences. Embodied relations with gaming technologies, play relations with the game artefact, and the in-world experience of re-embodied presence, converge to create a sense of being in the game-world. Social identities are reconfigured within the game-space through the interactions of actual world and game based, ludo-narrative, identity constructs. The subjective experience of being in the game-world is consequently complemented by the

intersubjective experience of being with others. The virtual lifeworld is also shaped by the socio-ludic structures and conventions of interaction that develop in response to the game mechanics and real cash economy. The capitalist structures of the game economy promote self-seeking behaviours, while also creating avenues for the formation of meaningful trust relationships and in-game displays of altruism. The game economy also means that work, play, production, and consumption converge, as self-interest confronts sociality in an economically meaningful, yet fictitious, online world. The virtualization of trade, labour, commodities, and money is just the latest stage in the development of capitalism, and we are only just beginning to see what the implications of these processes may be. This study explores how the legitimate two-way exchange of game currency for actual world currency links occurrences in a game-world to the experiential realities of monetary value, thus rendering the experience of being in the game-world virtually real. Consequently, the study provides industry relevant insights into the formation of MMORPG communities and the impacts of bidirectionally exchangeable virtual currencies on these communities.

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Abbreviations

ATH.....	All time high
CLD.....	Calypso Land Deeds
CND.....	Club NeverDie
CRT.....	Calypso Rescue Team
EBN.....	Entropia Breaking News
ECB.....	European Central Bank
EQ II.....	Everquest II
EU.....	Entropia Universe
EULA.....	End user license agreement
FAP.....	Fast aid pack
GDP.....	Gross domestic product
GZ/Gratz.....	Congratulations
HoF.....	Hall of Fame
ICT.....	Internet and computing technology
IRL.....	In real life
L.....	Limited
LOL.....	Laugh out loud
MA.....	MindArk
MMORPG/MMO.....	Massively multiplayer online role-playing game
Mob.....	Mobile (hostile) NPC
MOO.....	Multi-user Object Orientated worlds
MUD.....	Multi-user dungeon/domain
NPC.....	Non-player character
OJ.....	Orange jumpsuit
OP.....	Out post

PA	Port Atlantis
PCF	Planet Calypso Forum
PE.....	Project Entropia
PED.....	Project Entropia dollars
PK	Player killer
PM	Private message
PP.....	Planet Partner
PvP.....	Player versus player
RCE.....	Real cash economy
RL	Real life
SL.....	Second Life
Soc.	Society
thx.	Thank you
TI.....	Treasure Island
ToU	Terms of use
TP.....	Teleporter
TT.....	Trade terminal
UL	Unlimited
VoIP.....	Voice over Internet Protocol
VU.....	Version update
WoF	World of Firepower
WoW.....	World of Warcraft
YW.....	You're welcome

Chapter 1: Life on Planet Calypso

The Beginning

The Adversary, Baron, and Twist had never met. In fact, at this time none of them even existed. It was late 2007 and The Adversary was sitting at home, with his brother, watching a documentary on virtual worlds. In southern Queensland, Baron was also settling down for some Sunday night television. Baron was a primarily a console gamer, but he had recently begun playing the game Runescape online. Baron was enjoying Runescape, he liked the social nature of online gaming and watching his avatar progress. However, as thirty-something father, he was becoming increasingly frustrated with "all the children [in-game], mouthing off about this and that" (Baron, personal communication, July 21, 2012). The middle-aged man on the television, talking about online gaming, immediately captured his attention.

At the same time in North Queensland, Twist had decided to escape the summer heat and retreat to the air conditioned comfort of her living room. She had recently amassed a small fortune in the game EveOnline, but the inconsequential nature of her online wealth and negative actual world bank balance made the achievement somewhat bittersweet. So, when the voice on the television began talking about Entropia Universe (EU) and real life monetary payouts from a video game, Twist started to listen. The mention of earning money from gaming had also drawn Baron's attention, and The Adversary and his brother were already planning their futures as real virtual world millionaires.

Five years later in Entropia Universe, Twist was out hunting Longtooth near Fort Ithaca. It was late evening in Australia and The Adversary, who worked night shifts in real life, had just woken up. He logged on soon after waking, as he was keen to complete the Sumima Iron Challenge before the "mission nerf" that had been announced for later that year. The Adversary was out hunting when the knocking sound of Twist's personal message (PM) came through his speakers:

[Twist] Hi hope I'm not disturbing just wondering if u are up for an interview?

[The Adversary] Yea np :P I planned to wake up earlier but I just wanted more sleep :P

[Twist] haha :) is now ok?

[The Adversary] yea its fine

[Twist] cool do u wanna meet up or do it over chat - I've gotta get somewhere safe b4 we start ;)

[The Adversary] I think over chat :P I need to kill sumima lol b4 rewards change

[Twist] understandable :)

The Adversary had contacted me a few weeks earlier in response to a post on Planet Calypso Forum. My avatar's name is Rhian Twist Darkstar and the post was about my research in Entropia Universe.

Entropia Universe

Entropia Universe (EU) is an avatar based massively multiplayer online role-playing game (MMORPG/MMO). The game was launched as "Project Entropia" in 2003 by the Swedish software company MindArk PE AB, and it follows a science fiction narrative of interstellar conflict and colonisation. This thesis documents a year of ethnographic fieldwork within Entropia Universe and corresponding findings regarding player

experiences of sociality, online being, and money, in a distinct kind of digital game-world.

One of the defining features of this game, and the thing that differentiates EU from most other MMORPGs, is its incorporation of a real-cash economy (RCE). The RCE means that players can deposit and withdraw money from the game, at a fixed exchange rate of US\$1 to 10PED (Project Entropia dollars). There are no download or subscription fees, so it is not strictly necessary to pay to play in Entropia Universe. It is perfectly possible to participate in the game using funds generated through game-play. People can even withdraw money from the game without ever depositing, but everything in the game comes with a price tag. The costs of in-game goods can range from fractions of cents to hundreds of thousands of dollars. EU is well known for its record breaking virtual purchases and, as James Plafke (2010) wrote in an article for the website GeekOSystem: "one thing that is never in contention when it comes to Entropia Universe is that the occasional person pays out the wazoo for a virtual item" (n.p).

The aim of this study is to provide an ethnographic account of the influences of the RCE on players' virtual lifeworlds and in-game socio-cultural dynamics. This introductory chapter begins by documenting the processes of play and study that informed my decision to conduct ethnographic research in EU. The chapter then provides a narrative account of my first days in the game-world. This personal narrative is followed by an outline of the game narrative, a description of game-play, and an explanation of the real cash economy. The chapter then continues with an examination of the ethnographic method and its applicability to virtual world studies, before proceeding to outline the aims of this particular virtual world ethnography and the

precise methods used. The chapter then documents my own entry into the online fieldsite and concludes by providing an overview of the thesis. The thesis, as a whole, provides a holistic account of a socio-technically situated sub-cultural group and explicates how reality, virtuality, and understandings of value converge in an RCE game-world. In doing so, the study contributes to a growing body of research on game economies, by providing a philosophical and anthropological analysis of the influences of a monetised virtual currency on an MMORPG community.

Throughout the thesis the term "virtual" is used in both a descriptive and an ontological sense, in a manner that reflects the use of the term within the game community. In EU, and in many other MMORPG communities, the term "virtual" is often employed as a descriptive boundary-marker, that is used to delineate between occurrences in offline and online domains. Zerg's reference to the process of "escaping reality by going here and being virtual" (Zerg, personal communication, April 21, 2012) exemplifies this descriptive use of the term. The descriptive use of "virtual" is also reflected in players frequent employment of the phrase "irl" (in real life) as a means of distinguishing between online (in-game) and offline realms. This use of "real" and "virtual", as delineators, reflects the role of the actual/virtual binarism as "an experientially salient aspect of online culture" (Boellstorff, 2008, p. 19). As a result, participant references to "virtual" as a counterpart to "offline" or "real life" are maintained throughout the thesis. However, binary distinctions between reality and virtuality are problematic and, while the term "virtual" is often employed as linguistic short-hand for "in the online game-world", players also recognise that on an ontological level "the virtual" is not straightforwardly distinguishable from "the real".

In an ontological sense, when applied to online game worlds, the term "virtual" denotes a liminal space between reality and fiction, where human interactions are realised through digital mediation. Like nature and culture, the actual and the virtual exist in a relationship of co-constitution and overlap, rather than in a state of binary opposition. Acknowledgement of this sense of interrelation was exemplified in Deathifier's description of how "world views from the real world come over in the virtual worlds" (personal communication, April 23, 2012). Here the *term* "virtual" is used as a descriptive boundary marker, within an attempt to demonstrate the permeable nature of virtuality as a concept. Thus, demonstrating that "[t]he notion of "virtual space" is useful, but also ambiguous and multi-faceted rather than a monolithic counterpart to physical space" (Lehdonvirta, 2010, n.p.). The use of "virtual", as a liminal ontological category, also reflects linguistic definitions of the term, as "everything which exists potentially but is not (yet) in action. [Thus, demonstrating the manner in which] [t]he virtual tends toward actualizing itself but without a formal and concrete realization" (Teli, Pisanu & Hakken, 2007, n.p.). As a concept, "virtual" denotes that which is almost "real" but not quite, or that which tends towards actualisation without physical realisation. This sense of ontological ambiguity was apparent in Leah's conceptualisation of his avatar as "not real, but ... also not fiction" (personal communication, July 19, 2012) and Luke's evaluation of how the game economy makes "the whole experience in-game more "real", but real is not the right word" (personal communication, April 22, 2012). Consequently, in addition to citations of participants references to "virtual" as a descriptive boundary marker, the term "virtual" is used throughout the thesis in instances where the terms "digital" or "online" are considered too reductive. For example, the game-world itself is referred to as "virtual" because to reduce the world in its entirety, including its culture and its inhabitants, to their digital

correlates, would nullify the substantial non-digital, interpersonal, existential and emotive dimensions of life within the game-world. The virtual is ambiguous, the term denotes a space between reality and fiction that cannot be reduced to either, and it is this ontological ambiguity that comes to the fore when the ethereal realm of the (digital) virtual world is permeated by "real" money.

The exchange of actual-world money for digital currencies and commodities has now been occurring for over 10 years, in EU and beyond. Purchasing digital content, via micro-transactions within MMORPGs, is now commonplace and digital distribution is a norm within the software and entertainment industries. "In 2010, Europeans spent over \$1 billion on virtual goods, the Asian market is already worth over \$5 billion annually, and Americans will spend over \$2 billion by 2011" (Hernandez-Verme & Valdes Benavides, 2013, p. 332). EU only accounts for a fraction of this spending. Although, the legitimate two-way exchange of currency means that EU has been referred to as one of the wealthiest virtual worlds per capita (MindArk, 2007). In 2010, the game boasted an equivalent GDP of \$428 million¹ (MindArk, 2014) and in 2007 the game had an average daily turnover of \$1.25 million (MindArk, 2007). EU's equivalent GDP, in combination with the real cash economy, means that if the game-world was an Earth nation it would have been placed 187th on the World Bank's (2011) listings of 2010 country GDP; this ranking would have located EU between St. Kitts and Nevis and Dominica, with respective GDPs of \$526 million and \$383 million.

¹ Values are presented in US dollars, unless otherwise stated.

The fact that players can legally buy PED from MindArk, and then resell the currency back to them, differentiates the Entropian economy from the economies of most other micro-transaction games²:

Participants in Entropia Universe can at any time request a reimbursement of all their unconsumed assets in the virtual currency PED. MindArk then reserves the corresponding amount in SEK as an accrual.... The corresponding value of all unconsumed PEDs is calculated at 66,9 million SEK [approximately US\$10'000'000] on December 31st [2011] compared to 64,9 million SEK the previous year. (MindArk, 2012a, p. 29)

Together, all of the above stated figures and securities point to the growing economic significance of digital currencies and commodities. However, they also raise social and ontological questions about the relationships between monetary value and virtuality. Entropia's RCE, in particular, raises questions about how the integration of money into a virtual game-world influences sociality, understandings of value, player behaviour, and in-world economic practice. These questions inform the analysis of Entropian experiences of being, culture, and socio-economic practice contained in the following chapters.

Playing and Studying

I began playing Entropia in 2007, shortly after watching the documentary mentioned in the introductory section of this chapter. A few weeks after the documentary had aired the Darkstar Syndicate in EveOnline was disbanded. Baron's Runescape avatar lay idle and The Adversary had already begun to climb the virtual social ladder. Five years later,

² The RCE means that MindArk reserves EU's unconsumed PED assets as a contingent liability. This is possible due to the fixed 1:10, dollar to PED, exchange rate. These assets are listed in MA's financial reports as "unconsumed user holdings" and participants can withdraw the dollar equivalent of their PED assets from the game at any time.

a society leader, a player killer (PKer) and an anthropologist discovered that the same hour of "Sunday night prime-time" had led each of them to create very different lives in a single virtual universe. The shared dream of "getting rich by gaming" had soon been quashed by the harsh realities of life in EU and the pursuit of loot and "big money" had largely given way to pragmatic attempts to play the game without depositing.

Friendships, the fun of the game, and the pursuit of skill gains were some of the things that kept us playing. The dream of one day scoring something like an elusive \$33'000 "ATH" (all time high), with a single click, never completely subsided. Yet, we each quickly learned that virtual life and virtual livelihoods were about more than just the pursuit of "uber-loot." By 2012, Baron had become a key part of a close knit network of friends from across the globe. The Adversary had recently achieved his aim of joining a high-level society, and I was doing fieldwork.

I began studying EU in 2010, as a result of engagement with a growing body of ethnographic research into virtual worlds. The ethnographies I was reading highlighted the complex socio-cultural relations that exist in different online spaces and, in many instances, reflected my own experiences in EU (see T. L. Taylor, 2006; Boellstorff, 2008; Pearce, 2009; Nardi, 2010). My exploration of virtual world ethnography was then expanded to include game orientated philosophical studies and ludic analyses of the influences of software and game design on online ethics, ontologies, and practices of play (see Aarseth, 2003; Brey, 2008; Leino, 2012). I soon discovered that the ethnographic method had also been used to add descriptive depth to economic and journalistic explorations of virtual worlds and these studies, in particular, highlighted the growing significance and scale of virtual world economies (see Castronova, 2001; Dibbell, 2006). Some of the game ethnographies I read emphasised the impacts of

subversive monetisation on MMORPG communities, as manifest in practices of "goldfarming" (see Dibbell, 2006 & Nardi, 2010). While, Boellstorff's (2008) study of the non-game-based world Second Life touched on the monetisation of user created content in a social virtual environment. These studies were intriguing. However, as I continued to read, it became increasingly clear that there had been little investigation into the influences of *legitimate* two-way monetary transactions on an MMORPG community. The ethnographic account of life in EU contained in the following chapters provides such an investigation.

The study began in response to one very simple question: why do people pay *real* money for virtual goods? The remainder of this chapter documents how this initial question developed into a broader study on sociality, being, and value in Entropia Universe. The resultant ethnography of EU is based on data generated during a fifteen month period of in-game participant observation and a series of twenty semi-structured interviews with players. However, the study was also influenced by my prior experiences in EU and interactions that took place on the game's multiple forums and other "out of world" websites. The following section documents the beginnings of my own journey in Entropia. A journey that began when I first spawned on Planet Calypso in 2007.

A New Arrival

It has now been almost seven years since I first arrived at the virtual waterside city of Port Atlantis, wearing the tattered greyish jumpsuit characteristic of all new arrivals. The avatar creation process, prior to spawn, was lengthy. I knew that I would be stuck with the body I created, at least for the foreseeable future, so I took time to tweak my

appearance. Thus, incorporating the features that I would later come to understand as signifiers of my own virtual identity. Once the creation process was complete, I clicked "ok" and "Rhian Twist Darkstar", a short female avatar and new Entropian colonist, was born.



Figure 1: My avatar: Rhian Twist Darkstar

The screen blurred, then sharpened, and I found myself standing in a futuristic looking city. Stumbling on my new virtual legs, barley adjusted to the interface and filled with "noobish" exuberance, I immediately left the relative safety of the city. There was a vast expanse of grassy wilderness in front of me and small dinosaur like creatures scattered across the hillsides ahead. I ran over the virtual grasslands, oblivious to the potential threat posed by the red dots on the radar in the bottom right hand corner of my screen. These dots represented "mobs," computer generated creatures, and they were dangerous.

Suddenly, my avatar jerked forwards and, seemingly without warning, the health bar at the bottom of my screen turned a worrying shade of red. One of the creatures was attacking me from behind. The whole screen was abruptly bathed in translucent red light and my avatar fell to the ground. A small box with a countdown timer appeared on the screen in front of me: "teleporting to nearby revive terminal in 10 seconds." This

was the first time that I died. Death in Entropia is impermanent, players "respawn" after dying, usually at the nearest "revive terminal." However, an avatar's death can be costly and extremely inconvenient.

This sudden death was rather unfortunate, as it had not sent me to the nearest revival point in the city where I had spawned. Instead, I was revived at an obscure outpost deep within Calypso's wilderness. The surroundings and vegetation now looked completely different, and it was not long before I had to face the sobering reality that I was now lost. I was somewhere on the sprawling continent of Eudoria, surrounded by mobs, with no idea how to get to back to the city. After my initial fatal encounter with the creature, which I later learned was an Exarosaur, I learned to treat the fauna of Calypso with a little more respect.

I immediately set out to try and find my way back to Port Atlantis, carefully avoiding the red dots on the radar that I now knew wanted to kill me. I soon sighted some other avatars, a few were wearing greyish clothing identical to mine, others were dressed in bright orange jumpsuits. I later learned that upon insertion into a "repair terminal" and payment of repair fee the tattered grey clothing I was wearing would take on the appearance of one of these vibrant orange suits, commonly known as "OJs." Most of the other avatars were standing near a group of alien looking creatures, on an open grassy plain. They moved around the animals, repeatedly shooting green beams of light at them. It was obvious that this was some sort of game-play and I wanted to join in.

I cautiously approached one of the animals and clicked randomly on the creature, attempting to emulate the actions of the others. Reams of text appeared in the dialogue

box in the bottom left corner of my screen: "the sweat acquiring failed." I continued clicking on the creature, wondering why I could not maintain the green light beam in the same way as others seemed able to do. With an increasing sense of exasperation at my own apparent ineptitude, I typed my first ever message into the local chat asking "why is it not working, what am I doing wrong?" A group of three people neared me and reassured me that I was doing nothing wrong. They explained that my avatar was simply too inexperienced and that it would take time to build the necessary skills required to "gather sweat" from the animal. They advised that I should simply keep trying.

I stayed with the group for a while and we "sweated" the creatures together. It was not long before my avatar started performing the same strange chants and dance as the others. Eventually, green energy beams started emanating from my avatar's hands and I began to extract sweat from the creature. Suddenly, my speakers emitted a loud "ping" and a window, containing an image of a long grey bottle, appeared on my screen; my first ever "loot window." I continued sweating the creatures with the group for a while, by the time we stopped I had gathered approximately 300 units of sweat. One of the trio offered to buy the sweat from me and I sold it to him for 2 Project Entropia dollars (PED), the equivalent of 20 US cents.

The next evening, I logged on again and decided to try and find my way back to the city. I ran around the countryside for a while, not really knowing which direction to head in, before I came across somebody else. This person looked different to the people I had encountered the day before; he was wearing full body armour, including a facemask, and carrying an impressive looking gun. I asked him if he knew how to get

back to the "start point" and he asked if I had a teleport chip. I replied, "no" and explained my predicament. He told me to follow him and we set out across the continent. I ran behind him, but my unskilled avatar was considerably slower than his and I had trouble keeping up. The landscapes changed as we ran and we passed hoards of creatures considerably more intimidating than the little Exarosaur that had killed me the day before. I recall my sense of awe as my rescuer, whose name I unfortunately no longer remember, battled a path through the vicious mobs and returned me to the safety of the city.

Once we had arrived back at Port Atlantis my rescuer asked me if I knew where Swamp Camp was:

[Twist] Nope, what's that?

[Rescuer] It's where the noobs hang out

He proceeded to take me to Swamp Camp; thus, introducing me to the area where I would spend much of my first couple of months on Planet Calypso. The camp was not far from the city and I took note of the route and direction as we ran. When we arrived I thanked my rescuer, he said goodbye and wished me "good luck." His avatar then made a strange motion with its arms, a blue force field rose up around him and he teleported away. At the time, I had little idea how ubiquitous the experience of getting lost, and subsequently rescued, was among newcomers. I did not know about the Calypso Rescue Team (CRT) or that I could call for help if I got stuck somewhere. I also did not know that 2PED was well above the market-price for 300 units of sweat. I was the prototypical "noob" and I did not know much about this virtual universe.

A Virtual Universe

I quickly learned that, at its most basic level, EU is a sandbox style open-world game, where players are "free to do pretty much whatever they like" (Bartle, 2008, p. 45). The game is set in a post-apocalyptic future and contextualised via an official game narrative that draws on both Greek mythology and science fiction tropes. Players are cast in the role of "colonists" on a series of alien planets. The game-narrative is codified on the official game website and mirrored on a number of player created wikis and webpages. The narrative tells the story of how war, environmental destruction, and the depletion of Earth's resources forced the human habitation of space and eventually interstellar exploration and settlement.

The game narrative also explains how settlement of EU's original planet, Calypso, began. The colonisation of Calypso started after a series of "Odysseus probes," crewed by intelligent robots, were sent out across the universe to find and terraform planets ready for human habitation. One of these probes discovered an Earth like planet. However, contact with the probe was unexplainably lost for a number of years; hence the name Calypso. When contact with the probe was re-established, its robot crew began terraforming the planet and creating infrastructure. Once this process was complete the human settlement program, known as "Project Entropia," began. The next chapter of Calypso's creation story tells of how the robots revolted against the human settlers and attempted to take control of the planet. The Entropian colonists fought them off and the robots retreated to the mysterious Akbal-Cimi star system; they have since launched multiple attacks on the inhabitants of Calypso.

The game narrative contextualises in-game events, such as robot invasions, and explains the world's outlandish flora, fauna, and technologies. Since the game's inception, in 2003, five additional planets have been created. However, Calypso was the only available planet in EU when I spawned in 2007, and it is still the most densely populated planet with the largest economy. Consequently, Calypso is where the bulk of my in-game fieldwork took place and much of this work centred around participation in game-play.

Game-play in EU is highly individuated and there are a multitude of different in-game careers that players can choose from. The three main game careers are hunting, mining, and crafting. These careers are explicitly integrated into the game system and supported by a complex array of interrelated "skills" that can either be accrued through play, or bought from other players. Hunting, mining, and crafting all result in the acquisition of loot, which consists of items and/or resources that can be traded for PED. PK (player killing), space-piracy, and sweating are also integrated in-game careers that are supported by skills. PK and space-piracy allow players to earn PEDs through killing and looting other players in designated player versus player (PvP) zones. Sweaters generate PED through gathering and selling animal sweat; a base resource that is used in production of the "mind-essence" required for acts such as teleportation. There are also colourists, beauticians, body-sculptors, and hairdressers in-game and all these careers depend on the acquisition of skill points. Players can also earn PED through activities that are not dependent on integrated game skills, such as trading, and some players act as virtual land-holders, collecting rent or taxes from hunters, miners, or crafters that use their land areas. Others earn money through employment in the game's service sector, by working as medics, taxi pilots, event promoters, or spaceship crew members. The

majority of players specialise in one or two different areas. However, no one career path precludes another and there are no predetermined pathways for game progression.

"[G]ame-play is not a feature designed into the game alone" (Jørgensen, 2008, n.p.).

Instead, game-play is an emergent process of interaction and negotiation between the player and the game system. Within Entropia Universe, one of the defining features of both the game system and game culture is the real cash economy (RCE).

The RCE has meant that, throughout its ten year existence, Entropia has broken multiple world records for the "most expensive virtual items ever sold," and it is not unusual for players to spend hundreds, sometimes even thousands, of dollars on in-game items. Yet, the ability to both pay money into and withdraw funds out of the game differentiates EU from most free-to-play, or "freemium," games. The majority of free-to-play online games allow people to experience a degree of content at no cost, and then players can decide whether to purchase additional content or in-game items. Such games tend to only incorporate unidirectional micro-transactions and players cannot, usually, legitimately exchange game currency for actual world currency.

In other large MMORPGs, such as Everquest II, World of Warcraft, and EveOnline, "reverse transactions" are prohibited. The sale of game currency and goods, for cash, does sometimes occur in relation to these worlds. However, such transactions are generally examples of subversive play, as opposed to being integrated features of the game system (see Castronova, 2001; Dibbell, 2006; Nardi, 2010). Currently, the only other large scale virtual world with a bidirectionally exchangeable currency is Second Life (SL). However, SL is not strictly a game-world, as it follows a social world design model (Bartle, 2008). As a result, SL is not generally conceived of as a "game" by its

residents (Boellstorff, 2008). In contrast, *Entropia* is a game-world; participants define themselves as players and in-world actions are structured around rules, play objectives, and ludic components, such as skill levels, non-player characters (NPCs), mobs (computer generated opponents), competition and combat.

At first glance, EU appears to be a gamers' dream come true; it is a platform where one can earn money through play. In fact, many participants stated that the potential to earn real money was one of the things that prompted them to join EU in the first place.

However, people quickly learn that earning funds in EU is not easy. Progression is often slow, in comparison to other game-worlds, and play requires investment, either in terms of time or money. Average returns on expenditure, in the main game careers of hunting, mining, and crafting, are usually estimated to be around 70-90%. Earning money through trading, sweat gathering, or service provision is often a time consuming and somewhat tedious process. The vast majority of players are not able to raise the requisite funds required to purchase large land-areas, planets, or real-estate. As a result, many people rely on a combination of winnings, trade-profits, and deposits to fund their game-play. The difficulty, time, and effort associated with earning PED, in combination with the ever present risk of accruing losses, guards against processes of goldfarming in EU and the consequent artificial inflation that occurs in many other online games.

However, for many, this difficulty also means that the dream of earning money through play is quickly curtailed by the realisation that earning PED in EU is hard work and game-play does not necessarily result in profits. In turn, this raises questions about why people then continue to play and pay. Yet, even more perplexing is the fact that people often spend PED on things that have no utilitarian value, in terms of game-play objectives or monetary returns.

Non-utilitarian spending indicates that expenditure in EU cannot be consistently reduced to "investment" or even conceived of as simply a means of pursuing game objectives. The purchase of clothing, for example, seldom results in profit and clothes provide no direct game advantages. Yet, an explanation of these non-utilitarian purchases in terms of status and conspicuous consumption, simply raises questions about how the structures of the game society influence the attribution of value to virtual goods in the first place. Throughout the course of my fieldwork, it became increasingly apparent that an understanding of why people paid real money for virtual goods would have to be situated within an exploration of the socio-cultural contexts within which players' lives in this virtual world are embedded. As an anthropology student, I knew that the best way to conduct such an investigation would be via the ethnographic method.

Ethnography

The term "ethnography" denotes both a method and a product (Peacock, 1986; Marshall, 2010). As a product, ethnography focuses on socio-cultural description and analysis, and traditionally takes the form of an ethnographic monograph. As a method, ethnography is characterised by extended periods of fieldwork, cultural immersion, context sensibility, and holistic analysis (Stewart, 1998). The primary method used in ethnographic research is participant observation. This method allows the ethnographer to garner an "insider" perspective, in relation to a particular culture; while also maintaining some degree of analytic objectivity and remaining mindful of the subjective nature of both ethnographic observation and reporting (Peacock, 1986). Cultural immersion facilitates the development of an understanding of the meanings of particular cultural practices in context. This kind of context sensibility enables the ethnographer to

provide a holistic account of how particular cultural practices, or norms, intercede to create coherent, yet also disparate, cultural wholes. As such, ethnography allows for the testing of social theory, through the observation of social life, and also for the elucidation of social theory from observation (Stewart, 1998). The participation, observation, analysis, and reporting inherent in the ethnographic method constitute the framework upon which the ethnographic monograph is built.

The ethnographic monograph is intended to be both analytical and descriptive.

Observations made in the field are reported and used in the analysis and development of theory, in order to provide insight into a particular culture and also the human condition in general. The marriage of analysis and description within ethnographic texts enables researchers to relate theory to real life experience, without sacrificing the holistic description of a particular culture. As an analytic thesis of similarity and difference, the description within an ethnographic monograph becomes the medium through which the life-world of an "other" is rendered comprehensible and through which the self is brought into conscious awareness. The "thick description" characteristic of the ethnographic monograph, is the product of the immersive ethnographic method (Geertz, 1973).

The ethnographic method is particularly well suited to the study virtual worlds:

Since humans are always crafting themselves through culture, they have always been virtual (Clark, 2003). *The virtual is the anthropological*. This makes it possible to study virtual worlds with the same flexible, undetermined ethnographic tools used to study cultures in the actual world. (Boellstroff, 2008, p. 237)

The collective and interactive nature of these worlds enables the formation of long-lasting social groups with specific norms and practices. "Virtual worlds are sites of culture constituted through computer languages, shaped by menus, commands, and windows" (Boellstorff, 2008, p. 231). Life in virtual worlds is collective, social, and cultural and it is therefore possible to apply the ethnographic method to the study of human action and interaction in these worlds. So, throughout almost four years of research in and around Entropia Universe, this is what I did.

Aims and Methods

My initial question, about why people paid real money for virtual goods, quickly evolved into a desire to investigate how the game's real cash economy influenced experiences of being and sociality in EU. I wanted to know:

1. how the experience of being in a game-world was constituted;
2. how social identities and understandings of self and other developed in EU;
3. how the RCE influenced the social and culture structures of the game world;
4. how understandings of virtual currencies and commodities were related to conceptions of money and value in the actual world;
5. and most importantly, how Entropia's real cash economy influenced people's experiences of virtual being.

So, in late 2010, I compiled a research proposal and gained permission from MindArk to undertake just over a year of ethnographic fieldwork and conduct a series of semi-structured interviews in Entropia Universe.

In some ways, participant observation in Entropia was easy, as I already had an avatar before I started the study. I was a mid-level player, I understood the game terminology,

and I was familiar with the game's interface. In the years since my arrival in EU, I had established myself as a hunter with a reasonable level of game skills. I had gear and transport and I had found all the teleporters on Calypso long ago, so I was able to travel across the planet and meet people fairly easily; I was no longer a "total noob." I was able to participate in multiple forms of game-play and I had established contacts within the game-world. My prior experiences in the game situated the study as a form of "insider ethnography" and this positioning resulted in a number of distinct advantages and limitations.

The advantages of insider ethnography include "insight into the linguistic, cognitive, emotional, ... and psychological principles of participants.... legitimacy in the field.... expediency of rapport building.... [and] access to more in group activities" (Chavez, 2008, p. 479). My prior understanding of the game-world meant that players did not have to spend time explaining the meanings of game terms or actions to me; I understood the significance of having "40 stamina" and why bringing "Boorum" to Swamp Camp was funny. I also knew that EU had a steep learning curve and that players generally believed that "you need to be in this game for years to really understand it" (Leah, personal communication, July 19, 2012). My insider positioning enabled me to quickly establish a sense of legitimacy in the field and expedited processes of rapport building with participants. My established repertoire of avatar skills also gave me access to areas and activities that are not immediately accessible to newcomers. However, my insider status also resulted in some limitations.

Insider ethnography can be problematic as established "social roles ... [can] constrain [one's] researcher role and objectives" (Chavez, 2008, p. 479). Insider status can also

result in difficulties "recognizing patterns due to familiarity with [the] community.... [or] bias in selecting participants" (Chavez, 2008, p. 479). My game career as a hunter certainly limited the activities I could take part in and influenced my experiences in the game-world. Although, I attempted to manage this limitation by consulting with players from a range of different game careers. I also consciously avoided affiliation with any particular in-game society, as I knew pre-existing inter-society relations and grievances could limit the information people shared with me or influence people's willingness to participate in the study. The potential constraints arising from familiarity with the fieldsite were also managed by consultation with outside literature and the presentation of observations to colleagues outside of the game-world. I also checked my observations with research participants, in a process of reflexive analysis and confirmation, throughout the duration of the study.

My prior experience of the virtual fieldsite did, in some instances, influence the selection of participants. I explicitly consulted with a number of high profile players. However, selection bias was managed by an open call for interviewees, which resulted in the majority of participants being self-selected, and in most cases I had no prior relationships with them. My interactions in-game were also limited by my own language abilities and to a lesser extent by the time-zone I occupied. Conversations took place in either English or German, although I did interview players from a range of countries. I also attempted to be in-world at a number of different time intervals and I ended up being present in-game five days a week, for three to sixteen hours at a time, throughout the latter portion of 2011 and the whole of 2012.

The study began in 2010 with a review of game studies literature, internet based ethnography, and philosophical studies of technology. This literature review was accompanied by a review of Entropia related media, during which I consulted forum threads, player created YouTube videos, online news articles, reviews, and game blogs. Online sources were subjected to a critical discourse analysis that examined patterns of expression, rhetoric, and dispositions towards EU, as both a place and a product. This work enabled me to construct a history of the game and also informed the formulation of interview questions. Participant observation began in August, 2011 and player interviews commenced in March, 2012.

Scoping for participants began in March, 2012, with an open request for interviewees posted on Planet Calypso Forum (PCF), one of the game's most active forums. The forum thread was also cross-posted to an Entropia related Facebook group. The post received twenty-eight responses, seventeen of which resulted in interviews. Six additional players were contacted directly and sent details of the study. These players were selected based on their length of time in-game and their prominent roles within the Entropian player community; three of them subsequently participated in interviews. Eleven of the interviews were conducted in-game, via Entropia's private messaging tool and saved as chat-logs. Seven interview were conducted using voice chat; these interviews were recorded and then transcribed. One interview was conducted via email and one was conducted via the private messaging tool on PCF. I met up with nine of the interviewees in-game; these participants chose the locations of the interviews themselves and our conversations took place in apartments, shops, hangers, spaceships, and in various outdoor locations across Calypso. Other interviews were contacted only

via private messaging, email, or Skype. However, I did subsequently meet up with many of these other interviewees during fieldwork.

Participants length of time in the game varied from ten to two years, with the majority (n.12) joining the game between 2005 and 2007. I interviewed fifteen male avatars and five female avatars and most interviewees were located in Europe, North America, or Australia. Eighteen interviews were conducted in English, two were conducted in German and then translated. The demographics of the group of interviewees broadly reflects those of the larger EU community, as indicated in a series of player created surveys that were posted on PCF in 2010. These surveys showed that game community consists primarily of players from Europe, North America, and Australasia; 87% of players identified as male, 9% identified as female, and 4% chose not to disclose their actual world gender (n. 266). The majority of players surveyed (74%) joined the game between 2004 and 2007, and most (55%) are aged 26-40 (Planet Calypso Forum, 2010). So, the gender break-down, geographic distribution, and age-range among participants broadly reflected trends within the general player community.

The interviews were semi-structured; each interview consisted of a set of base questions, in addition to open ended questions and questions that were specifically tailored to the individual. Base questions about start dates, game careers, and society affiliations, allowed me to draw comparisons between participants and identify general trends in relation to in-game activities. Open ended questions, such as "tell me about your first weeks/months in game," were designed to prompt narrative responses that would highlight similarities and differences with regard to peoples in-game experiences and dispositions towards the game-world. Tailored questions, such as "tell me about the

day to day running of [X] society?" provided insight into people's individual experiences in the game-world. I also took prompts from the things people said during interviews and asked follow up questions. This process of reflexive questioning allowed me to pursue the topics raised by participants and compare themes across the topics that people raised. I did not specifically ask questions about people's actual world identities, careers, or pursuits; aside from confirming that interviewees were over eighteen years old. Some participants choose to reveal information about their out of game identities and lives, others did not. The in-game focus of my study meant that I was able to respect peoples, often expressed, desire to maintain anonymity in relation to their actual world identities. In-game anonymity was also a concern for some participants, so avatar names have been replaced with pseudonyms throughout the thesis, except in cases where players gave explicit permission for their names to be published.

The semi-structured interview method afforded flexibility, while still allowing comparisons to be drawn across participant responses. The interviews lasted between one to three hours and many resulted in ongoing contact throughout the period of fieldwork. This ongoing contact meant that I was able to corroborate my analysis with participants and interact with people during play, as well as in more formal interview settings. Informed consent was gained prior to the commencement of interviews and a summary of the study, including contact information, was posted alongside the call for interviewees and included on my PCF profile page. Of course, it was not possible to guarantee that all community members would see the posts, so I also made a point of introducing myself as a researcher, during in-world interactions. Formal interviews were complemented by informal discussions in-game and on the game forums.

The fifteen month fieldwork component of the study often involved extended periods of participatory play. I continued to pursue my game career as a hunter and this pursuit provided funds for further play and travel, as well as resulting in many spontaneous interactions and observations. I took part in multiple official, player created, and impromptu events, and in-game observations were documented in a field diary and through screenshots or video. The implicit focus during much of the fieldwork was on assessing the impacts of the real cash economy and the choice of method was informed by Castronova's (2001) observation that "the practical actions of people ... determine the social value of things" (p. 2). I noted how the RCE seemed to shape players in-game actions and their understanding of the game-world. In addition to documenting how the game economy provided a foundation for interpersonal relationships in EU.

Data interpretation was situated within a phenomenological framework, which focused on qualitatively analysing the manner in which accounts of lived experiences revealed players' understandings of the nature of virtual being and their dispositions towards Entropia's economy. The fieldwork and interviews involved reflexive processes of data generation, thematisation, interpretation, and corroboration (Boellstorff, Nardi, Pearce, & T. L. Taylor, 2012). These processes began with the identification of higher order themes, such as hierarchies or trade. These themes were generated in response to observations made during game-play, through the critical analysis of forum posts, and during informal interactions with players. Themes were identified in areas where phenomena and interpretations of the game were echoed by multiple players and enacted, during play, in an apparently culturally significant manner (Boellstorff, et. al., 2012). Interpretations of events were then corroborated with players during formal and

informal interview processes and significant themes were pursued in later interviews and interactions.

The final collection of field-notes, interview transcripts, and chat-logs were then coded and organised into recurrent patterns of opinion, narrative, and practice. These patterns were then compared and contrasted to the cultural patterns identified in previous virtual world ethnographies, such as Edward Castronova's (2001) article "Virtual Worlds," T. L. Taylor's (2006) monograph *Play Between Worlds*, Tom Boellstorff's (2008) *Coming of Age in Second Life*, Celia Pearce's (2009) *Communities of Play*, and Bonnie Nardi's (2010) *My Life as a Night Elf Priest*. The analysis was also informed by broader anthropological literature and phenomenological theories of human-technology relations, and grounded in the observations I made in the virtual field.

My initial "entry into the field" coincided with the annual Longtooth migration, which took place in August, 2011. By this point, I had been playing Entropia more or less continuously for four years. As a result, my entry into the field was more of a subjective shift than an actual entry. I had informed in-game friends about my upcoming study and I knew from prior experience that the migration event would probably attract a large contingent of players. So, I decided use this event to delineate the starting point of my in-world research. The start of my fieldwork was accompanied by a modification in my own disposition towards the game, as I moved from simply being a participant to a participant observer and began documenting my experiences.

Entering the Virtual Field-Site

The Longtooth only appear on Calypso once a year and their appearance coincides with special game missions that involve shooting a certain number of creatures in order to get a reward. So, I was hoping that a few Longtooth hunts would help me raise some funds for the upcoming year of fieldwork.



Figure 2: Twist and a Longtooth

The migration event began in much the same way as it had in previous years. I took the teleporter to Cape Corinth and collected the Longtooth quest from the automated mission broker, before teleporting back to Port Atlantis (PA). There were usually a few people hanging around at PA and I knew I would probably be able to get coordinates indicating the Longtooth's exact location from someone. I typed a message into the local chat:

[Twist] anyone know where the Longtooth are thx

I then noticed Leah and Tyro standing on a balcony overlooking the teleporter on the jetty below. Tyro and Leah were both in-game regularly and I had first met them both during my early days at Swamp Camp. Leah and I chatted often, usually in a mixture of both German and English. He was a hunter, with a female avatar, and our avatars were at a similar level, so we often found ourselves in the same place, hunting the same

mobs. Tyro had a male avatar, he was mainly trader, and would frequently hang around at Port Atlantis. Leah replied to my question first:

[Leah] Camp Echinda East, standing somewhere round there

Tyro posted some coordinates. I clicked the "wave" emote, my avatar let out a "hiyi" sound and waved towards the balcony, while I typed:

[Twist] hi, nice to c u both, thx :)))))))))

I turned around and ran down the jetty towards the teleporter. I clicked on the teleporter and scrolled through the list of cities, next to the map dialogue box, which had opened up on my screen. I found "Cape Echidna East Hanger" clicked on the location and the screen blurred. When the screen cleared I was standing in the teleporter at the camp. I exited the teleporter and ran over to the hanger, a large grey metal shed-like building that housed trade, storage, and repair terminals. There were quite a few other avatars in the hanger, gathered around the various terminals and the non-player characters (NPCs) that served as auctioneers. I repaired my armour, sourced a couple of guns and amplifiers from the in-game auction, bought 1000PED worth ammunition from the trade terminal, and used my teleport chip to jump to the co-ordinates that Tyro had given me.

The Longtooth were spread across a sandy hillside next to the coastline east of the hanger, and mixed in among herds of large Exarosaur. The Longtooth were almost indistinguishable from the Exarosaur at a distance and I had to hover over the creatures with my crosshairs, until a name appeared on the screen, in order to determine which ones to shoot. The Longtooth and the Exarosaur were not particularly aggressive creatures, they would not attack unless you got too close. I could handle about three at a time, but being hit by multiple creatures simultaneously resulted in increased healing,

repair, and ammunition costs. I scanned across the group of creatures, until I saw the name "Longtooth." Then I shouldered my rocket launcher, aimed just above the creature's head to compensate for the simulated gravity and distance, and fired. The projectile flew across the screen and exploded next to the Longtooth. Numbers floated over the creature and the text "you inflicted 172 points of damage" appeared in the dialogue box in the corner of the screen. The animal began running towards me and I took a couple more shots with the rocket launcher as it neared; I was attempting to inflict as much damage as possible before it got close enough to hit back. I then swapped to using my rifle and once the creature was in close enough range I swapped to my cheaper handgun. I stood in front of the creature shooting and taking hits myself; I monitored my health bar, so that I knew when to momentarily stop and heal myself, and I watched the creature's health bar, so that I knew when to stop shooting. The animal's health level dropped as I shot and it eventually fell to the ground. I right-clicked on its corpse and looted the body. The Longtooth contained about 20PED worth of oils, wool, and ammunition. I pressed "escape" to close the loot window and started scanning the horizon for the next creature.

I continued hunting for the next couple of hours. Repeating the same process of "tagging" a mob and then proceeding to shoot and loot the creatures. During the hunt, I watched the actions of others around me; I saw how people stayed out of each other's way and how arguments over mobs escalated and were resolved. Eventually, I ran out of ammunition and decided to travel back to the hanger. It was fairly busy and I had to negotiate my way around multiple avatars in order to reach the trade terminal (TT). I clicked on the terminal and pressed "sell." My avatar's inventory opened, alongside the trade terminal window, and I proceeded to drag and drop the various animal oils, hides,

ammunition stacks, and paints that I had looted into the TT window. The numbers in the total amount box, at the bottom of the TT window, slowly rose as the terminal calculated the base value of the resources I had entered. Items in Entropia are assigned a base trade-terminal (TT) value by MindArk and when items are sold into the TT machine this monetary value is added to the avatar's PED balance. Goods are also assigned a percentage "mark-up" and this measurement of market value fluctuates in accordance with supply and demand. The TT only reimburses the base value of items, but when items are sold to other avatars, via the in-game auction or through private trade, the price is determined by calculating the TT price plus the percentage mark-up.

Once I had dropped all of my loot into the terminal, I checked the value shown at the bottom of the window and did some quick calculations. The total base value of the items I had looted was 1200PED, minus 1000PED for ammunition and around 190PED in armour, weapon, and FAP (fast aid pack) decay costs and I had just about broken even. I scanned through the items in the TT window and transferred those with a reasonable mark-up back into my inventory before clicking sell. I then ran over to the storage terminal and added the remaining items to my collection of stored resources. I checked whether any of the stacks of items were large enough to be placed in the auction, but most of them were still too small to bother selling. I closed the storage window and ran over to the repair terminal, I clicked "armour" and one by one each of my pieces of protective covering appeared in the repair terminal window. "Repair costs 50PED" I clicked "repair" and closed the window.

The Longtooth hunt mirrored countless previous hunts. The trips to the TT, storage, and repair terminals were second nature by now and my avatar's health and skill levels were

high enough that I could travel through most areas on Calypso without having to fear the red dots on the radar too much. I had two teleport chips and I knew my way around both of Calypso's continents, Eudoria and Amethera (see figure 3). So, I no longer had to worry about getting stuck at remote outposts. The main difference between that day and every other day that I had spent on Calypso was the amount of attention that I paid to what was going on around me and the fact that, after I logged off, I wrote it all down. Over the year and three months that followed I participated in countless other hunts, sometimes alone and sometimes with other players. My play style also shifted somewhat as I began to focus on observing and analysing interactions, as opposed to generating profits. I spent more time hanging around, talking to players, participating in events or conducting interviews, and less time chasing creatures and loot. I also began to note how the RCE permeated all aspects of Entropian society, influencing "all the threads of which the social fabric is composed" (Mauss, 1954/1969, p. 1) and it was these observations that informed the ethnographic analysis contained in the following chapters.



Figure 3: Calypso's two continents: Amethera (left) & Eudoria (right).

Thesis Overview

The thesis begins by outlining the analytic and theoretical context within which the study of life in EU is situated. This outline is followed by a phenomenological analysis of virtual being. The focus of the thesis then shifts to an exploration of the social, cultural, and economic dimensions of life on Planet Calypso. The study culminates with an examination of value and virtual currencies and concludes with a summary of the impacts of Entropia's real cash economy on players' experiences of being in a virtual game-world.

Chapter two provides a brief review of the theories and prior studies that guide the analysis in this thesis. The chapter begins with a historical review of cyber-ethnographic studies that outlines some of the major analytic trajectories and developments within the sub-field of internet anthropology. This review is followed by a brief explanation of the ludic and narrative game studies approaches that also informed my analysis of Entropia. The chapter then situates the study within a broader phenomenological framework. Phenomenological theory, in particular technologically focused postphenomenological theory, informs the conceptualisation and analysis of being presented throughout the thesis. The chapter then concludes by outlining the theories of money and value that are utilised in the analysis of economic life in EU. These theories are primarily drawn from the subfield of economic anthropology.

Chapter three provides a phenomenological analysis of the experience of being in EU. The chapter documents how embodied relations with gaming hardware and avatars inform players' conceptions of self and experiences of being in the game-world. Throughout the chapter I demonstrate how the ontological hybridity of game-play

shapes the virtual lifeworld. This chapter also introduces the notion of kinaesthetic telepresence, in order to explain how perceptions, subjectivities, and intention are altered by the experience of being as an avatar. The fragmented sense of selfhood documented in chapter three then forms the basis for the analysis of virtual social identities contained in chapter four.

Chapter four examines social identities and intersubjectivity in the game-world. In particular, the manner in which the experience of fragmented selfhood and interpersonal ambiguity informs representations of self and interpretations of others. The chapter draws on Pearce's (2009) notion of fictive ethnicity in order to explore how EU's game narrative prompts the formation of in-game collective identities. This chapter also examines how actual world identity constructs, such as nationality and gender, are incorporated into the game world. The chapter then documents how players utilise voice chat, as a means of reducing intersubjective ambiguity; before exploring how new ludic identity constructs form in-game and analysing how they are employed in readings of in-game others. Together, these strains of analysis demonstrate how social identities are formed, interpreted, and communicated, in accordance with both actual and virtual social constructs.

Chapter five analyses the socio-cultural structures apparent within the game community and explores how these structures have developed in response to both game mechanics and the operations of the real cash economy. The chapter examines in-world social hierarchies and understandings of etiquette and reputation, in relation to notions of social and cultural capital, as defined by Bourdieu (1986), and avatar capital, as defined

by Castronova (2003a). As a result, the chapter demonstrates how the attribution of monetary value to skills influences the socio-ludic structures of Entropia's game culture.

Chapter six builds on the analysis contained in chapter five by documenting how the RCE influences trust relationships and conventions of reciprocity. This chapter examines how in-world acts of altruism, lending, and gift-giving serve as a basis for the formation of trust relationships and as a means of managing the risks associated with collaborative play in a RCE game. The chapter documents how the RCE promotes self-seeking behaviours, while also providing opportunities for the formation of interpersonal bonds by rendering altruistic and prosocial acts meaningful. This exploration of in-world interpersonal relations is then supplemented by the examination of economic relations contained in chapter seven.

Chapter seven documents how Entropia's real cash economy confounds binary distinctions between work and play. This chapter also explores relations of production and divisions of labour within the game community. The analysis in this chapter is informed by "prosumption theory" and the documentation of in-game trade practices. Overall, this chapter demonstrates how the RCE structures the virtual lifeworld by breaking down economic binaries and creating tensions between self-interest and sociality.

Chapter eight consolidates the exploration of Entropia's RCE with an analysis of the relationships between virtual currencies and notions of monetary value. The chapter explores how economic theory and processes of naturalisation inform the social construction of money. In addition, the chapter examines how game currencies and

crypto-currencies challenge conventional understandings of monetary value. The chapter also looks at the attribution of value to virtual commodities, before summarising the impacts of Entropia's real cash economy on experiences of virtual being. Chapter nine then reiterates and draws together the findings of the previous six analytic chapters. Thus, demonstrating how the experiential, social, and cultural dimensions of being examined throughout the thesis are shaped by the attribution of "real" value to virtual money.

Chapter 2. Ethnography in a Virtual World

Cyber-ethnography is a sub-discipline of cultural anthropology, which focus on the socio-cultural construction and implementation of computing and internet based technologies (Escobar, et al., 1994; Budka & Kremser, 2004). This particular cyber-ethnographic study of Entropia Universe follows the works of T. L. Taylor (2006), Boellstorff (2008), Pearce (2009), and Nardi (2010) in its aim to create a "nonfictional account of a fictional world" (Pearce, 2009, p. 62). The thesis also draws on ethnographic studies of text based virtual worlds (see Rosenburg, 1992; Cherny, 1995; Masterson, 1994; Dibbell, 1998) and broader anthropological explorations of online domains and interactions (see Hine, 2000; Miller & Slater, 2000; Marshall, 2007; Turkle, 1995; Haaken, 1999). This body of literature provides methodological and theoretical guidance, as well as enabling contrasts to be drawn between Entropia Universe and other virtual world platforms.

The thesis also takes analytic guidance from narrative, ludic, psychological, and economic studies of gaming and game culture (see Castronova, 2001; Yee, 2009; Kennedy, 2002; Poblocki, 2002; Coppock, 2012; Van Loon, 2010). The analysis also draws on phenomenological studies of technology (Heidegger, 1927/1953; Ihde, 2009; Brey, 2008) and theory from within the sub-discipline of economic anthropology (Mauss, 1954/1969; Polyani, 1944/1968; Graeber, 2001; 2011). This diverse body of theory and literature guides the merging of participant observation, with ludological and philosophical analysis, presented throughout the following seven chapters. This chapter provides a brief history of cyber-ethnographic studies. The chapter also outlines the ludological, philosophical, and economic theories that inform the analysis of Entropian culture contained throughout the thesis.

Virtual Worlds and Cyber-Ethnography

Studying virtual worlds 'in their own terms' is not only feasible but crucial to developing methods that keep up with the realities of technological change.

(Boellstorff, 2008, p. 4)

Virtual worlds can be distinguished from other online domains through their use of avatars, virtual landscapes, and synchronous communication (Bell, 2008). These worlds can be either text-based or graphical, but all use avatars (digital representations of self) as their main means of interaction. These worlds consist of digital landscapes that provide users with “a sense of geography and terrain” (Bell, 2008, p. 3) and they tend to utilise synchronous forms of communication, like voice or text chat. Other forms of online communication, such as emails, status updates and comments, or forum posts are asynchronous, as users cannot guarantee, or expect, that others will be online at the same time and respond directly. Another defining feature of virtual worlds is their persistence.

Virtual worlds continue to exist even when one is not there; community life goes on and is not dependent on the presence of any individual user (Bell, 2008). The persistent nature of virtual worlds prompts people to form long and short term social groups (Bell, 2008). This persistence, combined with a sense of obligation towards one's virtual social network, results in people investing large amounts of time and energy in online worlds. Previous studies demonstrate that users spend an average of twenty hours per week within virtual worlds (Yee, cited in Moore, Cabell Hankinson Gathman, & Ducheneaut, 2009). Surveys of EU players (n.246) indicate that 44% of players log in everyday and 36% log in four or five times per week (PCF, 2010a). Persistence and real time

interaction mean that virtual worlds are social and cultural domains and they can therefore be analysed using the ethnographic method.

The first ethnographic account of life in a virtual world was arguably Rosenberg's (1992) documentation of life in the text-based virtual world, WolfMOO (Bartle, 2004; Boellstorff, 2008). Rosenberg conducted "several weeks" (Bartle, 2004, p. 491) of ethnographic field work within WolfMOO, in order to document the emergent game culture on this platform. One of the most striking features of Rosenberg's (1992) ethnographic article is his inclusion of excerpts of "MOO text":

Holly teleports in.

Katz says, "Touche! I've been car hunting... :-("

Cricket says, "Are you a anthropologist, Ethnographer?" [sic]

>emote ers, "Sort of"

Ethnographer ers, "Sort of"

Beetle says, "hey Katz"

Horse says, "bag any cars?"

(Rosenberg, 1992, n.p.)

At first glance these excerpts appear to be somewhat nonsensical. Yet, they actually demonstrate how virtual communities form linguistic conventions, as well as showing the parallel threads of conversation that occur within virtual worlds. In addition, these excerpts showing how emoticons³ are used to convey emotional states and overcome the ambivalence of brief textual communications that lack inflection. The excerpts also show how the phrase "emote" is used in text based worlds, as a substitute for body language

³ Emoticons are adaptations of punctuation symbols used to express affect within digital communications e.g. colons parenthesis are used to construct smiley faces and sad faces.

and as a form of narration (Cherny, 1995). Early socio-linguistic studies of the text based worlds of MUDs⁴ and MOOs, such as the works conducted by Rosenberg (1992), Cherny (1995) and Masterson (1994), demonstrated that it was possible to conduct ethnographic fieldwork purely online and that, just like in the real world, online ethnographers needed to familiarise themselves with the languages of the communities they were studying. Some early cyber-ethnographers also began to explore the notion of cyberspace as place.

The notion of cyberspace as place began as an analytic metaphor, used to explain the manner in which users mapped their way through the labyrinths of so-called “rooms” on MUD/MOO servers (Masterson, 1994). However, this analytic metaphor failed to capture the affective character of these virtual places. Language and literary narratives have long been recognised for their ability to construct and evoke a “sense of place” (Tuan, 1991, p. 685). Within text-based virtual worlds, the creative and metaphorical power of language was simply being employed within a new medium. This creation of place through narrative is particularly apparent within Dibbell’s (1998) journalistic account of life in the text-based virtual world LambdaMoo. Dibbell (1998) combines transcripts of the online text describing the Lambda cyberscape with an auto-ethnographic account of life online, which demonstrates the dynamic creation of place and community through narrative. The foundations for contemporary studies of cyberspace as place were laid during these early years of internet ethnography.

However, this vein of study took a slight hiatus during the turn of the century as socio-

⁴ MUDs (Multi-User Dungeons/Domains) are text-based online multiplayer virtual worlds, where players act and interact via typed commands. These virtual worlds consist of textual descriptions of players and places rather than graphical 3d environments. MOOs (Multi-user Object Orientated worlds) are object based online text-based worlds where players are able to initiate changes on the game server which affect how the server (and thus the virtual world) behaves for all players.

linguistic studies of text-based worlds gave way to an examination of the human-computer interface.

User-centric studies of internet technologies gained prominence during the mid to late 1990s and early 21st century. This movement reflected a normalisation of internet and computing technologies (ICTs) and an analytic interest in the manner in which these technologies were shaping societies and people's conceptions of self (Turkle, 1995; Wellman, 2004). Internet researchers, such as Turkle (1995), Hakken (1999), and Miller and Slater (2000), began to look into the actual world impacts of ICTs and cultural responses to these technologies. These researchers conceptualised the internet as a cultural artefact and examined the relationships people formed with and through this artefact. Consequently, they tended to focus on actual-world engagement with users, as opposed to online engagement, and this shift prompted ongoing debates about the role of the face-to-face encounter within ICT focused ethnography.

The face-to-face encounter, with members of the culture one is study, has been a primary component of ethnographic research since the time of Malinowski. Real-time participation and observation are often deemed fundamental to the creation of a legitimate account of a particular cultural group (Hakken, 1999). The linguistic and internet based focus of early cyber-ethnographers meant that interactions with participants often took place online. However, the user-centred focus, common during the second stage of cyber-ethnographic research, caused internet ethnographers to reiterate the significance of the face-to-face encounter. The legitimising role allocated to real-life engagement meant that researchers such as Hine (2000), who chose to engage with participants solely via the internet, had to justify the online-only method. While,

critics argued that online only studies ignored the actual world social and political contexts within which engagements with internet technologies occur (Teli, Pisanu, & Hakken, 2007).

In defence of the online-only method, Hine (2000) argued that such an approach is justified when interactions between members of the community one is studying take place primarily online. Hine (2000) states that ethnographers should attempt to create symmetrical power relations with users, by avoiding offline contact when this is not a norm of the community one is studying. She essentially argues that digital cultures, like actual world cultures, should be studied in context and that ethnographers should attempt to engage with online communities on the same terms as their members (Hine, 2000). This vein of thought came to characterise the third major trajectory of cyber-ethnographic research.

The third phase of cyber-ethnographic research began at the turn of the millennium and coincided with the rise of graphical virtual worlds, massively multiplayer online role-playing games (MMORPGs), and social networking sites. This third stage saw something of a variance in method. Social networking sites, such as Facebook and Twitter, lend themselves to an online/offline examination of the actual world influences of online interactions (see Rybas & Gajjala, 2007; Driscoll & Gregg, 2010; Evans, 2010). Whereas, graphical virtual worlds lend themselves to online studies of cyberspace as place (see Boellstorff, 2008; Pearce, 2009).

Graphical virtual worlds tend to support much larger user bases than text-based virtual worlds, with player numbers running into the millions, rather than thousands (Kelly,

2004). The users' experience of space within these worlds is primarily visual, rather than textual. The worlds are usually centred either on game-play, as in the MMORPGs World of Warcraft, Everquest II, and Entropia Universe, or on social interaction, like in Second Life. The use of humanoid avatars within graphical worlds also added a new dimension of complexity to users' experiences of self and place. Within graphical worlds participants craft their representations of self visually and actions take on an embodied fluidity not possible within text-based worlds. In relation to the study of online domains, the visual and embodied nature of interactions within these worlds prompted a re-emergence of online only ethnography and the study cyberspaces as places.

The resurgence of online only ethnography, which accompanied the expansion of graphical virtual worlds, required cyber-ethnographers to once again engage with the assumed necessity of the face-to-face encounter within ethnographic research. In *Coming of Age in Second Life*, Boellstorff (2008) expands on Hine's (2000) arguments for the study of online cultures in context and formulates a further defence of online only ethnography. Boellstorff (2008) points out that online communities *are* socio-cultural and economic contexts and argues that cyber-ethnographers should seek to understand how these contexts develop and influence participants lives online.

Understanding online cultures in context requires researchers to relinquish a priori concerns about the "reality" of online worlds and attempt to engage with these worlds along the same lines as their inhabitants (T. L. Taylor, 1999). Engaging with graphical virtual worlds on their own terms means interacting with these world, and others within them, via an avatar.

The avatar is integral to the phenomenological experiences of virtual being and immersion in three-dimensional graphical worlds. Participant observation in a virtual world is near impossible if a researcher does engage with the world as an avatar, because "you cannot observe a virtual world without being inside it" (Pearce, 2009, p. 196). Watching a game over someone's shoulder is akin to watching a recording of an event; one can watch, analyse, and even talk to participants while they play. However, observing play does not prompt the same kind of immersive experience or emotive responses as game-play does. Participant observation, in an online game world, therefore requires an embodied presence in the form of an avatar and engagement in participatory play.

Play as Method

Virtual game worlds are "performative spaces" (Pearce, 2009, p. 59). "[O]ne cannot enter into an online game or virtual world without joining in the performance" (Pearce, 2009, p. 59). A thorough "understanding of the properties of the game world goes hand in hand with a more developed experience of the game as a player" (Jakobsson, 2006, p. 223). So, participant observation in a game-world involves engaging in game-play. Participatory play also provides the researcher with insight into the inter-relations among hardware, software, and the cultural, experiential, and social aspects of a game world:

no computer game can be experienced in full unless someone or something is interacting with its material support systems and the immaterial rule-systems delineated by the algorithmic procedures and processes that are afforded by these material structures, the embodied game-play activities of players in play

are necessarily an integral part of what the game itself is. (Coppock, 2012, p 265)

Participatory engagement in MMORPGs is predicated on play and play often involves the adoption of a game role.

In some virtual worlds, game narratives may make it impossible for a researcher to "play" as an anthropologist (Nardi, 2010). In other worlds, adopting the role of anthropologist within the game-community is simpler (Boellstorff, 2008; Nardi, 2010). Celia Pearce (2009) and Tom Boellstorff (2008) were both able to adopt the role of ethnographer within the worlds they studied, due to the character of these virtual worlds. Boellstorff (2008) could participate as an anthropologist within Second Life (SL) because this virtual community does not follow a game narrative. SL is a three-dimensional graphical virtual world and social platform, so residents are free to construct their roles within the SL community in more or less any way they choose, as opposed to being constrained by the tenants of narrative centric role-playing. Pearce (2009) studied the "Uru diaspora" a community of virtual world residents that establishment communities in Second Life and There.com after the closure of the game Uru: Ages Beyond Myst (Pearce, 2006; 2009). The location of the Uru diaspora in virtual limbo, and the resulting subjectivities of community members, enabled Pearce to engage with the group as an ethnographer, rather than having to consistently adopt an explicit game role (Pearce, 2009). In contrast, MMORPGs, like EverQuest II (EQ II) and World of Warcraft (WoW), tend to be strongly centred around narrative based role-play. In these worlds, avatar characteristics and roles are structured around game narratives and interactions tend to be arranged around processes of play. The centrality of play and narrative within these virtual worlds often means that ethnographers have to

adopt the role of a player (see Castronova, 2001; T. L. Taylor, 2009; Nardi, 2010). “It may be more natural to set up shop as an anthropologist in non-game worlds; in game worlds, the over-whelming need to play dominates interaction much of the time” (Nardi, 2010, p. 35). Entropia is a game-centric world, residents understand themselves as players, the environment is structured around a particular narrative, and acts of play dominate interactions. As a result, I maintained my established game-role as a hunter throughout this study and partook in many instances of participatory play. The centrality of play and narrative in EU also prompted the inclusion of ludological and narratological game theories in my analysis.

Ludology and Narratology

The primacy of either ludological or narrative analysis, and whether the two should be considered distinct approaches, is the subject of frequent debate within the field of game studies (Aarseth, 2001; Frasca, 2003; Juul, 2005; Schweighauser, 2009). In ultra-precise terms, ludologists argue that computer games are active processes and therefore, qualitatively different from other narrative media, such as film or literature. In contrast, narrativists argue that computer games are forms of narrative and should be analysed as such (Frasca, 2003). In reality, ludic and narrative strains of analysis complement each other. Therefore, MMORPG ethnography needs to attend to both, in order understand the influences of stories and ludic structures on the social worlds and cultures of online games.

Ludological studies of computer games draw attention to the manner in which interface design and game structures influence sociality and practice in game-worlds (Konzack,

2002; Aarseth, 2003; T. L. Taylor, 2004; Jakobsson & Pargman, 2005; Consalvo & Dutton, 2006; Järvinen, 2007). Game researchers must:

pay attention not only to the structure enforced on the activity of play by the game artefact, but also to the ways in which the material game artefact regulates the constitution of both *that which is experienced* and *the ways of experiencing*. (Leino, 2012, p. 73)

A game's structure, rules, and interface design have a formative influence on the social relations and cultures that emerge in game-based virtual worlds (T. L. Taylor, 2004). Game design also influences the actions of players within these worlds. However, the analysis of a world's interface is just as significant in studies of non-game centred virtual worlds.

All virtual worlds are "sites of culture constituted through computer languages, shaped by menus, commands, and windows" (Boellstorff, 2008, p. 231). A virtual world's interface plays a decisive role with regard to the culture that develops within it, and this is true for game-worlds and non-game-worlds alike. "The platform can literally encode assumptions about the nature of the virtual world" (Boellstorff, 2008, p. 231). Virtual world cultures are not entirely reducible to the interface, but the platform does provide the basic parameters within which virtual world cultures develop (Reid, 1999, cited in Boellstorff, 2008). Ludological studies of computer games draw attention to the manner in which interfaces reflect game structures, such as rules, objectives, rewards, and penalties (Consalvo & Dutton, 2006; Aarseth, 2003; Konzack, 2002). Context sensibility, within cyber-ethnography, involves developing an awareness of the manner in which game platforms shape the social worlds that develop within MMORPGs; participatory play and attention to ludological studies can help researchers develop this

awareness. Furthermore, conceptual debates within the field of computer game studies also draw attention to a further influential dimension of game worlds, namely game narratives.

Narratives, like game interfaces, have a formative influence on MMORPG sociality and also on the study of virtual worlds. Narratives determine the roles that anthropologists can adopt when entering a virtual fieldsite; they also affect the roles that community members adopt and influence the formation of in-world relationships and identities (Pearce, 2008; Pearce, 2009; Nardi, 2010). Moreover, narratives encode particular cultural and ideological assumptions, and these assumptions shape game-play and a game's environment. The influences of ideological assumptions on game design are demonstrated in Poblocki's (2002) analysis of the neo-imperialist and social evolutionary meta-narratives present in the first three games in Sid Meier's (1991-2001) Civilization series⁵. Similar influences are outlined in Magnet's (2006) analysis of manifestations of colonial discourse in the game Tropicico (Steinmeyer, 2001). These narrative studies draw attention to the manner in which cultural and ideological assumptions, encoded in narrative, influence the construction of game environments.

In MMORPGs, narratives also provide explanatory frameworks that contextualise game worlds and the roles participants can adopt within them. Therefore, a combination of narrative analysis and ethnographic participant observation can reveal the extent to which cultural assumptions and ideologies, implicitly conveyed in game narratives, influence player experiences and interactions. Attention to the cultural and ideological construction of virtual worlds, through narrative, can also help ethnographers bridge the

⁵ These meta-narratives have also been continued within more recent games in the Civilization series, such as Civilization IV-V.

conceptual gap between analyses of cyberspace as place and examinations of virtual worlds as cultural artefacts, without building a false dichotomy between the real and the virtual. Attention to narrative can also help ethnographers understand the social roles and identities adopted by players and the characteristics of virtual landscapes.

Engagement with narratives can also help reveal points of convergence, between the actual and the virtual, in relation to the social construction of cyber-places.

The relevance of either ludological or narrative analyses to virtual world ethnography is dependent on the character of the domain under study. Within MMORPG studies, in worlds where sociality is highly influenced by play and actions are contextualised through narrative, attention to ludology and narratology is integral. Attention to these fields of game studies enables the holistic analysis of how structural characteristics of virtual worlds influence social interactions between players. Within non-game worlds, like Second Life, ludological and narrative analyses are less relevant. However, as Boellstorff (2008) demonstrates, ethnographers of non-game worlds still need to pay attention to the manner in which platforms and world design influence sociality in online spaces.

Structural aspects of virtual worlds, constituted through technologies, influence people's experiences of being within these worlds. Entropia is a game world, with a distinct narrative and discrete ludic features, and throughout the following chapters I explore the relationships between these dimensions of the game-world and the game culture by utilising both ludic and narrative strains of analysis. However, the focus of this thesis is the experience of virtual being and the study of being and structures of experience has traditionally fallen within the philosophical domain of phenomenology. As a result, the

analysis in the following chapters is also informed by established phenomenological theory and, in particular, the technologically focused sub-field of postphenomenology.

A Postphenomenological Approach

The postphenomenological approach to studies of humanity and technoscience posited by philosophers of technology, such as Don Ihde (2009) and Peter Paul Verbeek (2008), consists of "a deliberate adaptation or change in phenomenology that reflects historical changes in the twenty-first century" (Ihde, 2009, p. 5). Postphenomenology explores the interrelations between technoscience, experience, intentionality, and embodiment; in particular, adaptations of experience that occur in relation to technologies. This form of analysis draws on the existential, hermeneutic, and epistemological strengths of the classical phenomenologies of Heidegger (1927/1953), Husserl (1913/1983), and Merleau-Ponty (1945/2005). As a result, postphenomenology "retains some important themes of phenomenological philosophy (intentionality, embodiment, the lifeworld)" (De Preester, 2010, n.p.). However, postphenomenology also moves away from the transcendental positioning of classical phenomenology and the resultant search for "essential formal laws under which experience necessarily operates" (Thompson, 2007, p. 21). Instead, it draws on pragmatism and the empirical turn of science and technology studies. This shift in method enables a "step away from the study of *technology überhaupt* and a step into the study of *technologies in their peculiarities*" (Ihde, 2009, p. 22). "[T]he prefix 'post' ... does not necessarily refer to a shift in subject matter, but rather to the philosophical method and underpinning of postphenomenology" (De Preester, 2010, n.p.). Consequently, this perspective allows for an anthropological approach to the study of being because, like cultural phenomenology, it recognises the relevance of culturally localised and variable ontologies to philosophical formulations.

Cultural phenomenology promotes an acknowledgment of the culturally and historically situated nature of human lifeworlds. This position, like postphenomenology, retains the classical phenomenological focus on "the *primary understanding* [emphasis added] that runs through our various ways of existing in and interpreting the world" (Couzens Hoy, 2006, p. 180). Cultural phenomenology demonstrates how, in relation to understandings of identity:

the culturally shared notion of selfhood imbues the private experience of self-consciousness and cannot thereafter be separated from it. Once enculturated, we do not experience one *I* and reflect upon another. The *I* that we become aware of in our thoughts is shaped by the conception of it that we inherit. (Tafordi, 2008, p. 31)

Unlike classical perspectives, that reflected Kantian transcendentalism in their search for essential laws by which being or cognition can be understood, this relativist position acknowledges that "[c]ulture provides the symbolic tools by which individuals carve out ... awareness of their subjectivity" (Tafordi, 2008, p. 31). Postphenomenology incorporates this position of cultural relativism and its empirical, pragmatic, and technological focus allows for an analysis of how the cultural shaping of subjectivity is influenced by the technologies we use and our interpretations of them. As such, this approach provides the theoretical space required to adequately incorporate an ethnographic account of a sub-culturally and technologically situated ontology, unlike transcendental phenomenology or a Cartesian approach.

Cartesian ontologies are structured are dualisms, such as subject/object, self/other, and human/nature. These dualisms are not culturally universal and are particularly problematic in relation to the study of virtual worlds. In *Being and Time* Heidegger

(1927/1953) employed the notion of *dasein* (being-in-the-world) as a means of transcending the subject-object dichotomy created by Cartesian epistemology. As an ontological starting point, *dasein* avoids the philosophical dilemmas raised by ontologies (and epistemologies) based on a Cartesian subject-object dichotomy. These dilemmas occur because Descartes' (1641/2008) *Meditations* begin with the solipsistic contemplation of sensory information. The resultant mind/body dichotomy, from which the doubt of the *Cogito* is established, subsequently creates the problem of representation.

The problem of representation is particularly pertinent to studies of virtuality because it concerns the relationship between external reality, sensory information, perception, and the question of "what is knowable." The problem is that, in accordance with Cartesian theory, we experience a projection of a supposed external reality via our ocular sense, but we are only ever experiencing the representation and have no way of confirming that it corresponds to something beyond the perceiving subject. The doubtful, and occasionally deceptive, nature of sensory input is consequently established as the basis for Cartesian doubt and Descartes' (1641/2008) strict distinction between mental and physical substance. "This ocular starting-point facilitates the descent into the epistemological void because the concentration of the ocular immediately suggests that the central problem of human knowledge is one of representation" (King, 1998, p. 54). We perceive a representation, but have no external means of verifying that our perception corresponds to an objective reality. So, the Cartesian position simultaneously asserts the existence of some form of objective external reality and denies us the ability to ever directly experience it; while also undermining the potential analytic relevance of experience to understandings of knowledge or reality. Consequently, the *Cogito* fails to

explain externally directed cognitive phenomena, such as intentionality, because it cannot account for links between physical and mental substance. In addition, a Cartesian stance cannot explain the pre-contemplative or embodied relations people have with the external world; the kind of relations Heidegger (1927/1953) elucidated in his famous account of the craftsman and his hammer (King, 1998). In relation to cyberspace, mindfulness of the cultural influences of Cartesian dichotomies on western thought may help prevent the uncritical acceptance of dualistic conceptions of real/virtual and subject/object. In addition, such mindfulness draws attention to the epistemological problems associated with the theories of simulation that have been applied to virtual worlds, such as Baudrillard's (1994) notion of hyper-reality.

The notion of hyper-reality is frequently employed in definitions of cyberspace. For example, Javier Salazar (2005) describes cyberspace as “consensually simulated and hyper-real realm for the encounter of the 'online being' with the 'online other’” (p12). This first section of this description reflects Gibson’s (1984) original literary definition of cyberspace as "a consensual hallucination” (p. 128), as well as employing Baudrillard’s (1994) notion of hyper-reality, as “a real without origin” (p. 166). In contrast, the second half of the definition, "the encounter of the 'online being' with the 'online other,'" draws on Husserl's (1913/1983) notion of intersubjectivity and raises phenomenological questions about the nature of online being, self, and other. Baudrillard's (1994) notion of hyper-reality constructs an image of cyberspace as an unreal counter-realm that is understood in contrast to some form of "authentic" reality, which is lost in a world of ubiquitous simulation. Hyper-reality denotes a point of slippage, where reality and the imaginary converge resulting in the experience of something as if it was reality, but it is not (Baudrillard, 1994). At first glance, this

concept appears to capture the fictitious technological constructed nature of virtual worlds. However, the concept itself is philosophically inconsistent and cannot account for the manner in which the experiential realities of cyberspace are grounded in the interplay of physical and perceptual experience.

The philosophical inconsistencies of hyper-reality are a consequence of the Cartesian ontology upon which the concept is based. The notion of hyper-reality begs the question of reality, because it centres on a notion of "authentic reality" that is, in itself, in need of definition. Hyper-reality, is described as the "generation by models of a real without origin or reality" (Baudrillard, 1994, p. 1). This description denotes a state where "our knowledge of the world floats free from any verifying reference" (King, 1998, p. 48). In his critique of the television Baudrillard (1990) assumes that "the screen amounts to the end of all interpretation ... [as there is supposedly] no mediation by the receiver" (King, 1998, p. 49). Consequently, Baudrillard (1990; 1994) criticises modern media as consisting of representations that claim to capture reality, because by "claiming to capture the real, the television effectively obliterates the real" (King, 1998, p. 50). Like the Cogito, Baudrillard's (1994) notion of hyper-reality highlights representation as the central problem of human knowledge, except that:

Descartes sees the mists of nihilism descending the moment one considers how we might verify the representations we see, [whereas] Baudrillard historicizes this moment of doubt to the mid-1970s, arguing that the classic epistemological problem of representation and scepticism emerges for society as the television attains a position of cultural dominance. (King, 1998, p. 54)

The assumption that humans can experience a reality without referent is an inherently Cartesian position. It invokes the doubt of the Cogito, in relation to experience and

representation, and creates an un-traversable dichotomy between subjective perception and the external world. This position both reifies the notion of authenticity and fails to account for the "immediacy and reality of imagination, and the human need for alternative modes of being" (Pearce, 2009, p. 63).

In relation to cyberspace, the notion of hyper-reality cannot account for the blurring of boundaries between subject/object, self/other, and reality/fiction that virtual worlds create. Nor can this position account for the fact that "how people make sense of and experience who they are online is not inherently separate from who they are and what they do offline" (T. L. Taylor, 2006, p. 18). The cyberspace experience is an experience of socio-technical convergence. In Latourian (2005) terms, and in relation to the analysis of human-technology relations, the notion of hyper-reality simply "black-boxes" the technologies that mediate and inform experiences of being online, rather than exploring the experiential dimensions of usage. As such, the conceptualisation of cyberspace, in terms of Baudrillard's (1994) hyper-reality, cannot inform an exploration of human-technology relations that acknowledges the role of pre-contemplative experience as a basis for human understanding. In contrast, a phenomenological approach, enables us to acknowledge that pre-contemplative understanding is "not simply one form of cognition among others, but our most basic ability to cope skilfully within our world" (Couzens Hoy, 2006, p. 180).

The embodied human-technology relations examined in classical phenomenological texts, such as Merleau-Ponty's (1945/2005) *Phenomenology and Perception* and Heidegger's (1927/1953) *Being and Time*, provide a counter-position to the subject-object dichotomy of Cartesian epistemologies and hyper-reality. As a result, these texts

can act as a basis for the exploration how virtual world technologies influence human experience and are particularly relevant to the study of virtual lifeworlds. The relevance of these texts is due to the primacy placed on direct experience within classical phenomenology. However, in MMORPGs direct experience is mediated by game technologies and the avatar. The digital body is a vehicle for the conveyance of the experience of being in the virtual world, and the player-avatar relation is simultaneously situated within both virtual and physical space. The paradoxical state of simultaneously "being in relation to" and "being within" results in the experience of self as both subject and object. As such, a Cartesian position that advocates a separation of subject and object cannot account for the nature of experience as an avatar. However, a classical phenomenological position cannot straightforwardly account for this subject/object state of being either.

The explanatory force of classical Heideggerian analyses of human-technology relations is limited with regard to studies of contemporary technoscience. This limitation occurs because, as Ihde (2010) states: "[i]n *Being and Time*, it is hard to conceive of a positive relation *to* a piece of equipment, a technology, other than as that *through which* Dasein experiences its environment either in embodiment or with transparent referentiality" (p. 79). Virtual world technologies confound such evaluations, as experience is directed not towards a physical lifeworld, but towards a physical-digital amalgam. During play the technologies mediating the experience of presence in the game-world partially withdraw from a players' awareness. So, the player-avatar relation can be considered a form of embodied relation in the traditional sense. This relation reveals something about being, but it is a hybrid form of being fragmented through digital and physical space. As such, experiential descriptions of virtual selfhood reflect the "tangible demonstration within

cognitive science that the self or cognizing subject is fundamentally fragmented, divided, or nonunified" (Varela, Thompson, & Rosch, 1993, p. XVII). The human-avatar relation is not a wholly embodied relation, through which a subject experiences the world, nor does it reflect classical accounts of transparent referentially. Experiences of the avatar body are variable and characterised by fragmentation and flux. Consequently, the analysis of experience in virtual worlds needs to move beyond phenomenology's universalising accounts of being and towards a more nuanced postphenomenological exploration of the particularities of life in different domains of cyberspace. The analysis of virtual lifeworlds should retain the phenomenological focus on experience, as exemplified in Husserl's (1936/1970) notion of "the natural attitude"; a stance of non-reflective immersion and phenomenological reduction by which the world is experienced. However, accounts of being in virtual worlds should also incorporate a technologically orientated postphenomenological focus.

Postphenomenological analysis is characterised by "an appreciation of the multidimensionality of technologies as material cultures within a lifeworld" (Ihde, 2009, p. 22). The analysis of socio-culturally embedded human-technology relations therefore requires an examination of what Ihde (2009) has termed the "multistability" of technological praxis. This entails looking at the "variations, embodiment, ... and lifeworld dimensions" (Ihde 2009, p. 16) of the human-technology relation under study, as demonstrated in Ihde's (2009) study of variable practices of archery throughout history. Such an analysis should consider "the materiality of the technologies, the bodily techniques of use, ... the cultural context of practice ... and the appearance of differentially structured lifeworlds relative to ... cultures and environments" (Ihde, 2009, pp. 18 -19). Therefore, the following account of "being" in Entropia Universe draws on

Ihde's (1990; 2009) formulation of postphenomenology and explorations of existential human-technology relations. Consequently, the thesis contributes to the phenomenological examination of technology and the formulation of "explanation[s] of how technologies contribute to human experience of the world" (Leino, 2012, p. 71).

Throughout the thesis, phenomenology and technologically orientated postphenomenology are not employed not as explanatory "proofs", but rather as methods that facilitate the provision of an account of being in the game-world as it is "disclosed in ... average everyday practices" (Aho, 2009, p.11). The intent is not to provide a definitive account of being in virtual worlds, but instead, to offer an ethnographic snapshot of the manner in which particular technologies and game mechanics influence the lifeworlds of EU's players. As a result, players' accounts of their in-world experiences are examined in accordance with what they reveal about practices of play, engagements with the game technologies, social relations, in-world experiences, and culturally situated understandings of value and money. Chapter three, begins this project by exploring the material dimensions of the game technologies and the embodied relations that players develop with the game's hardware and software. These embodied relations are then revealed to be the basis for an experience of being in the game-world, which is characterised by a transcendence of the subject-object dichotomy. The chapter then goes on to explore variable techniques of use in relation to the game's perspective controls and the interplay of actual and in-game objectives in relation to in-game practices. The postphenomenological vein of analysis is continued in chapter four through an exploration of how in-world identities and relations are shaped by the particularities of the game technologies, specifically the game's narrative, pre-programmed gender dichotomy, skill system, and text/voice chat options.

In conjunction, these first two analytic chapters further the postphenomenological project of expounding how technologies can influence human experience by demonstrating how subjectivity and intersubjectivity are co-shaped by game mechanics. The thesis then goes on to explore the culturally situated nature of in-game lifeworlds by demonstrating how western conceptions of money and value influence player's interpersonal relations, actions, and understandings of the game currency. This postphenomenological focus complements the ethnographic, ludic, and narrative strains of analysis described above and, because Entropia is an RCE game-world, these strains of analysis are also supplemented by an exploration of the game economy that draws on economic anthropology.

Economic Anthropology

Entropia's real cash economy (RCE) distinguishes the game from most other MMORPGs and the purpose of this thesis is to explore the impacts of the RCE on experiences of virtual being. As a result, the study draws on both traditional and anthropological economic theory in order to explore the structures and impacts of the Entropian economy and the attribution of monetary value to virtual things. In traditional economic theory, value is generally seen as being derived from exchange and money is conceptualised as a "medium of exchange, unit of account and store of value" (Graeber, 2011, p. 22). In contrast, anthropological and sociological studies of money have drawn attention to the ways in which money is simultaneously a social relation, a symbolic system, and a material reality (Maurer, 2006). Anthropological studies of economic practice have also contested economists' emphasis on rational self-interest and individual utility maximisation, as the prime motivators for human economic practice (Graeber, 2001; Graeber, 2011).

Anthropologists, since Malinowski, have repeatedly noted that humans often expend effort doing things that are "in strictly 'economic' terms entirely useless" (Graeber, 2001, p. 6). Malinowski's (1922/32) study of the Kula and the exchange of yams in Melanesia demonstrated how practices of exchange were bound up in cultural relations of kinship and custom. His analysis was then expanded on by Mauss (1954/1969) who demonstrated how gift exchanges enabled the creation and maintenance of social ties through processes of reciprocal obligation. These observations render the economic traditionalists' notion of homo economicus, "prompted in all his actions by a rationalistic conception of self-interest, and achieving his aims directly and with the minimum of effort.... preposterous" (Malinowski, 1922/1932, p. 60). The anthropological rejection of homo economicus, as a deductive starting point or descriptor of an a priori state, originally centred around the exploration of non-capitalist societies. However, the construct of "economic man", as developed in the writings of Mill (1836/1967), A. Smith (1776/2005), and Ricardo (1817/2001), is also too far removed from the actualities of economic life in capitalist societies to serve as a deductive starting point for the analysis of economic practice. The notion of homo economicus is also limited by its ideological undertones. The liberal understandings of human nature, as self seeking and individualist, that flow through traditional economic theories limits their ability to account for actions that do not revolve around self-seeking utility maximisation. Furthermore, attempts to apply this so-called "maximisation principle" often result in the conflation of economic value and social values.

The maximisation principle reifies social relations and confounds notions of economic value with social values in order to explain why objects are allocated worth. As Graeber

(2001) points out, economic arguments regarding maximisation almost always adhere to the following form:

Q: If people only act to maximize their gains in some way or another, then how do you explain people who give things away for nothing?

A: They are trying to maximize their social standing, or the honor, or prestige that accrues to them by doing so.

Q: Then what about people who give anonymous gifts?

A: Well, they're trying to maximize the sense of self-worth, or the good feeling they get from doing it.

(p. 8)

Graeber's (2001) arguments demonstrate that the application of the maximisation principle ultimately results in the conditional statement: "humans will always seek to maximise something." This statement is firstly, too vague to serve as a deductive starting point for the analysis of economic practice and secondly, its application results in the reification of cultural constructs, such as prestige and self-worth (Graeber, 2001). The application of the maximisation principle consequently re-introduces *values*, in a psycho-social sense, into notions of monetary value, by incorporating socio-cultural constructs, such as prestige, into analyses of economic value (Graeber, 2001). The implications of Graeber's (2001) critique of the maximisation principle are twofold; his arguments simultaneously draw attention to the socio-culturally embedded nature of value and the homogenising influences of money. These two implications are differentially addressed in substantivist and formalist approaches to economic anthropology.

Substantivist approaches to economies, such as the approach advocated by Polanyi (1944/1968), explore the manner in which "man's economy ... is submerged in his social relationships" (p. 46). In opposition to the atomistic approach of conventional economics, substantivists argue that economic behaviours cannot be analysed in isolation from the socio-cultural systems within which they occur. As a result, substantivists reject understandings of value based solely on economic notions of scarcity, competition, and individual gains, in favour of an analysis of how human groups make a living within their environment. Material goods are consequently said to be valued only insofar as they serve to safeguard social standing and ensure group survival (Polanyi, 1944/1968). In accordance with the substantivist position economic activities are embedded within, and indistinguishable from, other aspects of social life, such as politics, kinship, or religion (Polanyi, 1944/1968; Graeber, 2001). As a result, it is argued that economic analyses should focus on examining "the actual process through which the society provides itself with food, shelter, and other material goods" (Graeber, 2001, p. 11). Through the provision of such an analysis, Polanyi (1944/1968) concludes that non-monetary societies tend to be structured around culturally variable practices of reciprocity and redistribution and that, as a result, traditional economic theory is only applicable to the study of market economies. However, this conclusion is contested, as formalist theorists argue that it is based on a misunderstanding of economic practice.

Formalists, such as Simmel (1978/2004), tend to maintain a traditionalist conception of value as something that is derived from processes of exchange. Formalists claim that Polanyi's (1944/1968) conclusions, regarding the inapplicability of conventional economic theory in non-western contexts, is based on the misconception that economic activity is dependent on the presence of a market economy. Instead, formalists argue

that "[e]conomics ... [is] concerned with a certain type of human behavior called 'economizing'" (Graeber, 2001, p. 11). Economising behaviour occurs whenever people "make choices between different uses for scarce resources in an attempt to minimize their outputs and maximize rewards" (Graeber, 2001, p. 11). Simmel (1978/2004) argues that value, derived from exchange, is a consequence of the operation of these individual desires, rather than being rooted in labour, as Marx (1890/1976) argues, or dependent on larger social systems like substantivists claim. The formalist focus on individual motivations subsequently "allows the analyst to skip past the problem of social totalities, [and] structures of meaning" (Graeber, 2001, p. 31). So, by focusing on individual desires, formalists avoid the substantivist problem of having to account for the motivations that prompt societal reproduction in the first place. However, the individualist focus of formalist theory reintroduces the problem of maximisation, as outlined above.

Formalist responses to the problem of maximisation tend to centre around expounding the societal implications of money. Simmel (1978/2004), like Marx (1890/1976) and Weber (1922/1978), points out that one of the primary functions of money is to render everything quantifiable in accordance with a single scale of value. M. Taussig (1980/2010) also highlights universal commoditisation as one of the defining features of capitalist money. These theorists conceptualise money as a homogenising medium that is used to create relations of equivalence between unlike things (Simmel, 1978/2004; Maurer, 2006). Money, according to Simmel (1978/2004) is "the purest reification of means, a concrete instrument which is absolutely identical with its abstract concept.... money embodies and sublimates the practical relation of man to the objects of his will" (Simmel, 1978/2004, p. 211). So, Simmel (1978/2004), like Weber

(1922/1978), conceptualised money as a manifestation of the modern tendency to reduce quality to quantity. Money is seen here "as the negation of quality" (Zelizer, 1989, p. 345). In turn, this reductive process facilitates the reification of social relations necessary for calculations of maximisation to be made.

Depersonalised monetary economies are subsequently contrasted with socially embedded gift and barter economies and the atomistic nature of capitalist economies is seen as an effect of money. "For Simmel (1978), money was of major significance for the development of the cognitive world we now inhabit since it helped to promote rational calculation in social life and encouraged the rationalisation characteristic of modern society" (Bloch & Parry, 1989, p. 4). Simmel (1978/2004) sees money as a catalyst for the transformation of social life. This position is not unlike that of Marx (1890/1976), who links money to the emergence of production for exchange, a phenomenon that necessitates an abstract exchange medium. Similarities between these two theorists occur because, for both, "money is associated with, and promotes, the growth of individualism and the destruction of solidary communities" (Bloch & Parry, 1989, p. 4). These positions represent a reversal of traditional economic theory because atomistic individualism is conceptualised as a consequence of monetary systems, rather than as an a priori state. This understanding of money is able to avoid the critique of traditional individualist maximisation theories, expounded by Malinowski (1922/1932) and Graeber (2001), as it can simultaneously account for maximising and non-maximising exchange practices, provided that the latter occur within non-capitalist societies. However, the drawing of distinctions between capitalist and non-capitalist societies, on the basis atomistic individualism and self-seeking behaviour, is potentially problematic.

Bloch and Parry (1989) argue that assumptions about the depersonalising affects of money are a western folk theory, instantiated in monetary practices and substantiated by the fetishism of money in western scholarship. This fetishism is, in part, derived from "the fact that *our* ideology of the gift has been constructed in antithesis to market exchange" (Bloch & Parry, 1989, p. 9). Distinctions between commodity and gift economies are based on the claim that commodity exchanges are concerned with creating relations of equivalence between things, whereas gift exchanges are primarily about relations between people (Graeber, 2001). Money is construed as abstract and impersonal, yet it is also attributed a life-like power over people, sociality, culture, and even cognition, in a manner that mirrors the fetishism of markets in classical economic theory (Bloch & Parry, 1989, p. 6). Subsequent analyses of the transformation of societies from non-monetary to monetary exchange tend to reproduce the assumption that "[r]egardless of culture, it [money] will always tend to symbolise much the same kinds of things" (Bloch & Parry, 1989, p. 20). This universalist assumption results in a failure to acknowledge that "the meanings with which money is invested are quite as much a product of the cultural matrix into which it is incorporated as of the economic functions it performs" (Bloch & Parry, 1989, p. 21). The radical opposition of monetary and gift economies consequently masks both the social and moral dimensions of the former and the calculating dimensions of later (see Appadurai, 1986; Zelizer, 1989). This false dichotomy also masks the feedback loop "between the worlds modelled and instantiated by finance theory" (Maurer, 2006 p. 26). Moreover, the construction of monetary exchange as depersonalised, asocial, and naturally emergent, disguises the power relations that are fundamental to the functioning of capitalist economies.

State assurances of economic constructs, such as ownership, private property, and monetary value, are essential to the operation of contemporary capitalism. State power facilitates the emergence and enactment of commercial life as we know it, because "formal continuity is essential to the functioning of the market economy" (Polyani, 1944/1968, p. 234). Graeber (2001) elaborates on this relation between nation states and capitalist economies as follows:

the state and its coercive powers had everything to do with the creation of what we now know as "the market"- based as it is on institutions such as private property, national currencies, legal contracts, credit markets. All had to be created and maintained by government policy.... If one really reflects on the assumptions economists make about human behavior, it only makes sense that it should be so.... "Market behavior" would be impossible without police. (p. 10)

Markets, as we know them today, are the product of governmental regulation (Graeber, 2011). Conceptions of money as an emergent phenomenon and notions of market equilibrium disguise this fact, while also enabling the conceptualisation of social relationships, such as property ownership and exchange, in depersonalised market terms (Graeber, 2001).

Market based ideologies draw on individualist notions of human nature and social structures that are deeply rooted in western ideological traditions and "endlessly confirmed by everyday experience" (Graeber, 2001, p. 257). However, "what we call structure is not a set of static forms or principles" (Graeber, 2001, p. 259), but rather the ways in which change or action is patterned. Consumption is a process of "furtive appropriation in which objects that had been part of the outside world are completely incorporated into the consumer's self" (Graeber, 2001, p. 260). Economic value can only

be understood as the result of meaningful distinctions (Sahlins, 1976). So, in order to understand how and why people attribute value to things one must look at the place of a given object within a broader code of meaning and attend to the manner in which established and culturally constructed "structures of relation with others come to be internalised into the very fabric of our being" (Graeber, 2001, p. 260).

Money is an "exemplar of the problem of the relationship between sign and substance, thought and matter, abstract value and its instantiation in physical and mental labors and products" (Maurer, 2006, p. 27). Social and economic systems are "structures of creative action" and value is "how people measure the importance of their actions within such structures" (Graeber, 2001, p. 230). Therefore, an analysis of value must start "from the assumption that what is ultimately being evaluated are not things, but actions" (Graeber, 2001, p. 49). It is this understanding of value, in conjunction with the frames of reference provided by anthropological, postphenomenological, and ludological theory, that will be applied to the analysis of economic practice, being, value, and exchange contained throughout this thesis.

Conclusion

This chapter has provided a brief overview of the theoretical context within which the analysis in this thesis is situated. The study follows the cyber-ethnographic methods of online ethnography and participatory play, as these methods lend themselves to an analysis of being within a game-based virtual world, where interactions between participants occur almost exclusively online. The study also draws on ludology, in order to attend to the influences of Entropia's game structure on the game culture and in-world interactions. Narratology informs an examination of the influences of EU's game

narrative on processes of in-game self-identification and an assessment of the ideological structures that inform the construction of the game-world.

Postphenomenological theory and analytic methods facilitate the exploration of "virtual being" and technologically constructed lifeworlds. The resultant examination of life in Entropia also draws on economic anthropology in order to explain how understandings of monetary value and economic structures shape life and experience within this particular game-world. Together, these diverse theoretical positions facilitate the analysis of being, sociality, and money in an RCE game-world; an analysis that begins with the exploration of virtual being.

Chapter 3. Virtual Being and Bodies

"Being" is used throughout this chapter to refer to the worldly and existential dimensions of subjectivity. As a phenomenological construct, the notion of being is the basis for an ontology founded on reflective consideration of experience and the lifeworld. In a digital world, like Entropia, existence is predicated on the creation of an avatar. The online body therefore facilitates the formation of a sense of *virtual* being within the game-world. This chapter focuses on analysing the relations that participants in Entropia develop with and through their avatars and outlining the manner in which the avatar body facilitates a sense of re-embodied presence within the game-world. This re-embodied presence manifests as an alteration of perception, subjectivity, and intentionality. These alterations resultant in the emergence of a composite sense of virtual selfhood, that is not reducible to either the physical-I or the digital body, but instead comprised of a series of socio-technical relations and exchanges. These relations and exchanges, and their roles in the constitution of virtual being, are the subject of this chapter.

The chapter begins with an account of the exchange of data that inaugurates virtual being via the creation of an avatar body. The avatar body is a foundational aspect of virtual being, because it is the vehicle through which "the self encounters the virtual" (Boellstorff, 2008, p.129). The documentation of this exchange is followed by an exploration of the embodied relations that players develop with computing hardware. These embodied relations enable action within the virtual world and result in a shift in awareness away from physical action and towards the virtual space. Together, the avatar body and embodied relations with hardware form a basis for the relations of play that develop between participants and the game artefact. These relations of play constitute

the second major socio-technical relation documented in this chapter. Through relations of play the avatar facilitates an experience of being in relation to the game-artefact. This experience, of being in relation to the game-world, then coincides with a sense of being within the game-world. Existence in virtual worlds is therefore characterised by the paradoxical state of simultaneously being in relation to and being within.

This chapter goes on to document the paradox of virtual being and previous attempts to resolve it. The documentation concludes that the experience of being within is defined by a relation of *re*-embodiment. Avatarial re-embodiment manifests as alterations of perception, subjectivity, and intentionality. So, the discussion of avatarial re-embodiment begins with an analysis of how perceptual and subjective alterations lead to the experience of kinaesthetic telepresence. This phenomenon is defined as a feeling of bodily motion that facilitates a perceived sense of presence at a physically remote, in this case digital, location.

The phenomenon of kinaesthetic telepresence, described in this chapter, draws on the notion ofvection and player experiences of spatial awareness. Vection is a visually induced sense of movement. This locomotive sense co-occurs with a tacit feeling of spatial awareness, created by the virtual world's simulated physics and perspective controls. Together, these aspects of virtual being demonstrate that the avatar body provides a enough perceptual feedback to create a kinaesthetic sense of existence in the game-world. Kinaesthetic telepresence points to a merging of physical and virtual realities that creates a composite perceptual and subjective experience, which is not reducible to either of its constituent parts. This experience facilitates the development of an altered sense of selfhood, which is labelled the "avatarial-I." The final sections of this

chapter explore the constitution of the avatari-I through an analysis of player narratives that demonstrate how intentionality, identity, and subjectivity are co-shaped by interactions with avatar bodies and aspects of the game-world, particularly the real cash economy. As such, the chapter demonstrates how the experience of being in EU is co-constituted through a series of interactions with the game artefact, digital bodies, the real cash economy, and gaming hardware.

Virtual Bodies and Being

Existence, in EU, is derived from an exchange of data. In its ideal form, this exchange involves participants swapping truthful personal data for software, an avatar, and access the world. It is of course possible to falsifying identifying data, such as names and addresses. Although, in EU, this practice is relatively rare, as it problematises the process of depositing and withdrawing funds. Other virtual worlds incorporate monetary exchanges into their initial data/software transactions, players may have to pay for game software and/or pay subscription fees in order access a world. EU is "free to play" so no money changes hands during this preliminary transaction. However, even in pay to play or subscription games the exchange of data that inaugurates existence in the game-world remains.

In relation to EU, the terms of this inaugurating transaction are formalised in MindArk's (MA) end user license agreement (EULA) and term of use (ToU). These terms and conditions are reiterated every time a player clicks "agree" in order to log-in. At its most basic level this initial data/software transaction takes the form of a standard contractual exchange within a corporate market economy. It is an exchange between a consumer and a corporation, whereby the individual gains access to a product. The EULA and

ToU are contracts, they provide the rules for participation in the game and highlight the rights and obligations of both players and MA. Yet, on experiential level, this transaction also represents a trading of identities and a moment of genesis that enables the ongoing development of a sense of being in the game-world. Out of world signifiers of identity are traded for in-world ones, in the form of a digital body and screen name. This trade, and the fragmentation of identity that it entails, forms a basis for the development of an ongoing sense of existence within the game-world.

The transaction that inaugurates virtual being "triggers a continuous flow of transactions that circulate" (Van Loon, 2010, p. 23). The initial exchange of data is followed by further cycles of exchange between players and MA; the two-way exchange of dollars and PED co-occurs alongside participant investments of time and/or money in play and corporate investment in world development. Experiences in-world are also structured around transactions that occur between players and all of these transactions together are fundamental to both the game's character and continued existence. "The success of [MMORPGs] ... heavily depends on the input of players. In turn, what players are able to do is defined by the game's parameters" (Van Loon, 2010, p. 21). Van Loon (2010) argues that, in relation to Runescape, "[t]his circularity is recognizable as that of the gift" (p. 21). EU re-introduces multi-directional monetary exchange and a competitive capitalist market into this cycle, via the operations of the real cash economy (RCE). However, an existential dimension of being is established prior to the commencement of money-orientated exchanges, as it is the inaugurating *non-monetary* transaction that gives rise to virtual being.

Being is spatially located and in EU, the initial exchange of data, that culminates in the player spawning on a planet, provides access to both the "there" of the virtual world and the vehicle for being, namely the avatar. This exchange of data generates the player's existence within the game-world, and is therefore the starting point of virtual being. The avatar body, acquired through this exchange, subsequently enables engagement within the game-world and the concurrent development of embodied relations with gaming technologies.

Embodied Relations with Gaming Technologies

Embodied relations with technologies are those where "I take the technology *into* my experiencing ... by ... perceiving *through* such technologies" (Ihde, 1990, p.72). This process of "perceiving *through*" results in "the reflexive transformation of ... perceptual and body sense" (Idhe, 1990, p. 72). "Perceiving through" locates the technology in a position of mediation between the person and the world (Idhe, 1990). However, for such relations to occur the technology must be transparent enough to withdraw from our immediate awareness. Ihde (1990) uses the example of eye-glasses to illustrate this point:

Embodying ... must be learned.... If the technology is good this is usually easy. The very first time I put on my glasses, I see the now-corrected world. The adjustments I have to make are not usually focal irritations but fringe ones (such as the adjustment to the backglare and the slight changes in spatial mobility). But once learned the embodiment relation can be described as one in which the technology becomes maximally "transparent".... My glasses become part of the way I ordinarily experience my surroundings; they "withdraw" and are barely noticed ... I have then actively embodied the technics of vision. Technics ...

[meaning] the symbiosis of artefact and users within a human action. (Idhe, 1990, p. 73)

Such embodied relations are not restricted to visual experiences, they can also arise in association with other sensory and microperceptual input, as long as the conditions of perception-through and transparency are met. In order for these conditions to be met the technology must provide enough sensory or perceptual feedback to allow for a "polymorphous sense of bodily extension" (Idhe, 1990, p.74). The relations with technologies that develop during computer gaming can meet these criteria.

Gaming often entails the development of an embodied relation with computing or console technologies. Once a player has mastered the game controls their awareness shifts away from bodily actions, in relation to keystrokes or button pushes, and towards the actions occurring on the screen. The feeling of experiencing the virtual world *through* the technology is a key component of immersion and dependent on functioning hardware, responsive software, and the mastery of game controls. If these conditions are met one can begin to embody the technics of gaming and physical responses to actions on the screen become implicit and almost automated. This near automation enables the extension of agency into the game world, via the seamless translation of button presses into on-screen actions. The development of embodied relations with gaming hardware are therefore a further foundational component of virtual being and, together with the avatar body, these relations with hardware facilitate the subsequent development of relations of play.

Relations of Play

In MMORPGs, play simultaneously manifests as modes of habitation and "practices of (virtual) world-making" (Van loon, 2010, p. 20). The primary game-play objective, for most participants in Entropia, is the maximisation of returns and the minimisation of costs, and people's actions within the world tend to reflect these goals. Loot related gains and the costs associated with game-play, such as weapon decay, are governed by the operation of the game's software. So, players relations to the game artefact often involve considered attempts to "unravel the hidden rules and algorithms that underlie the game" (Jakobsson & Pargman, 2005, p. 3). The game artefact is the game as a whole, as established by the game's software. The game software delimits actions and their consequences, as well as shaping the virtual environment. Everything that occurs when one runs the game-software, during the concurrent operation of the game's servers, constitutes the game artefact. However, as players engage with the game-world, and not the game code itself, the governing rules of the game artefact remain hidden; they are, in effect, blackboxed and manifest only as on-screen images and responses to player actions (Jakobsson & Pargman, 2005).

In EU, players attempt to negate the blackboxing of the game artefact through processes of experimentation and consideration of the game code. Consequently "some players conduct empirical research and make great efforts to figure out how the algorithms that govern the game-world work" (Jakobsson & Pargman, 2005, p. 4). The game's responses to certain actions are noted and players create hypotheses about relations between in-game occurrences and the game algorithms. Theories are then tested, revised, and debated, as players attempt to open the black box in order to "beat the system" and procure profit. This objective contravenes the software designers' desire to

keep the box closed and produce an immersive gaming experience, while also maintaining the economic and technical stability of game:

If we equal playing with gaining an understanding of the game world and of unravelling its hidden algorithms, the play element in Project Entropia is closely linked to forms of subversion. The better the players get at playing the game, the harder MindArk has to make the game in order to keep their income at an “acceptable” level. Whereas blackboxing in some instances actually is of great help to the users because it guides them to the proper use of a technology, a great part of what makes playing a game fun is attempting to open the black box. Consequently MindArk have made themselves susceptible to a lot of abuse since players of all computer games are often willing to spend a lot of time attempting to open the black box. The roles for the players that are prescribed by the technology are rejected much of the time in favor of alternatives that the players have chosen for themselves. (Jakobsson & Pargman, 2005, p. 5)

Opening the black box entails processes of trial and error, improvisational play, and engagement with the digital "materiality" of the game artefact. Play, in EU, consequently fluctuates between an immersive experience of the game-world and considered exploration of the game artefact, and in both instances objectives are heavily influenced by the RCE and actions are mediated by the avatar body.

The digital body acts as a point of convergence, through which players experience and interact with the game artefact. Users' experiences of the game artefact are also mediated by interactions with their own hardware. Yet, it is the game artefact itself that "regulates the constitution of both *that which is experienced* and *the ways of experiencing*" (Leino, 2012, p. 73). The structures of the game artefact shape players

interactions with the virtual environment and, in Entropia, a defining feature of the game artefact and the relations that players develop with it is the integration of a real cash economy. However, virtual worlds are not just technological objects; they are also socio-political, cultural, and socio-economic contexts (Boellstorff, 2008). Therefore, the analysis of virtual worlds must include an acknowledgment that “[w]orlds are not artefacts to which we have relations, but contexts within which ... relations are established” (Brey, 2008, p.101). The avatar body enables the development of relations *to* the game artefact, but it also facilitates experience *within* the game-world.

The Paradox of Virtual-Being

The avatar body mediates the player's experience of the game-world; it is vehicle through which "the self encounters the virtual" (Boellstorff, 2008, p. 129). However, “[a]vatars ... [are] not just abstract anchors of virtual perspective; they [are] the modality through which residents experience virtual selfhood” (Boellstorff, 2008, p. 129). In EU, and all avatar based worlds, the digital body is a technological construct through which the subject encounters the game artefact. However, the avatar body is also experienced as the "I" within the game-world. Virtual being is not simply comprised of the experience *of* a world *via* an avatar, it is also comprised of the experience *in* a world *as* an avatar. So, virtual being manifests as the paradoxical feeling of simultaneously existing and acting outside of the world, while also existing and acting from within (Klevjer, 2012). Therefore, attempts to explain virtual being must attend to the manner in which experience is constituted via this apparent paradox.

Klevjer (2012) attempts to resolve the paradox of virtual being by contrasting notions of fictional, or simulated, embodiment with a conception of the avatar as a form of

prosthesis. The avatar is described as a cognitive prosthesis that extends agency, and the prosthesis hypothesis is used to explain action in relation to the player's "actual embodiment here" (Klevjer, 2012, p. 21). This notion of the avatar, as a prosthetic extension, is then contrasted with "simulated or fictional embodiment ... [which] capture[s] our re-located presence there" (Klevjer, 2012, p. 21). However, Klevjer (2012) acknowledges that despite the simulated nature of virtual worlds, notions of fictional embodiment fail to capture the phenomenological realities of experience *as* an avatar. Fictional embodiment cannot account for the manner in which "a first person perspective suggests a degree of immersion in a world, rather than the experience of the world as an outside object that can be partially controlled from the outside" (Brey, 1999, p. 6).

The experience of virtual being is not a fictional experience, but rather a consequence of the ontological hybridity of game-play (Leino, 2012). Leino (2012) documents this hybridity using the example of a "flashbang grenade" from the game *Far Cry* (CryTek, 2004). In Leino's (2012) example, the exploding grenade results in the screen being "replaced with a semi-transparent snapshot of the moment the grenade exploded" (p. 71). This image slowly becomes more transparent and then fades away (Leino, 2012). Leino (2012) argues that to describe the exploding grenade simply as a change of screen-image misses the significance of the event within game-play and states that "'I became blinded for a while' is a more fitting description" (p. 71). This first-person perspective only appears problematic if we attempt to understand the "I" in isolation from the game-world (Leino, 2012). So, in order to describe in-game experience we should instead look at how perception and "subjectivity [are] being co-shaped by both the human and the material game artefact" (Leino, 2012, p. 72). It is this co-shaping of

experience that comprises the verisimilitude of life *as* an avatar. The player-avatar relation is not just an embodied relation with a technological object, facilitated via hardware and software, but also a relation of *re*-embodiment where an embodied presence in the physical world co-occurs with sense of re-located presence in the virtual world. In relation to perceptual subjectivity this feeling of re-embodiment manifests as the experience of kinaesthetic telepresence.

Kinaesthetic Telepresence

Kinaesthetic telepresence can be defined as a sense of bodily motion that facilitates the experience of presence at a physically remote, in this case digital, location. This experience of perceptual and subjective augmentation manifests as a feeling of locomotion and re-located bodily awareness. I first began to consciously contemplate kinaesthetic telepresence during a conversation with Leah, following a fall from one of the elevated landing platforms at Athena Space Port, see figure 4.



Figure 4: Athena Space Port: A complex of elevated landing platforms and bridges

The platforms at Athena provided a panoramic view of Calypso that was perfect for landscape photography. One day, when I was out taking screenshots at Athena, I took a

few steps too far and fell. My stomach leapt into my mouth as Twist tumbled over the edge of the platform and was sent plummeting hundreds of simulated meters onto the rocks below. I hit the ground with an audible thud and lay contorted on the floor, while the timer appeared over my avatar's dead body and began counting down the seconds until revival. The introduction of "fall damage" in 2010 had prompted some interesting responses from EU's player base, including attempts to calculate Calypso's mass based on data pertaining to fall distance and the likelihood of death. There were also a couple of virtual "mass suicides." However, the experience of falling predated the introduction of actual fall-damage.

Leah logged-on shortly after I reappeared at the revive terminal and it was not long before the knocking sound of a PM came through my speakers. I clicked on the message icon at the bottom of the screen to read Leah's message:

[Leah] hey :)

[Twist] hiya :)

[Leah] What you up to?

[Twist] falling off platforms at Athena, lol ;p

[Leah] ???

[Twist] was taking pics, took a step too far, lol

[Leah] ahhh, lol

I slid my thumb over the top-front button on my mouse and pulled out my medipak to heal myself from the fall, while Leah continued talking. He was talking about falling

and I half attended to his writing whilst checking my map and running back over to the platform I had fallen from a few minutes earlier:

[Leah]: I hate it, lol.

I turned my attention back to the chat.

[Twist]: what?

[Leah]: You know, falling and that feeling when you jump off something & you're falling - like when you're on a rollercoaster

I knew exactly what Leah meant. I had experienced "that feeling" only seconds before and that fall was not the first time. A misplaced click while teleporting would often place one's avatar on the edge of a mountain and send them tumbling to their death. However, physiological responses to an avatar's actions are not limited to experiences of falling.

Exciting or dangerous in-game actions can also prompt physiological reactions. For instance, SBI, who is a long term player and a prominent mothership owner, mentioned "shivering" while approaching the oil rig during his early years of play. "The rig" is an area where players can gather oil to sell, but it is also a player versus player (PvP) zone where others can shoot and kill your avatar:

[SBI] I remember when starting up at the oil rig each day, my body started shivering, because I had to be quick, quick, quick to gather up oil barrels.

In this instance, the bodily response to onscreen actions appears to be the result of the psychological pressures created by urgency and the simulated dangers associated with collecting the oil barrels. SBI's comment, in combination with my own and Leah's experiences of falling, suggest that during immersive game-play the avatar can provide a level of visual, or emotional, feedback that in some cases will prompt physiological

reactions. Psychological pressures can manifest as physiological responses to in-game actions and on screen movements can result in a feeling of bodily motion.

Pre-contemplative physical responses to on-screen movements are not unique to EU. In his analysis of avatars and embodiment, Rune Klevjer (2012) notes that the avatar body can provide a kinaesthetic link between the player and game-world that enables the "experience of locomotion" (p. 19). This perceived sense of bodily motion facilitates an experience of re-located presence, as the avatar body conveys not just experience *of* the world, but a kinaesthetic sense of being *in* the world. This experience of kinaesthetic telepresence is enabled via the phenomenon known as vection.

Vection is "the experience of bodily locomotion caused by visual perception alone" (Klevjer, 2012, p. 31). The perception of moving backwards, created when sitting in a stationary train carriage and watching another train moving through the window, is an example of vection. Within three dimensional virtual environments:

[o]ur locomotive vision ... the way we move not just our eyeballs but our whole body as an organ of visual perception ... [is] reattached to the minimal movement of our hands and fingers. Our spatial self-awareness ... become[s] relocated, so that we are moving and perceiving intentionally only in relation to the screen-space of our ... avatar. (Klevjer, 2012, p. 31)

In virtual worlds, vection facilitates a re-embodied sense of presence, as sensory perception is augmented through the figure of the avatar. The resultant experience of kinaesthetic telepresence is then enhanced by consistent realistic physics and aspects of the interface that simulate actual world perception, such as the ability to move your avatar in one direction while looking in another direction. The mirroring of actual world

perception is then complemented by mechanics that facilitate other-than-visual forms of perception, such as first and third person perspective controls.

The ability to scroll between first and third person views increases the level of perceptual feedback that the avatar body can convey and results in variations in user's experiences of their in-game body. These variations occur between users and for individual users when they switch between views or when they global. "Global" refers to the attainment of an instance of relatively high value loot that is announced over the global chat feature⁶. Globals cause the user's view to automatically switch from first to third person as the avatar body is engulfed by golden coloured spirals or "swirlies." Aside from globals, players choose their view themselves; people's preferences regarding first or third person views varies in accordance with the kinds of activities they are engaged in and choices are often motivated by pragmatic concerns. During both forum debates and in-game conversations, players mentioned that they preferred using a third person view when moving through the landscape because it made it easier to spot collectable objects on the ground, like rocks, fruit, and dung. In contrast, the first person view seemed to be the preferred view for hunting, because people felt it increased their accuracy when shooting mobs. Some players also mentioned that they enjoyed scrolling out into a third person view when shooting a large mob because this provided them with a better sense of the size of their opponent in relation to their avatar. The influence of view on perceptions of scale, in relation to mobs, is illustrated in the images of Rextelium hunting contained in figures five and six.

⁶ Global values used to be set at 50PED, however they have since been staggered and the value of globals is now relative to the level of mobs. For example, a low level mob can now result in a loot value of 20PED being announced over the global chat.



Figure 5: A first-person view of a Rextelium



Figure 6: A third-person view of a Rextelium

The first person perspective resembles actual world optical subjectivity. In contrast, a third person perspective enables the player to experience their body in a context that extends optical subjectivity and allows for “the representation of other-than visual perception” (L. Taylor, 2002, p. 29). In the physical world, perceiving the scale of an entity in relation to one's self is an important component of the experience of embodied presence. This aspect of presence is not sufficiently simulated when using a first person perspective, but it can be created through the expansion of the optical perspective with a third person view. The first/third person variable results in different perceptual experiences and is an example of the multistability of technological praxis (Ihde, 1990).

The extension of optical subjectivity enhances experiences of kinaesthetic telepresence and suggests that avatarial re-embodiment involves the "reflexive transformation of ... perceptual and body sense" (Idhe, 1990, p. 72). This transformation manifests as a sense of spatial awareness that reflects Merleau-Ponty's (1945/2005) conception of the body as a "space of situation" (p. 115).

Bodily awareness, in EU, is similar to bodily awareness in the actual world, as "one's own body is ... always tacitly understood, in the figure-background structure, and every figure stands out against the double horizon of external and bodily space" (Merleau-Ponty, 1945/2005, p. 115). The consistent simulated physics of the virtual body and environment enables both proprioception and a tacit understanding of the virtual body as spatially situated. Users' experience a sense of their virtual body parts in relation to each other and the world around them. This virtual body image is of course somewhat limited in comparison to the physical body image, and dependent on the extension of visual perception via perspective controls. Nonetheless, a sense of spatial awareness remains and this sense is exemplified in the ways people talk about their virtual bodies in relation to the game-world. The locations of objects, mobs, and other avatars are often conveyed in spatial terms and described as being "behind," "above," "left" or "right," or "next to". So subjectivity, like perception, is altered via the layering of actual and virtual-world perspectives. Actual world understandings of the body as spatially situated are incorporated into the virtual world and reconfigured in relation to the "I" perspective of the avatar. The real and the virtual consequently meld into the composite figure of an "avatarial-I" that is not reducible to either the subjective-I or the digital body. This avatarial-I does not displace subjective experience in the physical world, but

exists in a relation of extension and co-constitution that is characterised by the concurrent alteration of identity and intention.

The Avatarial-I

The avatarial-I represents a synthesis of self and digital object that gives rise to a composite experience. As the discussion above demonstrates, the relation between the player and the avatar is one of mutual influence and the avatarial-I emerges at the indices of this interaction. The digital body provides perceptual feedback and it is a vehicle for the extension of agency and intent into the game-world. However, the avatar is also the primary means by which "modalities of intentionality are subordinated to the structure of the game enforced by the game artefact" (Leino, 2012, p. 72). The experience of the "lived body" in a virtual world is therefore one of co-constitution, where the subjective "I" and the digital object combine; thus, giving rise to altered forms of intentionality.

Players actions are constrained by the avatar's pre-programmed repertoire of abilities; one can only jump as high, or run as fast, as one's avatar will allow. The range of possible choices and actions open to players are limited by the game artefact and, as a result, intentions are pre-emptively altered in response to known limitations. So, intentionality is mediated and altered by the avatar's capacity to act. This processes of co-constitution contributes to an altered sense of selfhood that begins with the construction of the digital body.

As a specifically crafted signifier of identity, the avatar's appearance reflects the image players wish to project (T. L. Taylor, 2002). People tend to be aware of the processes of

identity formation associated with the digital body and this awareness became particularly apparent during interviews. For example, SBI talked about crafting an ugly avatar as a means of differentiating himself from younger, more image conscious,

Entropians:

[SBI] I wanted to make a really ugly avatar, perhaps in the hope to stand out somewhat. I figured a load of teens would have uber nice avatars :) so I made a pretty darn ugly one and it worked well :) got a lot of nice feedback from it.

In addition, Baron talked about becoming emotionally invested in his avatars image and the continuity of identity that maintaining a consistent appearance provided for him:

[Baron] After 5.5 years I'm very attached to this avatar. I haven't changed his appearance even though we've been offered that you can change your avatar appearance a couple of times now. He still looks the same, so I've become very attached to him. He is almost representative of me via his actions in game.

Both of these players referred to their avatars as separate entities. However, Baron's use of the subject pronoun "he" indicates a level of personification that SBI's initial reference to his avatar as "it" does not. Baron's reference to his avatar's actions as "almost representative of me" also points to a conceptual separation of his understandings of his avatars self and his offline self. In contrast, another player, named Brox, suggested a greater degree of interrelation by referring to the avatar as an extension:

[Brox] It's an extension of yourself sitting there and doing things. So what you reflect in your behaviour [in-game] is actually you.

All of these players used externalising labels, such as "he" or "it," when talking specifically about their avatars. However, when talking about their in-game experiences or actions SBI, Baron, and Brox all referred to their avatars selves as "I". This

fluctuation between third person and first person and subject and object pronouns is indicative of the ontologically ambiguity of the avatarial self.

The avatar is not completely incorporated into the player's sense of self, nor is it completely separate from it. Instead the two entities exist in a relation of mutual influence. The experiences of re-embodied presence is therefore characterised by ambiguity, as the avatarial-I occupies a liminal space between subject and object, and self and other, that also blurs distinctions between reality and fiction:

[Leah] She's not modelled on me or anyone real ... so she's kind of unreal in that sense. I mean, she's not real, but she's also not fiction.

This state of ambiguity coincides with a self-concept that incorporates a "projective identity" (Gee, 2003) and a consistent game-identity, derived from the operations of the "no alts" rule.

EU's terms of use dictate that players are only allowed to have one avatar each; "alts," or alternate avatars belonging to one player, are forbidden. This rule is occasionally flouted, but "being an alt" or "having an alt" can result in bans and it is commonly understood as a form deviance. The no alts rule is integral to the development of trust relationships and systems of reputation in EU, as discussions in chapters five and six will demonstrate. However, this limitation also serves to reinforce identification with a single avatar and, in doing so, facilitates the development of a consistent sense of virtual identity. The screen name and digital body become "signifier[s] of ... [the] constructed 'player-being': the triad of avatar, persona and sentient body" (Van Loon, 2010, p. 23). While, the association with a single avatar binds "avatars to [in-game] persona and

persona to sentient bodies" (Van Loon, 2010, p.23). As a result, the no alts rule increases players' sense of a consistent identity within the game-world.

In-game identities are also projective as offline identities and values, in combination with game goals, influence players' understandings of the kind of "person" they want their avatar to be (Gee, 2003). Players impute "an identity onto their virtual character based on their own values and on what the game has taught them about what such a character should or might be and become" (Gee, 2003, p. 58). "Projective identities" then form as a result of these interactions between players, the game, and their avatars (Gee, 2003). These projective identities exist at the juncture of the real and the virtual, and contribute to the self concept that players develop in response to experience as the avatarial-I. Some players explicitly mentioned behaving in accordance with their projective identities. For example, Tyro talked about actively cultivating and then acting in accordance with what he called his avatar's "brand." Another player, named Zen, took on and maintained a game role that involved speaking in third-person. These instances demonstrate that overtime the avatarial-self "starts to have a parallel existence" (Salazar, 2005, p. 11). Within the figure of the avatar, the real and the digital self merge as perception, intention, and self concepts are shaped by an amalgamation of actual and virtual world experiences and identities.

Treasure Island

The most prominent example of the melding of actual and virtual experiences and identities that I collected during fieldwork was Deathifier's recount of his Treasure Island (TI) land purchase. Deathifier started playing EU during the game's open trial stage in 2002. However, public interest in his online life first arose in 2004 when he set

the first world record for the most expensive virtual world object ever purchased after buying the Treasure Island (TI) land complex for \$26,500. I first spoke to Deathifier (a.k.a David) in 2012, eight years after the world record. During the interview he described the creation of business plans and meetings that preceded the TI purchase. His tale of refining objectives and business plans mirrored processes of actual world property investment. Nevertheless, there was something profoundly "Entropian" about his initial motivation to buy the island. David appeared to be responding to the realities of the game-world in the same way that many others do.

David's interest in EU was sparked by the operations of the RCE and he saw the TI purchase as something that could potentially provide him with a means of playing without depositing:

[Deathifier] I thought if I bought this island, you know, then I could realise my initial objective of playing for free. I wouldn't have to put money in every few months to do stuff. I could just buy this thing and sell this stuff here and make creatures run around and tax people and do things.

David's initial, somewhat hazy, objective to "buy things ... sell stuff ... and tax people" was inevitably refined as the business plans for TI took shape. However, the core impetus of wanting to build a game career in the context of EU remained:

[Deathifier] So, I went ... to people for funding and said "this is what I want to do here's the financing" and they put a bit of a business stance on it while I was talking to them and because ... they're lending money, ... providing funds, they obviously want a proper plan so ... they know that this isn't just a pipe dream [and] I'm not just buying something for the hell of it ... So that didn't actually influence what my original goals were, but it did ... make things more concrete

in terms of understanding that, yeah I'm a player and I play and I wanna have fun and I wanna play for free and that was the dream and I could achieve that and the business side of things was ok. They wanted to know "what are you buying? What's its components? What's it all worth? What kind of tax? What's the projected income? What are the risks and the potential gains?" All that kind of stuff was done alongside my original plan, which was to buy the thing and then do stuff. So it helped refine what I was going to do and then it turned out to be, I think, much better than it was expected.

The actual and the virtual began to meld in David's narrative, as he described how actual-world business objectives began to shape his plans for his virtual future. After the auction and the world record David's actions as Deathifier began to influence his life outside the game-world in an even more profound manner.

Headlines such as "The geek Australian dream" (Sydney Morning Herald, 2006) created a public persona for David that was inextricably linked to his actions in game:

[Deathifier] I didn't expect it to get, you know, media crazy around the world ... it turned me from no one [in]to some guy who now owns an island and that was interesting. Um, very interesting, because all of a sudden you've got all this attention and there was people talking to you and asking questions about the future and discussing you in their forums and asking you for advice. And, then the media stepped in; you're being used in TV, and print and radio, and it was like "woaaaa, ahhh" this is new. So it was, I would say, a radical change in my perception in the virtual universe and also my perception in the real world between, not as much my associates and friends and that, but more just in the media so it was, yeah, people coming up and asking questions, it was interesting.

David's story points towards a form of hybrid intentionality where actual and virtual world concerns merge. His experiences in the years following the TI purchase were then shaped by an amalgamation of actual and virtual world actions. As the first headline hitting purchase in EU, the TI sale is a particularly unique case. However, the co-shaping of intentionality and subjectivity exemplified in David's story are also experienced in relation to non-record breaking purchases.

Deeds, Investment, and the Co-Constitution of Self

The merging of actual and virtual world perspectives were also apparent in a conversation I had with a player named Zerg. Zerg and I met after I posted the call for interviewees on the Planet Calypso forum. He had first started playing the game after EU's second record-breaking purchase, which occurred in 2005 when Jon Neverdie Jacobs bought Calypso's adjacent asteroid for \$100'000. Zerg was now a high-level player and we had arranged to meet at East Echidna. He had a tall male avatar and was standing next to a trade terminal, in one of the hangers, when we met. Before long, we began talking about the recent Calypso Land Deed (CLD) sale.

The land deeds were part of a revenue sharing initiative started by MindArk in November 2011. Sixty-thousand of the virtual deeds had been put up for sale at an initial cost \$100 each and deed-holders are allocated a weekly pay out, based on a 50% share of Calypso's gross-revenue. The estimated annual return on investment for the deeds was between 27-30%. The CLDs were also supposed to be linked to possession of an actual land-area on Calypso and a player voting system. Although, at the time of writing, these features had not yet been implemented.

Zerg's outlook on the deeds was influenced by both monetary interests and his understanding of himself as a "citizen" of Entropia. He said that his initial opinions on CLDs were motivated by his desire to vote:

[Zerg] I got them just to be able to participate and vote, not sure yet how it's going to happen. I'm a bit concerned that many people that are just buying a shit load of them are able to monopolise and steer where the game is going and they are not necessarily the people that are playing actively. So I think that now MindArk is proposing that they are going to drag in other things like, you know, how old is your avatar, how active you are in-game, those kind of things. So that [these additional factors] are influential on your voting power. I think democracy, to a certain extent, works, but it's going to be very interesting to see what they are gonna have people vote on. I think there's gonna be a lot of controversies.

Zerg's desire to "have a say" in the future of EU and his concern that some deed-owners may be able to monopolise future votes was motivated by a desire to influence the power structures that shape life on Calypso. Yet, he also approached the question of whether or not to buy land deeds from his perspective as an actual world investor:

[Zerg] As an investor in real life I would never invest in, you know, I keep telling this to people in the soc. [my in-game society] too, like "dude 28% revenue on a thing - you don't get it for free." There is a huge risk, right? You put your money in and it's nice to see the cash coming out, but there's also a huge risk ... So be careful, right. Don't think that you can throw in your life savings here and never have to work again, it's just not going to fly. My banker and investment manager, I was teasing him going "you're doing 3-4% on a year and I'm throw my money in what I play and I get 28%, so why should I pay

you?" and he immediately threw that back at me, like, "yeah? I'd like to see the risk profile of what you're investing in" and that's exactly the thing. So it's extremely high risk, but ok, I thought at some point [you] put your money where you're playing at least. So I put in a little, but I'm definitely gonna not put in more, this was it.

In both Deathifier's and Zerg's narratives actions are being co-shaped by actual and virtual world perspectives and interests. Objectives are developed in response to the parameters of the game artefact and evaluated in accordance with economically situated actual world subjectivities. These accounts demonstrate how the RCE influences intention and action by prompting the integration of actual world financial concerns into the game-space. This integration cultivates a hybrid form of intentionality, characterised by the melding of actual and virtual world experiences.

Conclusions

Virtual being is comprised of a sense of existence, the capacity to experience, and the manner in which a particular virtual lifeworld is experienced. A sense of existence in EU is established through an inaugurating exchange of data that enables the construction of an avatar body and the development of embodied relations with hardware. Embodied relations with hardware result in a shift in the player's awareness away from their physical interactions with their computing technologies and towards their life on the screen. In combination with the avatar body, these relations facilitate a sense of being in relation to the game-artefact that manifests as relations of play.

However, the avatar body also conveys a sense being within the world that is characterised by re-embodied presence and an altered sense of selfhood. Experience of

the virtual lifeworld is therefore comprised of this series of relations and interactions between players and the game technologies.

Virtual being consists of the experience of simultaneously being-in-relation to the game-world and being within it. Relations to the hardware and the game artefact coincide with feelings of re-embodiment, as exemplified in instances of kinaesthetic telepresence. Kinaesthetic telepresence demonstrates that the avatar body provides enough perceptual feedback to modify players' perceptual and bodily sense. Vection, in combination with consistent simulated physics and extra visual perception, creates a feeling of bodily motion and a sense of spatial awareness. This perceptual feedback results in the subjective experience of re-embodied, re-located, presence in relation to the figure of the avatar in the game-world. The experience of re-embodied presence is then complemented by an alteration of selfhood and intentionality, as the actual and the virtual converges in the figure of the avatarial-I.

The avatarial-I is a specifically crafted representation, or extension, that is actualised via action and interaction in the game-world; it is not synonymous with either the subjective "I" or the digital object of the avatar body, but nor is it completely separate from them. Experience of, and as, the avatarial-I is an experience of fragmentation and flux. The no-alts rule reduces some of this ambiguity, as it enables the development of a consistent sense of in-game identity. However, the self concept associated with this in-game identity is still somewhat unstable as the avatarial-I problematises dichotomous notions of self and other, reality and fiction, and subject and object. In the figure of the avatarial-I subjectivity is co-constituted by processes of identity construction, the interpretations of the avatar body by others, and the operations of the game artefact. The

RCE, in particular, creates a point of convergence where actual world economic considerations meet game related objectives, as both David's and Zerg's narratives demonstrate. This meeting of actual and virtual objectives results in a fused form of intentionality, that reflects the simultaneous experience of being-in and being-in-relation-to the game-world. These different aspects of virtual being suggest that experience of the virtual lifeworld is an experience of ontological ambiguity. The layering of actual-world and digitally induced perceptions, intentions, and subjectivities creates a hybrid experience that is not reducible to its component parts. It is from this point of ambiguity that the virtual self encounters the online other, and this social dimension of virtual being is considered in detail in the next chapter.

Chapter 4. Social Identities: Self and Other

Social identities in game-worlds are differentially influenced by both narrative and ludic structures, and by actual world identity constructs. The avatar body facilitates both the performance of identity and its obscuration. Players confront the ambiguity of avatarial selfhood by structuring their readings of others around a combination of ludo-narrative and actual world constructs. Actual world social constructs are incorporated into the game-world and reconfigured in response to the ambiguity of identity online. At the same time, new identity categories are formed in response to the collective experiences of players. These categories act as symbolic structures in accordance with which the identities of others are read. This chapter examines the constitution and implementation of social identity categories in Entropia Universe.

The chapter explores how in-game identities develop in response to the shared context of the game-world. This exploration follows Martey and Consalvo (2011) in its analysis of the performance of identity in virtual worlds. In addition, the chapter draws on Pearce's (2008; 2009) application of the concept of fictive ethnicity to game-worlds and Marshall's (2003; 2004; 2007) model of "asence" or ambiguous presence. These theories provide a conceptual framework for the analysis of constructions, performances, and experiences of social identity in EU.

The chapter begins with an exploration of in-world intersubjectivity. This exploration is followed by an analysis of the influences of narrative on the formation of in-world collective identities. The chapter then goes on to examine how nationalities and gender constructs are incorporated into the game-world, before moving on to an analysis of how voice chat is used to overcome intersubjective ambiguity. This analysis is followed

by an exploration of ludic identity constructs. The chapter then concludes by discussing the impacts of humanist and post-humanist conceptions of identity on understandings of self and other in EU. Together, these strains of analysis demonstrate how social identities are reconfigured in virtual spaces, in response to intersubjective ambiguity, actual world identity categories, ludic structures, and narrative.

The game narrative is influential as it constructs a "fictive ethnicity" (Pearce, 2009) that is used by players as form of self-identification. Narrative driven forms of self-identification locate individuals as members of the player community. The resultant sense of collective identity is reinforced by shared memories and common experiences. The game narrative also prompts the development of subdivisions within the game community, as player's develop ludo-narrative affinity groups in response to the planetary ethnicities described in the game's subplots. These collective identity constructs are then complemented by the integration of signifiers of actual world identities into the game-space.

Actual world identities are incorporated into both constructions of self and readings of others and the two most prevalent actual world identity constructs, used in EU, are nationality and gender. Nationalities are expressed through avatar names, society affiliations, and events, and they influence the social networks that develop in-game. Readings of others also draw on actual world gender constructs in a manner that can both subvert and heighten concerns about authenticity and actual world identities. The prioritising of offline identities reflects an implicit assertion of a singular *real* self, which in turn results in attempts to access the real self and therefore lessen ambiguity. One method that is used to confront intersubjective ambiguity is voice chat.

Voice chat is a relatively direct form of online communication; the identity of the other is more readily discernable during spoken interactions and immediate responses reduce asense. As a result, voice chat helps people build trust relationships by allaying concerns about the other's actual world identity. However, the establishment of verbal contact is often predicated on the initiation of some form of social relationships via text chat and inter-avatar interaction. People look to actual world identities when forming intimate relationships, but they also need to be able to make judgments about others in the context of the game-world.

The vast majority of day to day interactions in EU are avatar and text based. In this context, ludic identifiers serve as a frame of reference in accordance with which the in-game other is understood. Indicators of game careers, society affiliations, and skill levels enable people to locate one another within the networks of roles and affiliations that constitute the game community. These emergent game-based identifiers exist alongside modifications of actual world identity constructs. As a result, we-relationships and understandings of self and others develop in response to this reconfiguration of identity categories and the intersubjective ambiguity that the experience of virtual being creates.

Intersubjective Ambiguity

Intersubjectivity can be broadly defined as the ability of humans to understand each other and make themselves understood. This experience of being in relation to others is a "most basic quality of human existence ... [that is] constitutive of the subject and of the very notion of an objective world" (Duranti, 2010, p. 1). Intersubjectivity demonstrates that existence is not only located and embodied, but also social: "[t]he

world of Da-sein is a *with world*. Being in is *being-with* others. The innerworldly being-in-itself of others is *Mitda-sein*" (Heidegger, 1927/1953, p. 112). Intersubjectivity is relevant to the analysis of sociality in an MMORPG, because a fundamental constituent of experience in a multiplayer world is the encounter with the online other. However, the application of traditional notions of intersubjectivity to virtual spaces are problematic.

Part of being-with is intersubjective extension, or the tendency to inferentially "trade places" with someone else that is made possible by empathy and co-presence:

intersubjectivity means the condition whereby I maintain the assumption that the world as it presents itself to me is the same world as it presents itself to you, not because you can 'read my mind' but because I assume that *if you were* in my place you *would* see it the way I see it. (Duranti, 2010, p. 6)

In Husserl's (1913/1983) original formulation, intersubjectivity is tied to the "*leib*" or "lived body" (Duranti, 2010, p.8). Mutual understanding becomes possible because it is the "*leib*" situated in "the space and time of nature, ... which, in acts of 'empathy,' makes possible reciprocal understanding between animate subjects belonging to one world" (Schutz, 1966/2005, p. 90). In avatar based game-worlds the physical leib is substituted for a digital correlate and experience of the lived body is extended to include a sense of re-embodied presence.

The virtual-leib is constituted through the socio-technical amalgam of the player-avatar and the hybrid experience of virtual being influences players' self concept. Players recognise that their avatarial-self is not straightforward copy of their offline self, but rather "an extension" (Brox, personal communication, April 21, 2012) that is "almost

representative" (Baron, personal communication, July 21, 2012) and "not real, but ... also not fiction" (Leah, personal communication, July 19, 2012). Intersubjectivity entails assuming "that *if you were* in my place you *would* see ... [the world] the way I see it" (Duranti, 2010, p. 6). Therefore, apprehension of the ambiguity of one's own in-game identity leads to the assumption that the other's identity is similarly altered by the game technologies and projective personas. This intersubjective ambiguity is heightened by the obscuration of conventional bodily markers of identity during text and avatar based interactions. Indicators of personality or mood are likewise obscured and even presence is ambiguous, as the avatar can be present online even though the user is absent. People respond to this ambiguity by restructuring their interpretations of others around a combination of emergent ludo-narrative and actual world identity constructs.

Ludo-Narrative Identities

In EU and in many other role playing games, storylines provide a foundation for the development of collective identities (Pearce, 2008; 2009). The Entropian narrative casts players in the role of "colonists" and constructs a fictive Entropian ethnicity. Players self-identify with this fictive ethnicity, to varying extents, and we-relationships form in response to the shared context of the game-world. Processes of narrative driven self-identification were particularly apparent during a conversation I had with a player named Zen, while standing atop a landing platform in the town of Fort Ithaca. Zen and I were standing next to his helicopter, talking about my study and his experiences in EU:

[Zen] what are you studying?

[Twist] anthropology (kulturwissenschaft in German - dunno in Dutch, lol)

[Twist] people and cultures

[Zen] Sociologie? no no... Antropologie

[Twist] yep, exactly ...

[Zen] :) natives of calypso

[Zen] Zen is native

Zen had an unusual habit of speaking in third person that often drew people's attention.

Moreover, as a self-proclaimed native of Calypso, he expressed a sense of fictive ethnicity that was not uncommon among long-term players:

[Zen] How many interviews did you do so far?

[Twist] 17 I think, need to count again, lol

[Twist] when did you arrive?

[Zen] may 2006

[Twist] sorry 16 ur no.17

[Zen] Zen started at May 2006 as colonist.

[Zen] hmmm means Zen is not native

[Twist] lol I guess the only real natives are the animals :)

[Zen] Think so ...

Zen's sense of disappointment when acknowledging that the game narrative actually precludes any form of virtual indigeneity was palpable, despite the textual nature of our conversation. He and his partner Juli had made Calypso their second-home for over

seven years, and his invocation of a narrative derived "colonist" identity conflicted with the sense of (virtual) place based belonging he had developed during his time in-game.

An Entropian colonist identity is frequently referenced in the subplots and fictional news bulletins used to contextualise in-game events. This discursive construction of a collective identity is then reinforced by players who self-identify as colonists or Entropians. Pearce (2009) observed similar processes of narrative driven identification in her exploration of fictive ethnicity among members of the Uru diaspora. Pearce's (2009) ethnographic account of the Uru migration draws attention to the manner in which virtual world participants construct a powerful sense of "communal identity" (p. 63). This communal identity is based primarily on common experiences and understandings derived from co-existence in the game-world, as opposed to actual-world identity constructs such as race, gender, religion, or nationality (Pearce, 2009). EU and Uru are of course very different worlds⁷. However, in both worlds, social roles and identities are re-established within the parameters of the fictive ethnicity. These worlds also both show evidence of how communities of play respond to technological disruption.

Uru closed after 6 months, despite its enthusiastic fan base and strong narrative, and player's collectively migrated to other virtual worlds (Pearce, 2009). The community maintained a sense of connection to their virtual homeland and the migrations resulted in the formation of a sense of diasporic trans-ludic identity (Pearce, 2009). The community in Entropia has never experienced the same degree of upheaval as players in

⁷ Uru was an online, multiplayer iteration of an existing game franchise with a well established narrative and fanbase. Uru follows a fantasy narrative and Pearce (2008) describes game-play as distinctly collaborative with "no points, no levels, no player statistics, no competition, and no killing" (Pearce, 2008, p. 6).

Uru; EU has existed continuously for over 10 years. However, disruption does occur, often as a result of large game updates, and like the game narrative, this disruption influences processes of collective identification.

Collective Memories and Narrative Identities

Updates with game-wide impacts etch themselves on the collective memory of the player community. Collective memories reinforce in-group identification, as they facilitate the contextualisation of personal and group narratives in accordance with a shared history. One of the most significant updates so far, in terms of its influence on collective memories and group identity, was version update 10 (VU10) and a concurrent subplot that documented the destruction of Calypso's capital city, Hadesheim. This event provided narrative context for the transference of Entropia's game engine from Gamebryo (Emergent Game Technologies, 2005) to CryEngine2 (CryTek, 2007). The storyline about the approach of "the robot war titan, Typhoon" and its eventual impact in Hadesheim was documented via intermittent bulletins from Entropia Breaking News (EBN).

The "countdown to the apocalypse" (EBN, 2009, n.p.) began on August 16th, 2009, and in the hours leading up to the event people began to gather at the robot spaceship's projected impact site to celebrate an "end of the world" party. The atmosphere at Hadesheim was fairly jovial, but there was an underlying sense of trepidation as nobody knew quite what to expect. Eventually there was a countdown, a large flash, and then at midnight on the August 17th, 2009, the connection to Entropia Universe was lost:

The explosion was large enough for debris to be thrown into space. Firestorms are raging across north-west Eudoria. An ash cloud is quickly forming over

Calypso, blocking the sun. Surface readings indicate that the global temperature is dropping and scientists are expecting a minor ice-age.

Planet Calypso has been declared a disaster area by the Federal Imperial Navy, and travel to and from the planet is restricted until further notice. (EBN, 2009, n.p.)

The game was reopened within a few days and Calypso had changed significantly.

Veterans of the game had prior experience of major updates and the sense of upheaval that often accompanied them. However, even those that had been playing since EU's inception acknowledged that the changes initiated by the CryEngine2 (CryTek, 2007) update were considerable:

[Deathifier] I remember the first graphics change when they upgraded to GameBryo ... and my avatar changed, and the island changed, and everything changed. And I remember CryEngine2 was a *big big* change, like a humungous change, that was pretty phenomenal.

From a player perspective, VU10 changed the appearance and geographical layout of Calypso almost overnight. Upon re-entering the world players were confronted with drastically different looking cities, landscapes, and mobs. The former capital, Hadesheim, was now a smouldering crater. The update also resulted in changes to game-play as controls, possible actions, and the user-interface were reconfigured in accordance with the enhanced capabilities of the new game engine.

Updates that initiate significant changes to the game environment, such as VU10, prompt a sense of nostalgia:

[Deathifier] [C]ryEngine2 totally changed things and if you don't have the images from that point in time you can't capture them again. You can't go back and relive the experience.

Past iterations of the game-world are lost. However, the game's history is preserved in forum archives, videos, and screenshots. For example, a YouTube video named "Remember Hadesheim" (Reeves, 2010) commemorates the game narrative surrounding the events leading up to VU10. Connections to the game's past are also maintained through storytelling:

[Hope] Sometimes we sit on skype with friends and old players and stuff and we just start talking and we're like, "ah man do you remember when ..?" "ah yeah that was fucking awesome" and well, it's a lot of old things, small things, that you'd forget about otherwise.

Stories are often orientated around references to "pre" or "post" VU10 iterations of the game-world and this linguistic convention reinforces a sense of collective history.

VU10 is frequently used as a temporal marker during conversation. For example, a player named Chris used a reference to the update to indicate a timeframe during an interview: "in pre VU10 we had outposts that we had to patrol frequently" (Chris, personal communication, May 26, 2012). This linguistic trend facilitates the structuring of personal narratives around "dates that have meaning only in relation to ... [the] group to which ... [people] belong" (Halbwachs, 1950, p. 54). As a result, VU10 provides a temporal frame of reference that reinforces players' sense of group identity. However, in other instances, updates and their narrative contexts have resulted in the emergence of subdivisions within the game community.

The most significant community subdivision arose in 2010, as a result of the introduction of new planets to the virtual universe. The new planets are run by discrete game studios who have entered into "planet partner" (PP) revenue sharing agreements with MindArk. MindArk provides hosting, security, support and platform development for the planets and PPs control content production, concept design, administration and support. The introduction of new planets was accompanied by the creation of dedicated planetary forums and distinct planetary narratives. As a result, planetary subgroups began to emerge within the player community:

[SBI] It's divided to some degree now with planets, more forums to check up on, harder than in the old days. It's a change for sure ... [the new] planets and division of players.

Planets are separated by a vast expanse of pirate infested space and safe passage on a large mothership generally costs money. As a result, new players often remain on their respective "birth" planets for a significant period of time; some people never leave or travel only for a short period of time to play, trade, or complete missions on other planets, before returning home. Prior to the introduction of new planets all players spawned on Calypso and were identified as "Entropian." The new worlds shifted processes of in-game identification somewhat through the discursive construction of planetary "nationalities." Consequently, some players began to self-identify with the fictive ethnicities of the planets they spawned on, and Arkadian, Calypsian, Rocktropician, and Cyrenian identity categories were developed.

Planetary identity categories correspond to the variable in-world experiences that emerged in response to the differing visual, social, economic, and narrative environments on different planets. Variations in game-play between planets are minimal

and the RCE spans the entire virtual universe. However, the population and economy of Calypso is larger than on any of the newer planets and, in some instances, these differences have resulted in animosity:

[Baron] One of our soc. members went over there [to Arkadia] and he had a very distinct experience ... the Arkadian people were like, "ah look you now, you big time hunters and miners from Calypso, you know you just come over here trying to get all the good gear in the loot and get all the discoveries, when you know it should be us doing it. So why don't you go back to Calypso."

The "go back to where you came from" rhetoric in Baron's story points to the divisive potential of identity categories, by demonstrating that even pseudo-ethnic narrative constructs can provide a basis for societal sub-division. The invocation of planetary nationalities also demonstrates how "[a] player's identity ... is shaped by the context in which that identity is developed" (Chan, Whitman & Baumer, 2009, p. 145).

Game narratives and common in-world experiences provide a basis for the formation of collective identities. Collective identities derive from "common identification with a symbolic group or social category.... [and they] do not require personal relationships among group members" (Brewer & Gardner, 1996, p. 83). Collective identity categories influence people's definitions of self and their interpretations of others. Ludo-narrative identity categories also enable players to identify one another as belonging to a collective and/or a subset of that collective. As a result, intersubjective ambiguity is lessened, as the other is identifiable as Entropian (possibly also as Arkadian, Calypsonian, Rocktropician, or Cyrenian) in the context of the game world. However, "all gaming and internet use is socially and culturally located ... [and] the 'communal' nature of play also involves social markers, characteristics, identities and opinions that we bring with us

into the game" (Crawford, Gosling, & Light, 2011, p. 14). Narrative-driven identities provide a basis for an understanding of the game community as a collective. However, this collective identification is also supplemented by the integration of actual world identity categories, such as nationality and gender.

Actual World Identities

Actual world social identity categories provide a common interpretative framework, in accordance with which representations of self and readings of others develop. However, in virtual worlds the interpretation of signifiers of social identity is complicated by the mediation of the digital body. "[A]vatars are not simply conduits for offline identities but rather are a distinct self, a social manifestation of Gee's "projective identity" that is an influential intersection of offline people and online representations embedded within social performances" (Martey & Consalvo, 2011, p. 169). Players may construct avatars that conform to, or divulge from, their actual world identities (Martey & Consalvo, 2011). Avatars may be constructed to be functional and reflect game goals or to reflect social and aesthetic goals (Consalvo & Harper, 2009; Martey & Consalvo, 2011). These varying motivations can complicate readings of others, as someone's impetus for constructing a particular avatar is unknown and the level of correspondence between actual, virtual, and projective identities is often unclear. In some instances, players attempt to counter this uncertainty by explicitly integrating actual world identity constructs, such as nationalities, into their performances of self.

Nationalities are exhibited through references in avatar or society names and during events. Players often gravitate towards societies that reflect their sense of national identity like, for example, the "Antipodean Army," "German White Angels," or "French

Jumper" societies. Nationally orientated societies tend to contain people who speak the same language and people who are online at similar times. Although, these societies are often flexible about membership and accommodate players from a variety of countries. People also meet and build contact with national player communities during events, such as the annual world of firepower (WoF) event. This player created event involves competition between national teams. However, in recent years WoF has also incorporated teams based on game localities and planetary nationalities, such as team Rocktropia and team Eudoria.

The integration of nationalities into the repertoire of identity constructs used in-game influences the relationships players form. Corresponding languages and time zones facilitate communal play among national consociates. Social relationships subsequently form around the national networks that develop within societies and during events. However, readings of others need to be based on the correspondence of discernable cues to common interpretative frameworks. Nationality represents a common interpretive framework that is familiar to all members of the player community. However, in instances where national identities are not displayed, via screen names or society membership, discernable cues as to someone's nationality are often lacking. Another common actual-world interpretative framework used in-game is gender; here, cues are not necessarily lacking, but nor are they particularly reliable.

Gender and Virtual Bodies

Creating one's appearance in a virtual world is more than developing an appealing aesthetic: it is also creating a specific expression of self with potentially far-reaching effects. (Martey & Consalvo, 2011, p. 168)

Gendered readings of in-game others are complicated by the obscuration of bodily cues during text and avatar based communications. Nevertheless, gender is a pervasive cultural construct and a male/female binary is written into the game program. As a result, players reintroduce gender constructs into the game-world; although, gendered readings of others are often re-orientated around the figure of the avatar. Gendered readings of avatars extend the actual world relation of the body to "underlying truths" of gender into virtual space (Marshall, 2003). These attempts to restore the body's status as a central signifier of identity, result in others being read in accordance with the representations they create. Digital bodies are subsequently "connected to constructions and feelings of offline bodies to reduce ambiguities and to establish authenticity online" (Marshall, 2004, n.p.). This process of construction begins with the avatar creation process, which involves choosing either a male or a female body.

An avatar's sex cannot be changed once the character has been created and the majority of players construct conventionally male or female looking avatars. Androgynous looking avatars are relatively rare, as the game's avatar creation tools makes the construction of un-gendered bodies difficult. Broad shoulders or breasts can be reduced, but not wholly removed and the avatars are listed as either male or female. The gender binary written into the game's programming demonstrates how cultural logics manifest in software. These same gender logics are then expressed during participants readings of others online.

Gender binaries provide a principal framework in accordance with which virtual bodies in EU are read and the body "needs to be framed to be interpreted" (Marshall, 2003, p. 243). However, gendered interpretations of others are complicated by the fact that

gender-swapping, particularly in the direction of "real-life" (rl) male to female-avatar, is commonplace. Approximately 99.7% of male avatars are controlled by male players, whereas only 55% of female avatars are controlled by female players (PCF, 2010b). This characteristic of the game community influences people's experiences of gender in-game, as these experiences are shaped by their rl-gender, their avatar's sex, and people's responses to them. Gendered experiences in-game, draw attention to the nexus of the individual and the social, specifically the manner in which cultural constructs influence how people engage with each other.

Female players with female avatars frequently mentioned that people assumed they were male. This assumption was presumably influenced by the game's mostly male (87%⁸) demographic and the prevalence of rl-male to female-avatar gender swapping. However, it may also reflect broader cultural associations of gaming and internet or computing technologies with a male consumer identity (Wajcman, 2006). Female players reported that correcting the assumption could be as simple typing "*she" when someone referred to them as "he". However, they also described how the correction could occasionally prompted subtle shifts in people's dispositions towards them, particularly in relation to acts of aggressive or competitive play. For example, Kay, a high-level female player, stated that people often did not expect women to play aggressively. This perspective was also reflected in a discussion that took place between Era, a male player with a male avatar, and Merida, a female player with female avatar.

Era and Merida's discussion took place during a conversation about PvP combat and the influences of gender on play. Era was arguing that men tended to play more

⁸ A public forum survey of 266 participants, conducted in 2010, revealed that 87% of the game population were male, 9% were female, and 4% chose not to disclose their real-life gender (PCF, 2010a).

competitively and aggressively and stated that he viewed this as a reflection of evolutionary traits. Merida responded as follows:

[Merida] So, according to your theory the "overwhelming majority" of females won't hunt or mine, they'll stay at the service centre looking after the noobs, colouring and crafting...

Men of course seldom craft or colour, as their nature is to be out hunting and pk'ing.

Don't be so ridiculous. Just like irl we are a very diverse population. Whether your male - female ... we are all here for one reason - because we enjoy the game. We choose to do whatever we find fun.

We have had this conversation before, you know I have a penchant for PvP. I am a very "girly girl" yet I PK in space and have my Disintegrator 5000 player kills achievement. It's got nothing to do with testosterone, no matter how much you'd like that to be true.

Era argued for an essentialist notion of gendered behaviour based on biological difference and Merida contended that ludic identifiers, such as skills and game careers, were more relevant to the game community than out of world gender constructs. Their discussion exemplifies how offline gender logics are being simultaneously incorporated into and challenged within virtual worlds. Similar processes of incorporation and reconfiguration were reflected in male players' accounts of gender-switching.

Male players with female avatars talked about what it was like when people engaged with them as if they were female and highlighted experiences of sexualisation and objectification, in relation to their digital bodies. Players' comments demonstrated how gendered readings of female avatars can be unsettling when they are "informed by the

same sets of objectifying ideologies that inform [objectification] offline” (Nakamura, 2002, p. 34). For example, Annie, a male player with a female avatar, expressed discomfort at sexualised readings of his virtual self, saying “I feel so exposed when I put on full hermes [armour] without clothes, lol” (Annie, personal communication, May 20, 2012). While, Lyb, a male player with a male character in EU, described how another male player once “took a fancy” to his female character in a different MMO. Lyb stated that the experience “gave me an insight, as a male, [as] to what females may well have to put up with in games from time to time” (Lyb, personal communication, March 5, 2012). These comments demonstrate how the attachment of actual world gender constructs to readings of avatars, in combination with gender switching, can result in the reconfiguration of gendered experience.

Gender switching problematises the attribution of binary gender constructs to others on the basis of their avatar's sex and appearance. The resultant ambiguity of gender online can result in more fluid gendered experiences for both male and female players.

However, the sex/gender nexus is not dissolved as a result. Gender constructs are still incorporated into the game-world and resultant gendered readings of others are often re-orientated around the figure of the avatar, or driven by the assumption that the female cyber-body is subversive and players are, by default, rl-male. People integrate actual world gender constructs into the game because gender is a familiar interpretative framework that is reflected in the appearance of in-world bodies. However, bodily cues are inherently ambiguous and players respond to this ambiguity by variably privileging either ludic or offline identities, depending on the context of their interactions and pre-existing relationships. Ludic identity markers, such as skill ranks and society membership labels, enable players to locate others in accordance with the networks of

roles and affiliations that constitute the game community. Whereas, more intimate social relationships tend to centre around accessing the "truths" of someone's offline identity and are often associated with verbal interaction.

Hearing Voices

EU has integrated Voice-over-IP (VoIP) services and players also use out-of-world VoIP clients, such as skype and team-speak servers, in order to talk to each other in-game. VoIP technologies can reduce interpersonal ambiguity, as signifiers of actual-world identities, such as age and gender, can be more readily and accurately apprehended during spoken interactions. The immediacy and inflection of speech also make it easier to draw inferences about another's actual world identity, emotions, and personality. As a result, verbal interactions can heighten people's sense of connection with others:

[Baron] I think the huge social side of it is good. I'm just not sure that [players will be attracted by it] unless people are actually using real voice communications, rather than just typing, because [when] typing ... you lose the nuances of the sentence structure. And so, I'm not sure that people who don't use real time chat are going to be attracted by that. For me, yeah that [social interaction] is one of the major things. I know these people. I've lived their lives with them for 5 1/2 years. You know, one guy went through bowel cancer and he's great now ... you go through all those real life things with these people.

The feeling of gaining insight into someone's "real self" is conducive to the formation of trust relationships, as "[t]rust is established when a person is convinced that another's 'inner' is on display, and that this inner is acceptable" (Marshall, 2003, p. 243). In an arena where the body is obscured the voice can take over as a signifier of "authentic

identity" that may reveal aspects of someone's character, which would otherwise remain hidden. This, in turn, allows people to make judgments regarding the acceptability and trustworthiness of others:

[Zerg] I have to see you, I have to talk with them like every day, both chatting them and on the teamspeak server and then you see how people are, and then you trust them.

Baron and Zerg's comments indicate how voice chat is used to establish relationships. Their comments also reflect Bos, Olsen, Gergle, Olson and Wright's (2002) observation that verbal interactions online prompt the development of higher levels of trust than text based interactions alone.

Voice chat facilitates a connection between subjects that is not as obviously mediated by purposefully constructed personas as avatar based interactions are:

[Baron] While we're all in-game doing our in-game things, either separately doing our missions or together as a society, with teamspeak we're also talking about other things, like "oh, hang on a minute I've just got to go and let the dog out". So you know the guy's got a dog. "Hang on I'm just cooking." "Oh, what you having tonight?" "Chicken curry." "Ah, great love that." So you're not *just* the avatar. The person becomes real because of that interaction.

The processes by which the other "becomes real" are significant to the development of intimate social relationships, as "when people begin to make complex bonds between themselves, then uncovering the authentic nature of the other becomes important" (Marshall, 2004, p. 15). Voice-chat aids in the development of close relations, as the reduction of mediation brings the online intersubjective encounter closer to the actual world experience of being-with than interactions via text-chat alone. Voice

communications can also reduce, what Marshall (2003; 2007) has termed, the "asence" of online interaction.

Asence refers to the manner in which "[o]nline-presence is continually suspended between presence and absence" (Marshall, 2003, p. 241). Asence arises because it is not always possible to determine whether someone else is present behind their keyboard, or whether a message has been received, and because it is possible to "present" in multiple online realms at once (Marshall, 2003). The experience of asence is heightened in environments that rely on asynchronous text-based communications, such as social networking sites and forums. Asence is somewhat reduced, but not wholly eradicated, in avatar based worlds with synchronous interactions. Asence persists in graphical virtual worlds because an avatar body can be present in-game even though the user is absent from their computer. In EU, the avatar can also convey absence by adopting the slumped over "AFK" (away from keyboard) stance, or being non-responsive, even if the player is present behind their screen. Co-presence in virtual worlds is not always straightforwardly discernable and players subsequently use voice chat to manage asence. Voice chat can reduce asence as spoken interactions tend to involve immediate responses, which are reliable indicators of presence. However, not receiving a response is not necessarily a sign of absence, as microphones can be turned off and comments can be ignored. Asence also remains because voice chat is also not always a viable or preferred means of interaction.

In-game VoIP services were only introduced into EU in 2010 and they cost money to use, so uptake was relatively slow. External services, such as skype and teamspeak servers, were in use before this. However, these services could only be used after some

initial contact had been established between players. In order to use out-of-world VoIP services people had to be directed to the correct servers or added to lists of contacts. So, verbal communication between strangers was (and still is) fairly rare and presence remains somewhat ambiguous. As a result, players have developed other means of confronting ambiguity and asence.

Ambiguity and asence are only problematic if the body is not considered a reliable indicator of presence or signifier of "authentic" identity. Player's acknowledge that there is no way to wholly eliminate ambiguity and asence when interacting online. So, in some instances concerns about "authentic" real-world identities, or presence, are sidelined in favour of a general engagement with the avatarial-other "as-is." Engagement with the other as-is involves a marginalisation of concerns regarding the correspondence of online and offline identities; in favour of a substitution of bodily indicia with game related identifiers, such as careers labels or skill levels. In instances where others are interpreted in accordance with game related features, associations between digital bodies and actual world identity constructs become tangential. In such cases, the (digital) body regains its status as a marker of identity, albeit in association with ludic, rather than actual world, identity constructs.

Ludic Identities

Immersed in a game-world, the real life situations of individual players are less contextually relevant as a shared reference than the virtual experience of the game itself. (Hudson, 2013, p. 8)

Ludic structures aid in the development of reciprocal understanding by enabling players to locate each other within a shared cultural context, based on collective interpretations

of the game space. This shared context allows people to sideline concerns about authenticity, in relation to the representation of actual-world identities, as it renders the other knowable in relation to the social structures of the game-world. Online communities often have "no established framework of social relations, such as kinship, which people can be slotted into" (Marshall, 2003, p. 244). However, structures for social relations can be simulated by ludic features, such as society or guild affiliations and skill levels.

In EU, society (soc.) allegiances are listed underneath the avatar name that appears when one's cursor hovers over another player's character. Societies, like the Everquest II (EQ II) guilds analysed by T. L. Taylor (2006), "act as a social signifier ... [locating] the player in a larger system of reputations, affiliations, favors and even grievances" (p. 45). This association of societies with reputations and rivalries came to the fore during my initial conversation with The Adversary:

[Twist] your soc is CK is that right?

[The Adversary] PK Coat Killers

[Twist] ooo glad I didn't meet up now u guys are scary lol

[The Adversary] lol

[The Adversary] as long as ur not BA or AoW :P

PK stands for "player killer" and The Adversary was a member of a PK subdivision of a prominent society with established oppositions to two other high ranking societies. His own society's reputation preceded him and the antagonistic relations between the societies he mentions were well known within the game community. His comments regarding my safety were jocular, but they do demonstrate how society affiliations can

influence the social networks that develop in-game. In the absence of verbal or written communications, the soc. labels under avatar names enable people to locate others in accordance with these established in-game social networks.

Soc. labels also allow inferences to be drawn about another player's game career, because societies in EU are structured in accordance with hierarchy templates that reflect career paths and in-game activities, as demonstrated in figure 7.

	Basic	Corporate	Crafters	Explorers	Hunters	Mercenaries	Military	Miners	Mystics	Order	Outlaws	Scientists	Security	Traders
1.	Society Leader	CEO	Crafting Administrator	Expedition Leader	Great Hunter	Captain	General	Mining Director	High Mind-tropan	Master	Boss	Professor	Guardian Commander	Merchant Prince
2.	Leader Advisor	Vice President	Crafting Foreman	Expedition Advisor	Elevated Hunter	Advisor	Colonel	Mining Foreman	Mindtropan	First Circle	Counselor	Assistant Professor	Guard Commander	Merchant
3.	Professional	Division Manager	Senior Crafter	Senior Adventurer	Senior Hunter	Group Leader	Captain	Senior Miner	Essence Channeler	Second Circle	Hitter	Senior Researcher	Senior Guard	Shopkeeper
4.	Worker	Department Manager	Crafter	Adventurer	Hunter	Veteran	Sergeant	Miner	Essence Follower	Third Circle	Thug	Researcher	Guard	Senior Trader
5.	Learner	Employee	Junior Crafter	Senior Traveler	Junior Hunter	Grunt	Private	Junior Miner	Mind Neophyte	Fourth Circle	Hood	Junior Researcher	Junior Guard	Junior Trader
6.	Junior Recruit	Trainee	Crafter Learner	Traveler	Pupil	Rookie	Recruit	Mining Learner	Follower	Initiate	Punk	Student	Watchdog	Peddler

Figure 7: Society hierarchy template. From *Entropia Planets Wiki* http://www.entropiaplanets.com/wiki/Society_management. Used under Creative Commons Attribution-ShareAlike 3.0 license.

Players often self-identify in accordance with their primary game careers:

[Ric] I'm mainly a miner

[Era] I'm primarily a hunter

[Rydx] I'm a miner

[Gyf] I have been working on becoming a texturer, but that is a very slow career to progress.

Careers are associated with subsets of common experiences, goals, activities, dispositions, and game personas. As a result, careers are mobilised as identity categories and soc. names and associated hierarchy templates enable people to locate one another in accordance with these categorisations. Soc. affiliations can also act as indicators of

skill-levels as many societies have minimum skill requirements that players have to meet in order to join. As a result, soc. labels can be used to locate players within the broader game hierarchy, as membership in a high ranking society is generally indicative of the high skills levels and long-term game participation associated with elevated social status. However, society membership is optional and players that are not in a society have the label "freelancer" under their avatar names.

The freelancer label is somewhat indistinct, as it denotes a lack of explicit affiliation. Freelancer status may indicate that someone is new to the game and has not yet joined a soc., or that they have left their society and are looking for a new one. People may also adopt freelancer status if they have not yet reached the minimum skill requirements for the society they wish to join, or simply because they prefer it. So, the freelancer label is somewhat ambiguous. However, it is still an identity category as the absence of explicit affiliation is an identifying characteristic. In addition to soc. affiliations or freelancer status, players can also choose to display a skill-rank underneath their avatar name.

The displaying of skill-ranks is optional and people generally display skills that are associated with their main game careers. For example, the label "supreme prospector" would be used to demonstrate high level mining skills. The rank label, when used in this manner is somewhat akin to wearing a uniform in the actual world, as it enables inferences to be drawn about others' in-game professions. Resultantly, the practice of displaying skill-ranks is common among service providers, like medics, as it enables prospective customers to identify them and judge their proficiency. However, these labels are not totally reliable. Players may display ranks that do not pertain to their main profession and some intentionally display labels associated with low level or

peripheral skills, like "inept mutant investigator." In such instances, the labels function not as a means of displaying identity, but as a means of masking it, as people's main professions and skill-ranks remain purposefully obscured. This obscuration serves as a means of maintaining avatarial anonymity, hiding short comings, or avoiding the public attention associated with high level play.

Skill-ranks are socially significant, as highly skilled players generally command a greater level of deference than lower level players. However, the relationship between skills and social hierarchies is somewhat complicated by the real cash economy, as the discussion in the following chapter will demonstrate. However, skill-levels are still used as a means of drawing general inferences about the relations that exist between self and other, in the context of the game-world. The display of ranking is one means by which players enable or subvert the drawing of such inferences. Inferences regarding another player's skill-levels are also drawn on the basis of other ludic markers, such as equipment and play behaviour, or in accordance with visual markers, such as clothing.

Players who are familiar with the game learn to recognise the outward signs associated with particular skill-levels and may make assumptions about other players based on interpretations of an avatar's appearance, equipment, or game-play behaviour. Although, people are mindful of the manner in which the RCE confounds such readings, as it is possible to simply deposit money and buy high-level gear, even if you have only been playing for a short amount of time. A squabble that occurred in the public chat during a hunting event demonstrated this awareness. A player who was slighted and called a "noob" responded by asking "would a noob have a cannon and a thruster?" This statement was met with a resounding chorus of derogatory scoffs, "yeses" and "lols," as

players pointed out that all one needed to acquire these items was money and that money was not necessarily synonymous with skills, knowledge, or gaming ability. Equipment, in-game activities, and rank labels can all act as signifiers of in-game identities, yet these ludic symbols are also potentially subversive. Similar potentials for signification and subversion also occur in relation to avatar clothing.

The default "newbie" attire consists of a tattered grey jumpsuit that turns orange when it is repaired. Wearing "OJs" is generally read as a sign that someone has recently spawned and is new to the game. In contrast, more intricate forms of clothing tend to be read as indicative of a longer term in-game presence and investment. This reading is based on the knowledge that purchased clothes symbolise a capacity to spend PED on frivolities that are peripheral to game-play; a luxury that most new players will not, or cannot, engage in. However, in some instances I observed higher-level players wearing nondescript or "noob" clothing, in order to avoid garnering attention at public events or to hide their level of experience during transactions. So, clothes can also be used as a means of both revealing and masking identities.

Symbols, such as soc. names, skill labels, gear, and clothing can render the other knowable in the context of the game-world. These contextualising features can lessen ambiguity by allowing inferences to be drawn about the nature of relations between self and other. The potential for subversion remains, but it is defined as a masking of game-identity, rather than as a lack of correspondence between actual and virtual identities. In such instances, concerns about actual world identities become tangential, as authenticity is reframed as something that is related to the true representation of one's in-game roles, associations, and abilities.

Self and Other

Experiences of self and other, in EU, are characterised by a tension between recognition of the socially constructed and pluralistic nature of identity and pervasive notions of a singular "real" self. Past studies of virtual worlds have emphasised the fluidity of identity online, the reconfiguration of gendered experiences, the influence of social or game structures on the performance of identity, and the influences of narrative and role-playing on collective identification (Turkle, 1995; Boellstorff, 2008; T. L. Taylor, 2003; Pearce, 2009; Martey & Consalvo, 2011). Similar processes of identity formation play out across virtual worlds and people's experiences of self and other are often influenced by both ludo-narrative structures and participant demographics. In many virtual worlds, the actual world identities of players are seen as less contextually relevant than the in-world personas that participants create (Hudson, 2013; Martey & Consalvo, 2011). Ludic identity constructs are also paramount in EU, although anxieties regarding actual world identities appear somewhat heightened in comparison to other game worlds. Notions of a singular "real" self are reinforced by the no alts rule, and the monetary risks associated with game-play mean that people go to great lengths to get to know what others are "really like." Yet, at the same time, concepts of a singular bounded subject are subverted by the pluralistic "cyborg" experience of selfhood that avatarial being creates.

The experience of being-as-an-avatar facilitates the development of a form of cyborg subjectivity, because the self is fragmented and reconstituted through technological alteration. Haraway (1985/1991) poses the cyborg as other to the humanist idea of unified selfhood, constructing identity as a manifestation of fluid, changing and

continuous subjectivity, in a manner that decentres western identity constructs that pivot around dualisms. In *Cybersexualities*, Balsamo (1999) argues that we must find images of the cyborg that destabilise the rigid oppositions that dominant binaries create and strive to celebrate the flux and flow of identity which the cyborg can suggest; "the high-tech image of the cyborg reminds us to question the assumed naturalness of the body and its function as a marker of difference" (p. 151). The avatar can provide one such image, as the plurality of self, gender ambiguity, and construction of collective identities in virtual space, destabilises binary conceptions of self and other, male and female, and reality and fiction. Consequently, the experience of avatarial re-embodiment can render the constructed nature of identity visible and experientially real. However, in many instances, confrontation with the ambiguity of the cyborg self and cyborg other, simultaneously results in the reaffirmation of conventional binaries and notions of unified selfhood.

The humanist conception of unified selfhood has of course been questioned by post-humanist theorists such as a Haraway (1985/1991) and McNeill (2012). Yet, despite widespread acknowledgment that people play different roles in different contexts, notions of a bounded "real" self remain prevalent in western cultures. The associated tendency to link authenticity and trustworthiness to physicality and co-presence can result in an equation of online personas with subversion. This, in turn, prompts attempts to access the "truth" of the other's real-world identity by using tools that reduce asence and ambiguity, such as VoIP services. Instances where verbal contact is not an option lead to attempts to categorise the other in accordance with either ludic or actual world identity constructs.

Interpersonal ambiguity often results in readings of others that are structured around familiar identity constructs, such as gender and nationality. Nationality and gender act as a shared frame of reference and for this reason they are integrated into people's representations of self and readings of other. This integration stems from a desire to counter intersubjective ambiguity; nationalities inform the formation of in-game social networks and gender constructs are employed in interpretations of digital bodies. However, these processes of integration are problematic, as cues indicating someone's nationality or gender are often either lacking or indistinct. As a result, players may turn away from actual world identity categories and towards ludo-narrative identity constructs.

Ludo-narrative features provide alternate identity categories around which performances of self, social relations, and readings of others, can be structured. Players self-identify with the fictive ethnic and career based categorisations written into EU's narrative and game design. These processes of self-identification prompt the development of a social self concept that is symbolised by a shift, in terms of self-reference, from "I" to "we" (Brewer & Gardner, 1996). These "[s]hifts in ... self-categorization also have implications for how other people and groups are perceived" (Brewer & Gardner, 1996, p. 91). We-relationships subsequently form, in response to the identity categories and sub-categories that are defined by the game artefact and learned via processes of socialisation.

Socialisation into the game-world renders ludo-narrative identity constructs comprehensible, in relation to the world of common understandings that constitutes the game community. Socialisation occurs implicitly, through the reinforcement or mocking of actions by existing community members, or via the public airing of grievances. Socialisation also occurs explicitly via engagement with out-of-world game guides and websites, as these resources list society rankings, explain skill-levels, and document social conventions, such as "trade-etiquette." "Through socialisation individuals take for granted the existing social structures and definitions that come to constitute their natural attitudes towards the world of their everyday lives" (Zhao, 2004, p. 91). So, these processes of socialisation render ludic identifiers comprehensible in relation to the shared experiences, identity categories, and social structures of the game community.

Sociality in virtual worlds involves an incorporation the avatarial self into the user's sense of identity; "when we step through the screen into virtual communities, we reconstruct our identities on the other side of the looking glass" (Turkle, 1995, p. 178). Identity, rather than being fixed and natural, is a performance; although this performance is often based around dominant constructs of identity and community (Butler, 1990). Social groups "assign consensually constructed meanings to their surrounding objects, mediums and relations. These meanings assume the form of symbolic representations and signifiers with which the group can identify" (Salzar, 2004, p. 8). Social identities are subsequently shaped by the understandings of self and other that emerge in relation to user's collective lifeworlds. Lifeworlds that are influenced by experiences of avatarial re-embodiment, narrative collective identities, actual world identity constructs, asence, and ludic structures.

Conclusions

Online interactions "reconfigure ... the structure of the lifeworld by providing individuals with an opportunity to establish we-relationships in a new type of shared meaning context" (Zhao, 2004, p. 92). Self-apprehension incorporates the "the other's ... apprehension of myself" (Zahavi, 2010, p. 160). This reciprocal apprehension is constitutive of experience, as "[s]elf-categories are relational and self-identity arises in relationship with others" (Marshall, 2006, p. 248). A person's self concept is influenced by interpersonal interaction and collective identity categories:

we learn to see ourselves reflected in others' perceptions of society....What results is self - constructed within the constraints of the goals of the offline user, the interface we use to create our online appearance, and the social systems of the virtual world (Martey & Consalvo, 2011, p. 168).

So, the digital body becomes socially meaningful through its interpretation by others and this interpretation is also integral to a player's sense of self.

The experience of being with others in EU is characterised by a fragmentation of identity, the intersubjective extension of this fragmentation to others, and subsequent attempts overcome ambiguity and re-establish we-relationships in the context of the game-world. The game narrative provides a basis for the formation of an Entropian identity that is reinforced by collective memories and supplemented by the formation of planetary affinity groups. In-world social identities subsequently form in response to this fictive ethnicity and an amalgam of actual and virtual world identity constructs. The integration of actual world nationalities into the game-world influences the formation of social networks and gendered readings of digital bodies prompt a reconfiguration of gendered experiences. The experience of being as an avatar subsequently destabilises

binary notions of male and female, self and other, and reality and fiction. Players then respond to this destabilisation by attempting access the "truths" of someone's identity, either through voice chat or by restructuring their interpretations of others in accordance with ludic identifiers. Voice chat aids in the formation of intimate trust relationships and ludic identifiers render the other knowable in the context of the game-world. However, tensions between notions of a singular unified identity and the experience of cyborg selfhood remain. Variable understandings of in-game social identities form in response to these tensions. The social identity categories that develop in-game facilitate intersubjective understanding and the development of interpersonal relationships. These relationships are then structured around socio-ludic cultural logics that develop in response to features of the game artefact and the real cash economy, and these socio-ludic structures are the topic of the next chapter.

Chapter 5. Being Entropian: A Socio-Ludic World

Social hierarchies and behavioural norms develop, in EU, in response to the ludic and economic features of the game-world. Ludic elements of the game set parameters for social organisation. Social structures then emerge, as a result of the combined influences of game-play and the real cash economy (RCE). These social structures contribute a cultural dimension to the experience of virtual being, as relations within the game-world are shaped by culturally situated systems of meaning. This chapter examines the formation of in-game social hierarchies, norms, and systems of ethics, by documenting the interactions of game skills, social and cultural capital, and Entropia's RCE.

The chapter begins with an explanation of the socio-ludic dynamic that shapes the game culture. This explanation is followed by an analysis of the manner in which ludic hierarchies influence the formation of social hierarchies. The chapter then documents how this influence is mediated by the RCE and the tradable nature of game-skills. The analysis is grounded in ethnographic observation and guided by Castronova's (2003a; 2003b) model of "avatar capital" in combination with Bourdieu's (1986) concepts of social and cultural capital. The chapter goes on to examine how relationships between these different forms of capital influence the formation of in-game social networks. This examination is followed by an analysis of in-world notions of etiquette, ethics, and reputation. Together, these strains of analysis demonstrate the formative influence that the real cash economy exerts on the social structures of the game-world.

A Socio-Ludic World

EU is a socio-ludic world, as social norms develop in-game in response to features of game-play, such as skill levels, narratives, and the game economy. The patterns of social organisation that emerge constitute "a broader game apparatus, a sociotechnical one that goes well beyond the [game] artefact" (T. L. Taylor, 2006, p. 32). Conventions of interaction develop in response to features of the game platform, but the game culture also reaches beyond technological determinism. Common experiences result in the creation of "systems of connection between things which perfectly equip their users to 'think' their own world" (Hebdige, 1979, p. 103). As a result, in-game patterns of thought and action form in accordance with game specific cultural logics that respond to the ludic and economic structures of the game-world.

Game mechanics, defined as the "individual specific rules of the game, as created by the designers" (Scott, 2012, p. 297), set the parameters for action and interaction within the game space:

these mechanics interact collectively, forming a large domain of possible interactions and sequences of interactions, within the game. Players then produce their personal play experiences based on triggering specific subsets of these interactions through their own in-game actions. (Scott, 2012, p. 298)

Scott (2012) labels these instances of interaction with the game mechanics "gameplay dynamics" (p. 298), and emphasises the player's role in choosing which dynamics they interact with. The experiences, that are triggered by interaction with particular game dynamics, constitute the game aesthetic (Scott, 2012). The dynamics that players choose to engage with and their responses to the resultant aesthetic are mediated by interpretive trends and conventions of play (Scott, 2012). Overtime, a relation of mutual affect

develops among the game mechanics, interpretations of the game aesthetic, and trends of interactive play. Common ludic experiences, in combination with this shared demeanour, subsequently “contribute to the way individuals affect each other’s [in-game] experience” (Scott, 2012, p. 297). This socio-ludic dynamic shapes the game culture and this shaping affect is particularly apparent within in-world social hierarchies. Social stratifications develop in response to the ludic hierarchies created by skill levels and these stratifications were frequently mentioned during in-world conversations about society rankings.

Meanwhile in Ithaca ...

Up on the landing platform above Fort Ithaca, Zen was now telling me about his personal quest to join each of the top fifty highest skilled in-game societies for one week. Zen's quest was an example of improvisational play. He had taken a particular feature of the game mechanic, namely the society (soc.) ranking system, and used it create his own personal play objective:

[Zen] Zen's life changed when he started his quest: Zen likes to join every top 50 most skilled societies for a week.

[Twist] yep, I saw that ... how's it going?

[Zen] So far he just joined a few and at the moment it's at a hold, since he can't really join any group activities. But it did let him meet quite a few interesting people, skilled people, old style and new style.

Zen's quest had begun with a forum thread outlining his objective. One of the first responses to his thread was a post noting that a society's ranking would drop if they let a player with lower skills join them. A society's ranking is determined by the collective

average skill levels of all its members. Accepting a member with a lower skill level therefore affects the combined average skills of the group, and potentially the society's overall ranking. Zen had approached this issue philosophically: "If Zen joins a top 50 society for a week, but then the society drops to place 51, did Zen then actually join a top 50 society?" (Zen, 2011). His philosophical stance drew on his observance that most of the high ranking soc.s could easily accommodate a slight slip in ranking for a week. However, the fact that the question was raised so quickly points towards the social significance of skills and society rankings among members of the Entropian community.

Jac, a player I had met through Leah years earlier, had also drawn my attention to the social implications of the soc. ranking system a few weeks prior to my conversation with Zen. Jac would often send a "gratz/gz" (congratulations) via PM if he saw my name appear in the global stream. On this particular day I was out hunting Leviathan, a kind of sea monster, near Port Atlantis. I hit a 90PED global and few seconds later there was a knock at my message box. I knew it was probably Jac, Leah tended to reserve his congratulations for larger globals and hofs, whereas Jac would congratulate just about anything if he wanted to talk:

[Jac] gz :)

[Twist] thx, lol :)))))))))

[Twist] how's it going

[Jac] shit loot :P nah, breaking even, lol, I'm just bit pissed ;P

[Twist] wats up????

[Jac] Soc ranking's gone down because the soc leader let one of his mates in

[Jac] guy used to be in the soc, then chipped out.

[Jac] we're supposed to have skill cut-off so stuff like this doesn't happen. Just shits me, lol :P

[Jac] u in a soc yet?

[Twist] freelancer 4eva baby :P

[Jac] don't blame ya, lol, fucking soc politics ;D

Jac's account of his soc. problems drew on a lot of implied knowledge. He knew I would understand that "chipping out" meant that the new member had previously sold all of his skills and exited the game. He also knew that I understood why he felt a drop in ranking reflected badly on the society and its members. Jac's annoyance, like the response to Zen's quest, was a reflection of the manner in which soc. rankings act as a status marker for society members. The role of soc. rankings, as signifiers of social status, draws on the interrelations between skills and social hierarchy that have developed in-game.

Hierarchies, Skills, and Capital

The social hierarchies that emerge in response to EU's skill system are structured around the operations of avatar capital, economic capital, and game specific forms of social and cultural capital. Avatar capital is defined by Castronova (2003a) as "the aggregate of avatar hours weighted by the skill levels of the avatars" (p. 40). Social capital consists of social connections that are "convertible, in certain conditions, into economic capital" (Bourdieu, 1986, p. 47). Cultural capital manifests as linguistic,

behavioural, and cognitive cultural competencies (Bourdieu, 1986). In EU, experiences of these various forms of capital are mediated by ludic structures and the RCE. These dimensions of capital are also heavily influenced by the fact that skills, in EU, are tradable commodities.

Skills can be earned through play and bought or sold on the game-market. This feature, in combination with the RCE, means that avatar capital is a form of economic capital. Bourdieu (1986) defines economic capital as that "which is immediately and directly convertible into money" (p. 47) and skills are directly transferable into PED. In order to sell skills one only has to buy an "empty skill-implant," extract the skills from one's avatar, and find a buyer. Levelling-up can be as simple as purchasing and inserting a skill-chip. As a result, the RCE directly influences the social structures of the game community.

The monetary value of skills means that economic capital influences in-game understandings of hierarchy. In most online role playing games the accumulation of avatar capital occurs, via the time intensive development of an avatar's skill-set, through game-play:

A player starts the game with a weak avatar, but game-play gives the avatar ever-increasing powers. As power increases, the avatar is able to take more advantage of the game world, to travel farther, do more things, see more people.

(Castronova, 2003b, n.p.)

Even in non-RCE games, there are implicit economic dimensions to avatar capital; the amount of time people can afford to invest in play influences the aggregate amount of avatar capital in a game. In EU the tradable nature of skills means that associations

between avatar capital, in the form of skills, and economic capital are even more distinct.

Individual avatar capital can be accumulated quickly through trade. Progression is only restricted by the amount of money that someone is willing, or able, to invest, and the availability of skills on the market. Tradable skills mean that individual avatar capital is often read as a signifier of actual-world wealth. This monetisation of avatar capital has a formative influence on in-world social hierarchies, as the tradable nature of skills confounds simplistic categorisations of so called "noobs" (inexperienced players) and "ubers" (high status players) in accordance with skill levels. The commoditisation of skills also means that, despite the fact that every new avatar is spawned equal, real life wealth can have a significant influence on someone's rate of progression. It is possible to spawn and immediately buy a lot of skills, operate "uber gear," and engage in relatively high level game-play. As such, the RCE subverts the straightforward association of skill levels with social status, because the pace at which players accumulate skills can be directly related to monetary investment.

The commoditisation of skills leads to a differentiation between those who have "chipped" in skills and those who have skilled "naturally" through the investment of time and funds in game-play. Skill levels are still seen as significant, but as Baron told me "being rich and eating chips does not make you an uber in this game" (Baron, personal communication, July 21, 2012). Baron's distinction between natural skilling and chipping drew on interrelations among wealth, skills, and game knowledge:

[Baron] A prime example of ridiculous skills is Jamie. You know the guy works ... [an extremely highly paid job] so he has an insane amount of money to spend.

So, what he does is, he will scour the auction for any chip. He'll find any chip at all, doesn't matter what it is related to, but if the chip is undervalued or a good price he will buy and eat the chip, that's why he's got, I don't know what 300'000 or 600'000 [skill points] ... You know [he] probably doesn't have the knowledge and I think that knowledge is the important thing in this game. Knowledge combined with skills makes you uber. So you can't have one and not the other and just say you're uber. I mean the only thing I ever chipped up was the Tirak, the ability to craft Tirak texture, everything else has been done naturally; apart from the rewards from the missions.

Baron drew on links between wealth and skills, and maintained a strict distinction between chipping and natural skilling, in order to subordinated skills to game knowledge in his understanding of in-game social status. The distinction between natural skilling and chipping is made possible because the general skills system exists alongside a special class of avatar skills, known as attributes.

Attributes cannot be chipped out and sold; they are primarily gained through play and the completion of game-missions⁹. As a result, so called “ubers” or long-term prominent players, tend to have high levels of both skills and attributes. Zerg drew attention to the manner in which the attribute system acts as a slightly more reliable signifier of the investment of time, which he saw as indicative of dedication to the game:

[Zerg] In general respect is for people who really, you know, doing something remarkable ... [like] persisting in time. So you have 5 stamina which means you have done a bunch of missions, that's cool ... Dan is 40 stamina which means he did every freaking mission available to the max. I mean that's just, oh man, I

⁹ Some purchased skills do result in incremental increases in attributes, such as health.

can't even think to imagine how much time and dedication that costs. So that's what I respect.

Attributes, such as avatar stamina, tend to reflect the amount of time and effort people have invested in game-play, and this is generally associated with the accumulation of game knowledge.

Knowledge is particularly significant, because many current players entered the game before the integration of a "beginners (tutorial) area" or the establishment of comprehensive, unofficial, game-guides. This lack of information created a relationship of dependence between players:

[Deathifier] You got dropped, sort of, in the wilderness ..., no instructions, or directions, or tutorials, or nothing. It was like "go" [and] I'm like "great go where" ... It felt like you were actually being these colonists on this mostly deserted world ... There weren't many people around, but there was a lot of discussion and there was a lot of trading going on, all personalised because there was no auction back then. It was all very small town feeling, not many people so you could sort of get to know them, either personally or by reputation.

These relations of dependence have been somewhat reduced through the creation of guides, tutorial areas, and game-wikis. However, the game is large and complex, so questioning remains one of the primary forms of interaction between players and the wider game community. Knowledge is seen as fundamental to success, and interaction with the broader community is fundamental to the spread of knowledge:

[SBI] The community is probably more essential here than in other games ..., knowledge is power = staying above the average = not going broke :)

General information about controls, tools, and game-play is spread willingly. However, information that could provide someone with an economic edge, like the location of resource deposits, is more closely guarded and takes longer to accumulate. The game's structure necessitates questioning, while the RCE influences the kind of information that is shared, and tradable skills contribute to the primacy of game knowledge in relation to understandings of status.

Tradable skills and the RCE mean that attributes and knowledge often take precedence, over skill levels, as status markers. This perspective was voiced by Hope, a high-level and long-term player, who expressed disparagement at those who purported to have game knowledge without a firm foundation in play experience:

[Hope] There are so many people that live on the forum and know everything, oh my god, they are the gods, and you ask "how much did you play last year?" "Oh I did 3 hunts." "Ohh, ok - big knowledge."

The commoditisation of skills, in EU, subverts the straightforward equation of avatar skill capital with social status, as skill levels are not necessarily a reliable indicator of the time a person has spent in-game. As a result, evaluations of status are instead based on interpretations of the relationship between skills, money, attributes, and knowledge grounded in play experience. Skill based avatar capital alone was not enough to make someone uber in the eyes of participants. However, avatar capital remains socially significant as skill specialisations also create a ludic framework around which social interactions are structured.

Avatar Capital and Social Capital

In EU, as in other MMORPGs, players specialise in disparate areas of game-play by focusing on developing certain avatar skills. Specialisation and complementary skill-sets often mean that people have to work together in order to achieve particular objectives (Castronova, 2001). “These social relationships are essential, and they emerge under the same kinds of circumstances as required in Earth societies: two people with complementary abilities or resources have an incentive to engage in mutually beneficial trade” (Castronova, 2001, p.13-14). The influence of skill sets on interactions is indicative of the manner in which the ludic dimensions of avatar capital impact sociality. As a hunter, with relatively meagre production skills, I had first hand experienced of this dynamic.

Throughout my game career in EU, my ability to hunt has been dependent on a ready supply of weapons. My focus on acquiring hunting skills has left little time, or funds, for the development of crafting skills. As a result, I was unable to produce the level of weapons I needed in order to hunt. This dearth in crafting skills meant that I was reliant on buying guns from the in-game auction, and my ability to earn PED from hunting was dependent on the availability of suitable weapons on the market. I would often spend significant amounts of time scouring the auction for suitable and affordable weaponry. After a while, I noticed that I was often buying from the same seller¹⁰, so when I saw his avatar, standing at a crafting terminal in Fort Ithaca, I decided to go and say "hi."

His name was Uri and he was an imposing figure. He was much taller than I was.

Crafters were often taller and larger than hunters or PKers. There is no advantage to being small if you are a crafter, whereas hunters and PKers tended to be smaller simply

¹⁰ Sellers names are listed next to their auction entries.

because it is harder to hit a small target in PvP (player versus player) zones. I said "hi" and told Uri that I had been buying-up all his weapons in the auction. He was Russian, but he spoke enough English for us to have a conversation. He mentioned that he had a couple of guns in storage, so I asked if he wanted to forgo the auction and do a private trade; I would buy both guns. He offered me a reasonably low price, as the private trade meant he could avoid the auction fees; it was a good deal for both of us. I asked if I could add him to my "friends list" and PM him when I needed new weapons. He said that it was ok.

Uri and I met up fairly regularly after that. If I saw that he was online, and I needed a gun or an amplifier, I would send him a PM. We would meet up and if he did not have any weapons at the time he would usually make some while I waited at the crafting terminal. Sometimes, if he was having a particularly successful crafting-run, he would call me up and offer me the weapons. If I had the PED I would usually buy them. It was advantageous for me to stock up when I could and he always gave me a good price. If he looted enough to get an entry into the hall of fame (HoF) during production he would joke that it was the "HoF weapon" and so it must be a lucky one.

My relationship with Uri was one of mutual benefit, structured around our complementary skill sets. Moreover, in our respective roles as hunters and crafters we were tied together in networks of supply, demand, and production that stretched far beyond our individual weapons deals. As a crafter, Uri was depended on the resources supplied by hunters and miners in order to produce the weapons he was selling. In turn, hunters and miners often depend on crafters for tools, weapons, and armour. These exchange relations are somewhat confounded by the presence of some kinds of tools,

guns, and armour in loot. However, the number of exclusively craftable or lootable goods is sufficient to ensure that exchange networks, structured around complementary skill-sets, remain. So, avatar capital, in the form of skill specialisations, structures social interactions, and in doing so it influences the formation of social capital.

Social capital manifests in networks of relations and "is fundamentally about how people interact with each other" (Dekker & Uslaner, 2001, p. 2). Exchange networks are a form of in-game social capital that facilitate trade and play. Specialisations emerge as the temporal and economic costs of progression prohibit most players from skilling in multiple areas. Complementary skill-sets subsequently result in relations of interdependence that prompt interaction and the formation of exchange networks. An array of contacts is beneficial to the pursuit of both game objectives and economic goals. Interactions in EU are generally orientated around play and trade. Therefore, players with broad exchange networks possess a high degree of social capital. In-game social capital exists alongside attribute and knowledge based hierarchies and together these socio-ludic features shape the patterns of social organisation that emerge within the game community. These patterns of organisation, or social structures, are also influenced by the notions of reputation and systems of ethics that develop in-game.

Reputation and Ethical Game-Play

Reputation is a significant social construct in many MMORPG communities, and in EU understandings of reputation are closely linked to norms of ethical play and etiquette. Collective notions of ethical game-play are grounded in interpretations of the game's end user license agreement (EULA) and terms of use (ToU). Ethics, conceived of as evaluative systems of thought and action, are used to appraise the dealings of others in

accordance with a set of culturally demarcated principles. The ToU and EULA, in conjunction with features of game-play and interpretations of the RCE, provide the basis for an in-world normative framework against which others' actions are judged. As a result, socio-ludic systems of ethics emerge.

The ToU and EULA set the structural and legal parameters for engagement in EU. Evaluations of acceptable or unacceptable behaviour are often grounded in interpretations of these rules. For example, the acquisition of goods via the exploitation of "bugs" (software defects) is not only against the rules, but also generally considered unethical. However, relations between game rules and in-game ethics are not deterministic. Rather, they mirror relations between law and morality in the actual world, as not everything that is condoned by the ToU and EULA is considered right and not everything that is forbidden is necessarily considered unethical. For instance, "scams," executed via means that contravene the game's rules, may result in consequences such as account suspensions or bans. In this sense the game's ToU function as "laws." Yet, occasionally, a player's actions may subvert community understandings of courteous play, but not explicitly break the game's rules. In such cases players' actions are evaluated in accordance with socially constructed notions of manners and ethical play, and people are held accountable by the game community in terms of public reputation.

Collective normative frameworks provide a basis for the evaluation of another's actions in-game. Of course, "moral acting presupposes free agency" (Brey, 1999, p. 10) and the agency of actors in Entropia is inevitably constrained by the game's rules and programming. However, as a sandbox style game, EU provides participants with

enough autonomy to be considered free agents capable of enacting moral choices. Social interaction, in-game, is also sufficient to enable the development of sub-culturally relative normative ethics through "processes of social negotiation and dialogue" (Brey, 1999, p. 10). People consequently exhibit variations in their understandings of ethical behaviour. Yet, these variations tend to occur within a particular cultural "arc of possibility" comprised of common value configurations, just like in actual world cultures (see Benedict, 1955).

Common normative frameworks are an expression of the "like-mindedness" characteristic of cultural and sub-cultural social networks (McArthur, 2008; Hesmondalgh, 2005). This like-mindedness was apparent in participant's responses to questions about what constitutes good and bad manners in EU. Participants drew from a common pool of value configurations and also incorporated out-of-world values into their evaluations of actions within the game-space. Denunciations of racism and sexism coexisted alongside the notions of common courtesy, politeness, and common sense expounded in normative statements about behaviour:

[Kay] racist talk too ... people will take a lot of bad language, but when [it] becomes [about] race, no way.

[Sylv] nothing racist or sexist or offensive to religious sentiment. I think these are just normal rules of RL that are just carried over into the virtual world, just questions of morality and common sense.

[Deathifier] I think a lot of it is very much common courtesy and, basically, just real world social rules apply to the virtual worlds too; besides kill stealing and general irritation of nearby players.

Statements regarding common courtesy can be problematic in a space populated by participants from over 200 countries and territories. However, the sub-cultural frame of reference, provided by the game's structure, in conjunction with the reduction of non-verbal social cues, can minimise the potential for misunderstandings arising from cultural variations in relation to actual-world notions of courtesy. Interactions are standardised and reconfigured through the operations of the game artefact, and cross-culturally variability, in relation to normative conventions, is consequently reduced. In turn, new sub-cultural conventions of interaction and notions of courtesy arise based on the operations of the game artefact and, in particular, the RCE.

The influence of the RCE on understandings of courtesy was particularly apparent in participants' statements about negative behaviours such as "begging," "scamming," "mob trains," and "kill stealing." Variable positions surrounding acceptable behaviour in PvP zones were also put forward (see Morgan, 2013):

[Kay] Don't ask to borrow things. Begg[ing is] probably biggest social shame to someone. Kill stealing - way bad.

[GyF] Mob training is very rude. Kill stealing is very rude. Repeated killing of the same avatar in space, preventing them from continuing their trip, is considered rude.

[Luke] Generally scamming is frowned upon ...

[Ric] Don't scam I guess, yep for sure. I don't like beggars but ... as for manners, don't sell out your friends in pvp4 [lootable PvP].

[Hope] Begging, I hate begging. It's like I hate it in real life, but in-game? Come on give me break!

[Lyb] I think it's bad manners for people to PK in non-red [non-lootable] areas, like on levis [leviathans] for instance. Kill stealing can be annoying also.

[Deathifier] People have perceptions I suppose of unwritten rules, like "don't steal my mob if I'm shooting at it," "don't steal them in front of me or mob train me, I don't like that." Those kinds of game-play elements that people find undesirable and that probably aren't really communicated, but they're still common sense, you know.

"Begging" refers to the solicitation of PED or gear from other players. "Scamming" is commonly understood as the process of exploiting other players, or the game system, for monetary gain. "Mob trains" occur when a player runs past many consecutive mobs, thus encouraging the mobs to chase them. If a player then runs past another person, while being chased by hoard of angry mobs, the mobs will also attack and possibly kill the second player. "Kill stealing" refers to the practise of shooting a mob that someone else has already started shooting, but not yet shot 50% of. Thus, enabling the kill stealer to acquire the mob's loot, but not carry the entire cost of the kill. These acts all subvert understandings of legitimate acquisition and ownership as something that is derived from the reciprocal exchange of labour, money, and goods.

Acts that contravene communal understandings of legitimate acquisition or ownership, even if they are not explicitly against the rules, are not usually considered acceptable forms of play. Although disputes do occasionally arise in relation to understandings of exactly what constitutes scamming or kill stealing. For example, I witnessed a disagreement, when hunting, about whether a mob that still had over 50% health was "fair-game," as well as an argument about whether paying noobs below market prices was tantamount to scamming or simply a shrewd business practice. Accusations of

begging or scamming are used both to warn the community and also occasionally to derogate or slander. There have been a few spectacular scams in EU's history and, in these cases, breaches of the EULA and ToU have resulted in asset seizures and account bans. There are also many players that recount experiences of being "ripped-off" or "scammed out of PED," often early in their game careers. These scams are experienced and evaluated as forms of deviance. The label scammer is consequently, particularly damaging in terms of player reputation. Mob trains are slightly more ambiguous, as they are used in a range of social and game-play contexts.

Mob trains can be an imposing sight and occasionally they are employed as a tactic. Mobs have been dragged into competitive PvP zones, like the oil rig, in the past. This tactic generally causes widespread carnage, potentially providing the attacker with a competitive edge, as adversaries must focus on protecting themselves from the mobs as well as from other players. Groups of animals have also been led across continents into populated areas, or sweat camps, as a joke. The ensuing chaos is memorable and often quite entertaining:

[Tyro] One time, they had an event out at Phoenix with the Boorum [large mutants] and I gathered up a whole bunch of those and took 'em into the Swamp Camp. You know, it's bad enough the first time you see one, but when you're out there sweating! The comments were gold, they're like "oh, don't sweat that one," "oh great, MindArk found a new way to fuck us." Every little thing like that adds to the flavour of the game, it adds to the enjoy-ability of the game for the community at large. I just like the creativity aspect of it all myself.

Trains are also occasionally used malevolently to harass other players or exact revenge. This final use is the one that players tended to deem unacceptable in their evaluations of

good mannered play. This disposition draws on one the ToU's rules of conduct, which states: "[y]ou cannot interfere with any other participant's ability to use and enjoy the Entropia Universe" (MindArk, 2011, n.p.). However, community interpretations of what constitutes "interference" do vary. Variability also occurs in regards to peoples' understandings of courteous interaction. Participants expressed different opinions regarding whether or not, or when, one should congratulate someone if they score a global or HoF. People also had diverse opinions about whether one should greet, or say goodbye, to others when logging on or off, and about whether it was ok to PM people one did not know. Ambiguity, debate, discrepancy, and commonality of opinion, in relation to questions of morality and manners, are features of human cultures that are mirrored in virtual worlds. A further defining feature of cultural systems is the generational reproduction of cultural knowledge and this also occurs in virtual space.

Normative principles and social conventions are learned and passed on through communications within the game community. As a result, conventions of interaction and evaluative systems of thought are sustained across consecutive "generations" of players:

[Baron] There are many unwritten rules, most of them are broken by noobs everyday ... I think again, that's why societies are so important in the game; because usually a society will have at least one or two longer term players in it who can pass on the knowledge that they've learned, just through experience or maybe even learned from their own mentors.

Baron emphasised the role of societies in socialisation and the extent to which noobs break accepted social conventions due to a lack of spatial literacy. Spatial literacy is the ability to read and interpret a space in accordance with shared interpretative frameworks

(Pearce, 2009). In-game, this reading and interpreting of space incorporates an evaluation of the other and their actions, in accordance with game specific normative principles. Like all cultural norms, these principles are variable, learned, and passed on through successive generations of community members. Notions of reputation are subsequently built within a learned normative framework that encompasses game rules, manners, and principles of ethical play. In-game cultural capital is cultivated by understanding and acting in accordance with this framework and the degree of cultural capital an individual holds is signified by their reputation.

Reputation and Cultural Capital

The significance of cultural capital, as codified in reputation, is derived from the monetary risks associated with play in EU. Risk is an influential factor in the development of trust relationships in online environments and “reputation systems may reduce ... perceived risk[s]” (Corritore, Kracher & Weidenbeck, 2003, p. 752). The RCE heightens the risks associated with game-play in EU, and judgments regarding someone's reputation influence peoples' evaluations of the risks associated with interactions. Adherence to norms of legitimate acquisition and ethical play can build reputation and trust:

[Hope] Trust is hard to gain, but well, it's worth a lot. Trust and reputation that's kinda most [of] what it's about in-game.

Reputation is not an objective social fact "but rather largely exists in, and through, our interactions with others, and in their opinions of us" (Crawford, Gosling & Light, 2011, p. 13). Cultural capital builds social capital, as people develop social ties more readily with those that understand and adhere to social norms, thus developing a good reputation:

[Tyro] It's a small community, you know. If you do something in the game you can count on a lot of other people hearing about it. Your reputation can mean a great deal in the game ... [and] because it is a RCE I think trust is really important.

The RCE means that high levels of social and cultural capital can result in economic gains. This influence was demonstrated by Tyro, who explicitly stated that his in-game actions were geared towards the cultivation of a positive reputation:

[Tyro] When I put a bid on an auction, a lot of people they won't bid against me. I've had people call me up and go "hey, I see you're bidding on this apartment, is this something you really want, because if so I'm just not going to bid against you." So there are benefits [to having a positive reputation] in that regard ... people get to know [you] ... and then when I'm out here buying ores, or wools, or what-have-you, they want to sell to me. People like to sell to people that they know.

Tyro's experiences indicate how the active cultivation of a positive reputation can result in increased in-game opportunities through the interactions of social and economic capital. Reputation also interacts with avatar capital, through the operation of skill/attribute based hierarchies and processes of "valorisation" (Van Loon, 2010, p. 24).

Valorisation can be defined as "the creation of heroic avatars" (Van Loon, 2010, p. 24).

Van Loon (2010) observes two forms of valorisation apparent in game-worlds, namely structural and social valorisation. Structural valorisation is derived from individual avatar capital and demonstrated through dedication to, and mastery over, structural elements of game-play (Van Loon, 2010). The fame associated with highly skilled avatars such as Jamie and Dan, as mentioned in Baron's and Zerg's comments above, is a

form of structural valorisation. Social valorisation, on the other hand, is built through interaction and a demonstrated dedication to the social aspects of a game. In EU, players build renown for acts such as organising in-game events, running forums, creating websites, creating fan-fiction, running radio shows, or creating artworks. The fame derived from such activities is closely connected to reputation, although it is not necessarily based on skill levels or game-play.

Social valorisation, unlike structural valorisation, is “not ludic in essence” (Van Loon, 2010, p. 25). Yet, both forms of social relation draw on the operations of the game artefact and are indicative of the “building of social systems from below” (Van Loon, 2010, p. 25). Valorisation and a good reputation increase the likelihood that one's opinions will be listened to when conversing in-game or on the forums. These social attributes can represent an end in themselves, as some player's choose to engage with the creative and social dimensions of the game-world over the ludic dimensions. Social valorisation subsequently acts alongside etiquette to form an alternate means of building social and cultural capital. Therefore, enabling participants to enjoy the economic advantages that co-occur with a positive in-game reputation. Associations between the real cash economy and social valorisation maybe somewhat peripheral, but they exists nonetheless. Thus, demonstrating that the RCE is a total social phenomenon, which permeates even non-ludic aspects of the game culture.

The RCE and the Game Community

The RCE has a formative influence on the game culture and relations within game community:

[Sylv] you've only got to look at the conversations in the chat. Everyone's always talking about it ... "I'm broke" or "I've bought this or that" or "I hope I'm gonna get a HoF [hall of fame] soon" etc, etc, etc. Everything revolves around money and everyone's hoping to hit the jackpot (ATH) [all time high]. It [the RCE] most definitely influences people's actions and their interactions with other people. How often have people asked me "can I borrow 200PED, you'll get it back soon", LOL. Also everyone is active as long as they have PEDs, but if someone's broke they might not log on for days or weeks. Money makes the world go round, most definitely.

The economy influences social structures, interactions, player behaviour, and people's levels of in-game activity. The in-world community is shaped by the economic dimensions of the game artefact and the RCE even influences patterns of speech.

Outside of trading, which will be explored in detail in chapter seven, the influence of the RCE on speech is most apparent in the valediction "gl" (good luck). This form of goodbye has developed, as social norm, in response to the game's cash economy and the resultant primacy of loot. Loot is significant because loot means money:

[Rydx] when loot is bad more people complain on forums and when loot is good more people complain about the people who get the good loot.

Loot is luck incarnate, so if you want to wish someone a good day on Calypso you wish them good luck (gl). This linguistic trend further demonstrates the extent to which the RCE implicitly influences the game culture and community.

The influences of the RCE on the in-game community were seen as both positive and negative by players:

[Chris] Community overall is good, but when real money is involved then it attracts some less good ppl that try [to] take advantage. So I recommend everybody to be careful.

[Luke] Two side to the community 1) good, honest, helpful etc 2) liars, cheats, secretive - due to the RCE brings out the best and worst in people sometimes, from one individual even who may have a good side and bad side, both sides active simultaneously even.

[Deathifier] At the end of the day, decisions are in part influenced by the economics ... So there is this subconscious element influencing what's going on and I think that adds a totally different, I suppose, feel to how the community acts and interacts.

The RCE acts as a point of convergence that unites a diverse group of individuals around a common interest, while also shaping the social structures that develop within the game-world. The influences of ludic features on the game culture are mediated by the operations of the RCE. The economy also influences dispositions towards skill hierarchies, the formation of social networks, in-game ethics, social norms, and even patterns of speech. EU is a game-world and a social world, but it is also an economic world.

Conclusions

The culture of Entropia universe is socio-ludic and a defining feature of the game is the real cash economy. The operations of the game artefact and the game economy provide a framework for the formation of social structures, such as hierarchies, exchange networks, and systems of in-world ethics. Players are socialised into the game

community through interaction. This socialisation equips users with the understandings necessary to comprehend the social dimensions of the game-world and their place within it. Interactions between the ludic and economic features of the game are apparent in the social hierarchies that have developed in response to EU's commoditised skill system. At the same time, social networks are formed as a result of interactions among avatar skills and social and cultural capital. The development of complementary skill-sets enables avatar capital to manifest as a form of social capital that provides individual players with economic benefits. These economic benefits, in turn, result in the continued maintenance and reproduction of exchange networks. Cultural capital, as signified in reputation, is forged through adherence to communal understandings of ethical play. These understandings are based on interpretations of the game's rules and understandings of legitimate acquisition. Meanwhile, valorisation provides both ludic and non-ludic avenues for the further building of reputation.

Virtual communities exhibit many of the same characteristics as cultural systems in the actual world; characteristics such as collectively, variability, and generational reproduction. Common value configurations, shared understandings of hierarchy, and the reproduction of social norms are features of human cultures in the actual world. In virtual worlds, these cultural features are simply reconfigured in response to structural aspects of the virtual spaces within which people interact. This chapter has demonstrated how ludic features, social conventions, and economic structures form the basis of Entropia's game culture. The influences of the RCE, on the social world of EU, also extend beyond in-world hierarchies and understandings of ethics and reputation. The RCE simultaneously influences play behaviours, relations of trust, perceptions of

risk, and manifestations of reciprocity within the game-world. These further societal influences of the RCE are addressed in detail in the following chapter.

Chapter 6. Trust, Risk, and Reciprocity

The outstanding discovery of recent historical and anthropological research is that man's economy, as a rule, is submerged in his social relationships

- Polanyi, 1944/1968, p. 46.

In EU, the risks associated with play are monetary and the competitive RCE environment highlights tensions between sociality and an individualist economy. This chapter examines these tensions through the documentation and analysis of instances of trust, altruism, and reciprocity. Throughout the chapter altruism is conceptualised as "a motivational state with the ultimate goal of increasing another's welfare. [Whereas] [e]goism [or self-interest] is [seen as] a motivational state with the ultimate goal of increasing one's own welfare" (Batson & Shaw, 1991, p. 108). The chapter begins with an account of a team hunt that highlights the problem of trust, in relation to collaborative play, in an RCE world. The chapter then continues with an analysis of the influences of different game mechanics on trust and instances of cooperative or competitive play behaviour. This analysis is followed by an exploration of instances of altruism and the seemingly counterintuitive practices of lending and gift giving. The chapter then concludes with an examination of forms of reciprocity in EU that documents interrelations between different forms of exchange and social distance. This discussion shows how the depersonalised nature of money is mobilised as a basis for sociality, through practices that simultaneously affirm and invert the individualistic and calculating nature of monetary exchange.

The Xenobiologist and a Team-Based Hunt

Urgent Request from the Colonial Xenobiological Institute:

Scientists from the Colonial Xenobiological Institute request assistance to gather specimen samples from a previously undocumented Merp breed that has recently been spotted in wild areas of Amethera and Eudoria. Xenobiologist Charles Marvin tells us: "We are delighted to have this rare opportunity to collect samples from what appears to be a mutated strain of Merps. Unfortunately, the highly territorial Mul tribes seem threatened by these unusual Merps, and have reacted violently to our efforts to gather data.

Colonists willing and able to assist in this scientific excursion are requested to report to the Akmuul Island outpost as soon as possible for further instructions."

Additionally, increased mutant activity has been reported in the area northwest of Fort Zeus. At this juncture, Dr. Marvin is unable to confirm whether this mutant activity is somehow related to the mutant Merp phenomenon. (Planet Calypso News, April 13, 2012)

The announcement on the EU website was fairly clear; MindArk had initiated an event and this meant that people would be out hunting the mutated Merps. I logged on and teleported to Akmuul Island. Era, a player I had interviewed a month earlier, was already there, standing next to the teleporter. He had been out searching for the outpost mentioned in the press release, but had not yet found it. We decided to continue searching together. We teleported round the island and reported back on where we had searched and what we had found. After about half an hour of searching we still had not found the outpost. I messaged Era, telling him I was going to head over to Fort Zeus, as this location had also been mentioned in the news bulletin:

[Era] kk, I'll let you know if I find anything :)

[Twist] thx :) GL

[Era] u 2 cu

Upon arrival at Fort Zeus, noticed a collection of green and red dots on the edge of my radar. I ran out towards them and it was not long before I saw a large group of Feffoid and Maffoid mutants.

The mutants were gathered on a hillside and there was small group of hunters standing at the edge of the collection of mobs. I shot down a few of the mutants and typed a quick greeting into the public chat. One of the group members invited me to join their team hunt, and as I scrolled my cursor across the other avatars I noticed that one of the names was Xenobiologist Charles Marvin; this was the name of the Calypso staff member mentioned in the news bulletin. It was not unheard of for staff members to enter the game, although it did not happen very often. I tried to message Era, but he appeared to have given up the search and logged off, so I accepted the team invite and joined the hunt. I recognised a few of the other team members names, but I did not know any of them personally. Some people were hunting with mindforce; this is form of psychic ability that allowed players to shoot "nerveblast energy," or fire, and essentially hunt without regular weapons. The different mindforce abilities required particular chips (avatar implants) and mindessence, the substance derived from animal sweat, in order to be used. Sweating and teleporting are some of the more basic mindforce abilities, the more advanced hunting, healing, and travelling abilities are fairly expensive and their use is relatively rare. The Xenobiologist was also using mindforce to heal members of the team and the mutants fell pretty quickly. After a while, two other players showed up and were invited to join the team.

The combined fire-power of a group that now consisted of seven players, with the assistance of one Calypso staff member, was a bit too much for the small mobs. Killing the lower level mobs with such a large group was not particularly economical, and it was not long before someone suggested we move on to shooting the higher level mutants, known as Mulman. Team members speculated that moving to the higher level mutants would reduce the team's level of "overkill" and might also increase our chances of looting one of the samples associated with the event. The team discussed where we should move to and amid discussions regarding location coordinates someone suggested using a wormhole. As a Calypso staff member, Charles was equipped with just about every high level ability an Entropian could hope for and incurred no personal costs to play. This meant he could easily use one of his mindforce chips to open up a wormhole that would allow us to all travel instantaneously to the new location. Charles agreed and after a few seconds a giant blue vortex opened up above the group. One by one the players jumped into the wormhole, thus disappearing and reappearing at the new location.

The higher level Mulman were much more of a challenge for the group. Charles helped by healing, reviving group members when they died, and assisting when the mobs proved too tough for us. Most team members had been playing for at least a few years and were fairly well-versed in the conventions of team hunting, so there was a basic level of unspoken cooperation within the team. One person would set a team target and those with long range weapons would shoot first, thus luring the mob towards the group. The large light grey mutants were strong and much more of a challenge for our team of hunters. People still continued chatting during the hunt; some scouted the area for mobs and shouted directions, others quizzed Charles about his mindforce abilities or MA policy, others jokingly told him to "turn on the loot."

The first global of the evening came after about half an hour of hunting the Mulman. The rings of golden swirlies engulfed each of the team members and the hectic atmosphere of the hunt subsided for a second, as everyone paused to examine their individual loot windows. The team settings were entered as "stack share," which meant that the loot from each creature was automatically distributed among the group, in proportion to the amount of damage that they had inflicted. This setting also meant that stackable items were split and distributed among the group members based on their contributions to the kill. Other possible team hunt settings include "damage decides order," "item share," "looter takes all," "most damage wins all," "queue," and "casual." "Damage decides all" and "item share" also result in a loot distribution that is proportional to the amount of damage one inflicts. However, "damage decides all" distributes loot among *all* group members, even those who may not have invested in killing that particular creature, and "item share" does not split stacks of goods among team members. "Queue" distributes loot in accordance with the order in which team members' names are listed on the screen; the first member on the team list receives the first found item, the second person listed receives the second item, and so on. The last member in the queue is then counted first when the next creature is looted. "Casual" distributes loot randomly among team members. The settings "looter takes all" and "most damage wins all" are fairly self explanatory. The shared loot settings tend to be preferred, as they mean that people's individual winnings tend to be proportional to the efforts and funds they invest in killing a mob. However, these loot settings can still prove problematic when a team loots an item that cannot be split.

The Mulman global was not particularly large, only 190PED, but it was our first of the evening. It mainly contained oils and ammunition, and these goods were automatically

divided among the group members. However, it also contained an item that could not be automatically split, a piece of armour worth 75PED, and as I glanced down the list of loot I noticed that I had received it. Discussions in the group turned to how we should share the value of the item. Someone suggested we share it 10PED each and the team members agreed that this would be the fairest option. However, I did not have enough PED on me at the time to make the split, so I offered to provide everyone with the equivalent value of ammunition. Cefin, one of the other team members then sent me a PM suggesting he could buy the armour to sell in his shop. This seemed like a good compromise, so I agreed. He then asked me if he should give me the total value or just my 15PED. I had not met Cefin before and, although he seemed nice enough, I could not help but think back to some advice I had received during my early years in EU, namely that I should "trust no one." Our conversation had been held via PM and if we traded, the transaction would also occur in private. I knew that he could potentially take the armour, in exchange for my 15PED, and then claim to the team that I still had it without redistributing the winnings. It would then be my word against his and it was my reputation that was potentially at stake. I told Cefin I would prefer him to give me 65PED, which was the cost of the armour minus his share. We traded the PED for the armour and I proceeded to distribute the winnings among the remaining team members, via private trades.

The rest of the hunt was fairly uneventful. Charles left after a while to go and find another group and continue contributing to the event. The team disbanded shortly after he left and we never actually looted any of the samples associated with the mutant event. However, it had been a fun evening and it stuck in my mind, not only because it was my first (and probably last) time playing alongside a Calypso staff member, or

because it was my first-time travelling through a wormhole. The thing that stuck in my mind was that first global and the manner in which it had highlighted one of the central problems associated with collaborative play in an RCE environment; namely, the problem of trust.

Cooperation, Competition, Trust, and Risk

In cyberspace values manifest in code and code acts as law through the regulation of access, action, and interaction (Lessig, 2006). In MMORPGs ludic structures, determined by game code, set the parameters for social interaction and "these rules can be designed to ... encourage cooperation, altruism or distrust" (Yee, 2009, n.p.). Therefore, as Yee (2009) argues "[t]he formation of trust is very much a function of the social architecture of a world" (n.p.). In EU, the RCE constitutes a fundamental framework around which both the ludic and the social architectures of the game are built. These architectures have a formative influence on practices of play, co-operation, and the development of trust.

Game mechanics, in multiplayer worlds, can be used to promote either cooperation or competition. Mechanics that promote cooperation can be ordered into the categories of "design patterns ... and challenge archetypes" (Rocha, Mascarenhas & Prada, 2008, p. 74). Design patterns that prompt cooperation, as identified by Rocha et al. (2008), include:

1. Complementarity between the characters players can control.
2. Synergies between character abilities.
3. The integration of abilities that can only be used on another player.
4. The implementation of shared goals.

5. The creation of synergies between different character's goals.
6. The construction of special rules for players that are on the same team.

(pp. 74-5)

These game mechanics create frameworks for collaboration, and the implementation of collective challenges, or goals, necessitate cooperative play. Challenge archetypes used to promote cooperative play can be categorised as either pure or applied challenges (Rocha, et al., 2008, p. 75). The "pure challenges" category includes "physical" challenges that can only be overcome through the use of combined powers or efforts, as well as coordination or reflex/reaction based challenges, and spatial-awareness or knowledge-based puzzles (Rocha, et al., 2008, p. 5). Applied challenges can be subdivided into races, exploration, conflict, or economic challenges (Rocha, et al., 2008, p. 75). These challenges then promote teamwork in situations where the benefits of collaboration outweigh the advantages of non-cooperation, or in situations where the challenges cannot be overcome by single players. EU incorporates a number of these mechanics and challenges. For example, there are large event mobs such as the Atrax Queen or Harbinger robots that cannot be killed by single players alone. These mobs also incorporate a shared loot system that automatically distributes loot among hunters without them having to team up first. There are also special settings for team hunts, as outlined above, and synergies exist between player's abilities and goals, particularly at an economic level. However, EU also utilises a capitalist economic model and an assumed zero-sum structure that tends to encourage competitive self-seeking practice.

The assumption that EU is a zero-sum game, where gains for one player result in losses for another, influences people's movements around the landscape when hunting. Players, or teams, will often try to avoid getting too close to other participants. This practice of

avoidance helps mitigate the frustrations that may arise from seeing another player global, and it reduces direct competition for mobs that may result in conflict, or accusations of kill-stealing. Furthermore, many participants subscribe to the belief that self-seeking behaviour is an inherent aspect of human nature and assume that the potential for monetary gains exacerbates instances of egoism. The concurrent operation of mechanics that necessitate cooperation and a competitive economic structure means that the game community is often characterised by tensions between individualism and interdependence.

Team hunts, like the one described above, highlight tensions between individualism and interdependence by providing opportunities for individual gains, while simultaneously necessitating the operation of trust. Complementarity and synergies between players' abilities work in conjunction with specialised team rules, and a shared goal, to enable teams hunts to occur. Team work allows players to kill higher-level mobs and distribute the costs incurred from decay and ammunition usage; thus, increasing people's chances of generating a profit and reducing individual expenditure. The advantages associated with team hunts encourage cooperation and collaborative play. However, engaging in cooperative play also requires players to place a high degree of trust in their team mates.

Team settings can be open to exploitation. For example, the "looter takes all" setting can be used as a means of freeloading. This setting enables someone to take all of a mob's loot, simply by clicking on the creature's corpse, even if they have not inflicted any damage on the mob. This practice can enable people to acquire winnings without incurring costs. This setting is sometimes used as a means of taking advantage of new or inexperienced players. However, such use is generally viewed as a form of

exploitation and most experienced players check their team settings accordingly. In relation to the operation of trust during team hunts, the potential to "hog loot" poses a much more significant challenge than the subversive use of team settings.

Looting items during teams hunts can be problematic due to distinctions between "items" and "stackables." Items cannot be split and during a team hunt items are allocated to individual players. Problems of trust can then be exacerbated by the high value of goods in EU and the relatively anonymity of co-players. For example, a modified FAP represents a \$30'000 asset and if such an item is looted during a team hunt it will be allocated to one participant. The person that loots such an item could share the value, or use, of the item with their team mates, or they could simply log off, disappear, and retain the winnings for themselves. Such an action would not break any of the game's rules. However, it would tend to be interpreted as a breach of trust. I discussed this potential with players and Leah's response was particularly indicative of the uncertainties associated with collaborative play in an RCE game:

[Leah] If I didn't know them I can't trust myself that I wouldn't just log off and keep it. That's one of the reasons I don't like team hunts. And, I don't know if I'd trust or expect anyone else to share something like that either. So, in that sense I don't know if I'd even hold it against them really, 'cause I'd do the same. I'd be pissed, yeah, but like I said, I don't know if I wouldn't do the same.

Leah's comment demonstrates how the problem of trust operates on an intersubjective level. People may extrapolate from their own behaviour, or potential behaviours, in order to make assumptions about the likely actions of others. This thought processes also points to a discrepancy between personal and collective interests. Team hunts can reduce individual costs, thus reducing the monetary risks associated with play.

However, such collaboration also reduces one's share of potential winnings and introduces the risk of misplaced trust.

Misplaced trust can be extremely costly and players utilise multiple strategies to manage this risk. One strategy involves attending to another's in-game reputation, as outlined in the previous chapter. However, this strategy can only function if one has some prior knowledge of the player and if said player is invested in their reputation. A further strategy is to reserve high levels of trust for people that one knows "in real life." Yet, the removal of anonymity is not a guaranteed means of assuring trustworthiness, as betrayals also occur within actual world relationships. Psychological studies demonstrate that trust tends to develop in situations of interdependence, when people see others departing from self-interest and enacting pro-social behaviours for a common good (Wieselquist, Rusbult, Foster & Agnew, 1999). So, in order for trust relationships to arise in game-worlds, platforms must create opportunities for players to bracket self-interest and enable "repeated interaction, knowledge of interaction history and recognition capabilities" (J. H. Smith, 2002, p. 47). EU provides such opportunities. Players retain the same avatar name throughout their game careers due to the no-alts rule, even though their appearance may change, so they are recognisable. Repeated interactions occur and knowledge of an avatar's reputation and interaction history can be obtained, in many instances, from forum archives or by conversing with other players. EU is not a game where participants operate in accordance with perfect information. However, it is often possible to obtain some degree of information regarding another's "past moves." The game also provides ample opportunities to act in accordance with, or depart from, self-interest. Consequently, the means by which trust relationships develop in-game are not dissimilar to the means by which trust develops in the actual world.

Although, the situations that necessitate interdependence and expressions of trust are often game specific.

Relations of interdependence in EU occur at both economic and ludic levels. Relations of economic interdependence between hunters, miners, crafters, traders, and service providers occur as a result of complementary skills sets and the need to purchase items or sell loot. In terms of game-play, danger can serve as a means of encouraging cooperation and necessitating interdependence (Yee, 2009). For example, players may need to act collectively to kill high-level mobs; a feature that necessitates team hunting. Furthermore, the implementation of a lootable PvP zone in space means that players often rely on mothership services to transport goods between planets. In turn, these services are dependent on the actions of pirates to create the dangers that necessitate the use of their services. The above listed examples of interdependence can be reduced to the exercise of self-interest, as in all instances player are seeking to maximise individual gains. However, there are instances in which dangers prompt cooperative behaviours that are not straightforwardly reducible to self-interest.

Altruism

Traversing Calypso can be dangerous, particularly for new players. It is not uncommon for people to get lost, or stuck at remote outposts and surrounded by malevolent mobs. Attempts to escape from such areas will often result in death and revival back at the same outpost. Players may get caught in a cycle of deaths and revivals without ever progressing far from the outpost that they are stuck at; unless, somebody finds them and helps. Most players, particularly those that joined the game prior to the implementation of vehicles, tell stories about getting lost or stuck and subsequently receiving help:

[Baron] I was about a week into the game and ... I didn't know where I was and how to get back to civilisation and this guy out there said to me "hey do you need any help?" and I said "yeah I'm just I need to get back to a teleporter because I just keep dying and ending up here," and he said "well, ok, I'll take you back to the teleporter," and after that he said "do you wanna find some more teleporters?" and I said "yeah sure." So, then we did a lot of teleporters and we did a lot of typing and talking on the way, and at the end of it he said "look, I've gotta go now, but hey here's an opalo [weapon] and some ammunition. Go start shooting some things." This guy was the leader of [a society] at the time and eventually he took me on as his disciple. [He] showed me all the things that he knew and eventually I was taken into the society.

[Chris] One day I was running around at Amethera and got lost :) but when I was out there in the middle of nowhere 4 or 5 ppl [people] came up on [the] radar. One of them stopped and asked if I needed help. I said "yes I can follow you where you go?" So they took me to a TP and the one [who] asked me if I needed help helped me with some questions I had and after that invited me to his soc. So then I joined [soc. 1]. That soc died after a year maybe, too much ppl quit. But good side of that story is when I left that soc my RL friend, that first showed me EU, invited me to [the society] CRT and after a while the soc. leader from [soc. 1] and another soc member joined CRT as well ... Soc. leader from [soc. 1] was the one who helped me when I was lost.

These stories demonstrate how cooperative interactions can result in ongoing relationships. In Baron's case, this relationship took the form of mentoring; mentoring is a game feature that allows existing players to coach new players. Chris eventually joined a society run by one of his helpers. These relationships developed as the

departure from self-interest and pro-social behaviour exhibited in these instances of helpfulness provided a basis for the formation of trust. "By encouraging players to rely on other players, strong foundations for relationships are formed" (Yee, 2009, n.p.). Such experiences encourage people to behave in a similar manner towards others, as commonality of experience enables the development of empathetic emotion, which serves to motivate altruistic behaviour (Batson & Shaw, 1991). Leah's account of helping another player demonstrates these links between common experiences and the extension of altruism:

[Leah] I was out hunting and I saw this guy. He kept running past me dying and ending up back at the same revive terminal. So I went up asked if he needed help and he said he was stuck, so I helped him back to the TP. It's just what you do. I got helped when I was a noob and now I'm in a position where I can help out other people.

Game-worlds can promote the development of trust by presenting players with dangers that necessitate cooperation. Common experiences and the dangers of exploration in EU result in cycles of networked reciprocation, whereby favours are repaid by the extension of the same favour to others.

The convention of helping people that are stuck is loosely formalised within the society "Calypso Rescue Team" (CRT). According to the "about" section of the society's website, CRT arose out of exactly the kind of situation described above:

One night the four of us hunted south of Zychion, we met a guy who couldn't get out of the outpost there, the area was totally over spawned, but we managed to get him out, and there we got the idea, a soc. helping others out of bad

outposts. The name we came up with was, as you all know, Calypso Rescue Team. (EU Forces, 2009, n.p.)

CRT was founded in 2005 and it transformed the convention of helping others into a form of service provision. This transformation is indicative of the manner in which multiplayer games are constituted by "a complex set of relationships between not only the player and their software, but the collective use of software and the production of group practices" (T. L. Taylor, 2009, p. 336). CRT's provision of rescue services represents a form of improvisational play, where properties of the game system give rise to emergent player created goals. Improvisational play is not unusual in EU, as self-directed actions are an integral feature of the game's open-world design. What *is* unusual about CRT is the fact that the service they provide is free.

Chris eventually became CRT's soc. leader and he confirmed this atypical feature of the society's service during an interview:

[Chris] we never charge for our service to help stuck ppl, not if we are on that planet already.

The service is free, but this does not mean that rescuers do not incur costs, as patrolling or freeing people from outposts may involve clearing a pathway through dangerous mobs. The society also devotes time and effort to maintaining an informational website and an out of game chat channel that players can use to request a rescue. Chris described a typical rescue mission as follows:

[Chris] we get a rescue call either on rescue chat at euforces, or by PM, or we also do OP [outpost] checking ... next we call out in soc. chat there is a rescue. Sometimes we do old style rescues by foot, that's the fun way [of] doing it, or sometimes we just go there and fly someone out. Doing it by foot in [a] small

team can be challenging if there is bad mobs. You always have to look out for the one we rescue and protect him/her. We also try [and] help in answering questions and give good advice to the ppl we rescue.

Rescuers may acquire loot during the processes, depending on the nature of the rescue. However, it is unlikely that incremental winnings will wholly offset costs. So, the rewards for rescuers are neither tangible, nor monetary. Chris cited altruism and the fun of improvisational play as some of the prime motivators for CRT's actions:

[Chris] I never know where the next rescue is going to be, so it is something new when it comes ... people joining us feel we do a good thing and want to be a part of that.

These motivations are confirmed in Bainbridge's (2011) descriptive account of using CRT's services: "[t]he team would not accept any payment for rescuing Bill, and Coachman explained 'we do this for fun, to see happy faces'" (p. 77). Such acts demonstrate that physical co-presence is not a necessary condition for the development of empathetic emotion, the common frame of reference that co-existence in the game-world provides is sufficient. Furthermore, the concern for other's welfare, demonstrated in altruistic acts, shows that even in a competitive RCE environment actions are not singularly motivated by profit-driven self-interest. This observation is further supported by the practices of lending and gift giving.

Lending

Lending subverts the individualistic "all against all" mentality that the RCE and the game's assumed zero-sum structure promotes. EU has no explicit game mechanisms for lending, outside of a banking system that functions in a manner akin to a pawn shop. However, players do occasionally lend items to each other. In order to loan someone

something one has to either use the private trade function, or drop the item on the floor and allow the other player to pick it up. Lending usually occurs via private trade.

However, the rule "all trades are final" is encoded in the game's trading mechanisms; there are no inbuilt game mechanics for the reversal of trades. Although, trade does require multiple levels of confirmation from both trading parties. In terms of the generation of personal profit, lending makes little economic sense, unless one factors in the potential long-term benefits associated a good reputation. Yet, this practice cannot be reduced to reputation alone. Lending can be extremely risky or costly, and the peripheral economic benefits do not necessarily outweigh these risks and costs.

The RCE means that lending items in EU is analogous to lending money and the practice is often interpreted as an act of altruism. In relation to Everquest II (EQ II), Yee (1999) argues that this non-RCE game "removes much of the ambiguity and danger ... [associated] with altruism in real life" (n.p.). The social architecture of EQ II provides participants with low cost tools that enable players to offer each other assistance (Yee, 2009, n.p.). In contrast, Entropia's RCE means that acts, such as lending, are associated with high levels of risk, ambiguity, and potential monetary costs.

The risks and potential costs associated with lending appear to render such acts illogical. As an illogical high stakes gamble, lending can be considered an example of deep play and in acts of deep play "it is not just money that is at stake" (Kuper, 1999, p. 106). As a form of deep play, lending serves as a means of "expressing shared values ... that transcend material gain and loss" (Kuper, 1999, p. 106). The RCE means that the value of the goods one loans is real; so, by extension, the risks and associated exhibitions of trustworthiness are also considered real. The practice of lending thus

demonstrates how exchanges can serve as a means of maintaining and creating social ties, as opposed to being purely directed towards material gain (Mauss, 1954/1969).

Lending serves as a means of establishing, testing, and reinforcing trust. The practice often occurs within societies, mentors also occasionally lend stuff to mentees, and friends may loan items, or funds, to one another. Also, the value of goods or sums of money that are lent are not always small. Lyb recounted lending the equivalent of \$200, to an in-game friend, in return for a share of the winnings that his friend generated:

[Lyb] I have recently given a friend 2k PED to play with and he has made 200 PED in 3 weeks for each of us.

Lyb approached this form of lending as an investment. Yet, it is also required him to trust that his friend would reciprocate the favour by sharing his resultant winnings. Zerg described different instances of lending that provided the lender(s) with no tangible monetary returns:

[Zerg] I met one of the Dutch guys from [uber soc.] and he showed up at the hunt, in the main team, dressed in full shadow [with] an ancient mod merc. [weapon] in his hands and [a] modified FAP behind him. So he borrowed, at that point, \$80'000 worth of gear from his soc. mates for that hunt. So, the guy comes dressed up full gravel in stuff that, at that point well the mod fap [modified fast aid pack] was 350-400'000 PED and he just borrowed it from his friends and after the hunt he meets them and he gives it back and I go like "wow" That's the other thing that you realise, that's how people routinely do that, and in our soc. we do that too. I mean, if someone wants to use my gear I just give it to them. I give it to a guy that I've never seen in real life, that I don't know how to contact other than over the soc forum that we have, or over the Entropia Forum.

If he takes off and runs with it I lost it, because all trades are final and I hit the ok button, but they've always given it back and that's really cool.

I subsequently asked Zerg how he determined who to lend things to:

[Zerg] In general you see people, how they play, when they are in the society. Usually I borrow [lend] stuff, the really high end gear, only in the soc. So you have to be in the soc. I have to see you, I have to talk with them like every day, both chatting them and on the teamspeak server and then you see how people are, and then you trust them and you don't give them the full stuff. Every now and then we start with some[thing] small because, well a trust scam is the most evil thing you can do right? You give someone your trust, you give someone your stuff and they run off with it and that's just evil. So yeah, it's always hard to figure out, but the people I trust I would give them everything I have, that's no problem. People in my society, that I trust, they can have everything I have at once. I did that before when I was on vacation and not playing. I just handed out all my stuff and when I come back within 5 minutes, after I log in, everything is back.

Zerg described using incremental lending as a means of assessing another's trustworthiness. He also drew attention to the moral dimensions of this form of engagement by labelling the failure to return items "evil." This statement indicates that lending is about more than simply the temporary redistribution of goods. By loaning someone an item a player is also giving them their trust and the receiver is then obligated to reciprocate by behaving in a trustworthy manner. In Zerg's account, the trust he placed in others had always been reciprocated. This reciprocation is possibly the result of behavioural confirmation. Behavioural confirmation is a "process whereby the expectations of a perceiver cause a target to behave in ways that confirm the perceiver's

expectations (Snyder, Tanke, & Berscheid, 1977, cited in Yee, 2009, n.p.). So, by placing trust in someone a player is creating an obligation that implicitly encourages fulfilment. However, the obligation to return stuff is not enforceable, and it is the potential for subversion that enables lenders to evaluate a borrower's response as the enactment of a moral choice and a basis for trust.

Morality is predicated on the existence of free choice: "if users ... have no choice but to behave morally they are not free agents, and it is an accepted truth in moral philosophy that moral acting presupposes free agency" (Brey, 1999, p. 10). Instances of betrayal tend to be seen as consequences of the temptations that the RCE and the potential for real monetary gains creates:

[Chris] The community overall is good, but when real money is involved then it attracts some less good ppl to that try take advantage.

This assumption is also reflected in Brey's (2013) assertion that:

[t]he emergence of virtual economies ... raises the stakes for their users, and increases the likelihood that moral controversies ensue. People will naturally be more likely to act immorally if money is to be made or if valuable property is to be had. (p. 324)

Lending presents players with a moral choice and it is this moral choice, accompanied by the temptation presented by the RCE, that renders borrower's responses meaningful. By creating monetary temptation the lender is, in essence, testing whether the recipient is actually trustworthy. Players in-game actions are then differentially seen as either a reflection of their actual-world character, or as a consequence of the game's open-world RCE structure. For example, Era stated the he thought the RCE exacerbated instances of "scamming," but that this temptation could be a positive thing because:

[Era] ... with loose rules, real character gets exposed.

In contrast, another player named Luke emphasised the distorting effects that the temptations presented by the RCE could have:

[Luke] I think a person may be good in real life, but because it's so easy in here they may go down the scamming route.

Lending and returning items involves a demonstrated bracketing of self-interest on the part of both parties involved in the exchange. As such, lending acts as a means of demonstrating moral character and building, or reinforcing, relationships. However, it is not generally considered a sensible form of game-play. Complaints regarding non-returned items are often met with reminders that "all trades are final." Sympathies tend to be reserved for cases where a recognised relationship, such as a long term friendship or soc. association, has been breached.

People generally advise others not to lend goods without acquiring collateral of equivalent value, either in the form of items or PED. Yet, lending in exchange for collateral is qualitatively different to lending without collateral. Lending with assurances does not involve the same bracketing of self-interest that lending without collateral does. For some, gaining securities in exchange for items is a general rule and interpreted simply as a prudent form of play. For others, lending with collateral occurs prior to the formation of the enduring social-ties that enable not guaranteed lending. Also, on occasion, collateral is offered as means of demonstrating that one is trustworthy and not solely motivated by personal monetary gains. So, lending demonstrates that exchanges can be motivated by social considerations and this is also apparent in practices of gift giving.

Gift Giving

Gift giving tends to involve lower cost items than lending and, unlike lending, this form of exchange may take place between players without pre-existing ties. Gift giving also tends to take place via the private trade function. However, non-specific gifting also occurs. Players will occasionally drop items, so that others in the vicinity can pick them up. Established players will often gift low cost, low level, items to new players; as exemplified in Baron's account of being gifted the low level weapon known as an Opalo. This weapon can be purchased from the trade-terminal and, although it is only valued at a few PED, it can represent an important asset to a new player, because access to tools and weapons opens up further dimensions of game-play. Era also mentioned receiving offers of gifts when he first started playing, although he was sceptical as to the motivations of the giver:

[Era] I asked her where to sweat, then she took me to swamp camp, wanted to give me armour and FAP. I thought it was something fishy, so I refused to accept, lol ... she is a good person, I found out later.

In hindsight, Era viewed his suspicion as somewhat comical, having later realised that helping new players in this manner was fairly common. This form of gift giving tends to follow a similar trajectory as the convention of "helping noobs," as recipients tend to occupy a lower position on the in-game hierarchy than givers. Two of the players that I interviewed, Kay and Tyro, both explicitly mentioned engaging in this form of giving, although their motivations did appear to differ.

I first met Tyro at swamp camp, before VU10, and well before I started my study. He was buying up sweat and loot, and I noticed, over the chat, that he had created a kind of scavenger hunt. He was hiding low level weapons and calling for players to go and find

them. A few years later, Tyro had agreed to be interviewed and I asked him what his motivations were for hiding the weapons:

[Tyro] Selfishness, haha. Well, I figured out, so when I was first starting that's when Neverdie was at his peak. He was in the news ... and as I got to know the situation and I watched what he did. I mean, I don't know the guy, but I just came under the impression he was just a lucky monkey who happened to buy CND [Club Neverdie]. He wasn't necessarily any more intelligent than other people, he wasn't necessarily a better player than other people, but I looked at it and he was branding himself and I said well, if he's able to brand himself I could do the same thing on a smaller scale, just for entertainment.

He went on to list some of the activities involved in what became a process of avatar brand building. These included conspicuous clothing and advertising, but also the game of hiding weapons:

[Tyro] I would do things like drop little guns here or there. I'd spend 50 or 100PED here and there, sometimes more, but it was advertising in a sense. Think about it as an advertising budget and what happens is people start, well everyone in the game knows my name, everybody knows, "hey look hey there's Tyro." Well, what have I ever done y'know? I'm just some guy, I play the game just like everyone else, but I've made my name into a little bit of a brand, not in the same scale as say Deathifer, or Neverdie, or Star Mercury, or someone like that, but just, you know, to an average, or low to mid-level player, yeah they all know who I am.... What happens is, over time, you become sort of an Entropia myth, if you will, and people want to have celebrities in the game. They want people, not that I'm that big a celebrity, but ...

[Twist] Well you're on the list of famous Entropians aren't ya though?

[Tyro] *laughs* Well y'know, but people want to have someone in the game that they can point to and go look over there. Look who that is, guess who's on my FL, you know? And in the process, at the same time, well when I buy things I get a good price and when I sell things, ohh I get a good price there too.

Contrary to my own initial assumptions, Tyro's acts of gifting had not been motivated by altruism or a blithe ludic impulse. Instead, his acts of gifting were driven by a conscious effort to build his in-game reputation. The scavenger hunt had also served as a form of personal entertainment, but a more significant consequence, for Tyro, was the establishment of a competitive edge within the in-game markets. In contrast, Kay's account of gifting seemed more philanthropically motivated and her acts exhibited a calculated, but seemingly genuine, concern for the well-being of others; a concern that I subsequently came to experience for myself.

Kay and I were standing in a hanger in a fairly out of the way region of Eudoria, known as Tukar. I did not know Kay personally, but she had responded to my call for interviewees on PCF and we had decided to meet. She was tall and slim, with lightly tanned skin and long dark brown hair. She was wearing dark blue jeans and a bomber jacket. Kay described how she had first started playing during Entropia's "pre-gold" beta testing era, but had then left the game for a while. She eventually returned in response to the publicity associated with Neverdie's asteroid purchase and the second world record. She consequently referred to herself as "CND baby." Our conversation eventually turned to clothes, as Kay was critiquing the costs associated with equipping clothing. She was particularly critical of the impacts of these costs on the clothing market:

[Kay] So, [now] people buy one outfit, maybe two. People used to have a TON of different ones, not anymore. I used to, sold or gave away a lot of them, this is what I wear now, or [an] old looted master coat with my armour.

[Twist] I haven't even got clothes, lol ;D

[Kay] hmmm sec :)

At that point, Kay broke off the conversation and ran over to the storage terminal on the side of the hanger where we had been standing. After a few minutes she ran back over and opened a private trade window. She then dropped a Greek style toga dress and sandals into the trade box:

[Kay] gift

I felt somewhat embarrassed by Kay's offer. I was not as high a level as Kay, but I was not a new player and did not really need the gift:

[Twist] u sure

[Kay] yep, you can be Greek ;)

[Kay] accept :)

I explained that my comment was simply a means of agreeing that clothing often seemed like an unnecessary cost. It was not that I could not afford clothes and I had certainly not expected her to give me anything. I checked the value of the dress and sandals and dropped the correct amount of PED into my side of the trade window.

[Kay] no, no PEDs

Kay then dropped the exact same amount of PED into her window, thus cancelling out my offer:

[Twist] lol, haha, ok

[Kay] yep.. you'll lose that game ;) I'd just keep adding PEDs. I have a soc mate that does that to me :/

I realised Kay would not take no, or payment, for an answer. We both removed the PED from the trade window, I clicked accept, and equipped the dress:

[Kay] looks good :)

[Twist] thx :) I just don't like taking stuff for nothing, but at least I'm not naked now, thank you :)

[Kay] yw

[Kay] I LOVE giving it to someone who appreciates it. Big difference. That's why I used to do it all the time at Swamp Camp [it] was easy enough to tell the difference between beggars and users. Here's [a] personal bitch of mine. You know the old Swamp Camp?

[Twist] yep

[Kay] one person out there ... one of the biggest leaches in this game, always free healed, bubbled [providing sweaters with a focus charge] etc, but always tried to pick up the free stuff we dropped for new players ... ass ... biggest leach I ever saw out there and he STILL does it.

Kay's acts of giving seemed to be motivated by more charitable concerns than Tyro's project of brand building. However, she definitely differentiated between those that she felt were deserving and those that, in her eyes, were not.

Kay distinguished between deserving and undeserving recipients on the basis of appreciation, need, and humility. The person that she refers to as an "ass" and a "leach"

was an established high-level hunter, with no immediate need, or use, for the "free stuff" she distributed at Swamp Camp. She saw this person as acting out of greed, for personal monetary gain, and to the detriment of the new players for whom the items were intended. He was, in Kay's eyes, viewing the items purely in terms of their potential resale value. So, his actions inverted the transformation of a commodity into a gift that occurred when she hid the items; thus, negating the extra layer of meaning and subjective value that the items would attain in the hands of a deserving recipient.

Kay's evaluation of giving and a recipient's worthiness supports Ruffle's (1999) observation that "a giver's choice of action depends ... upon [both] its cost and his [or her] beliefs about what his [or her] opponent expects" (p. 400). She explicitly factored assumptions about the motivations of recipients into her evaluations regarding the pay-offs associated with specific acts of giving. Tyro followed a similar evaluative process. However, he was primarily concerned with pay-offs in the form of reputation and trade, whereas Kay was mainly concerned with emotive pay-offs and the "good feeling" she experienced as a result of giving to deserving recipients. Yet, despite these differences in their primary motivations, both Kay and Tyro exhibited second order concerns with the general wellbeing of the game community.

Kay and Tyro's concerns for the well-being of the game community reflect a broadly held acknowledgment that player retention is essential to the continued existence of the game, and therefore the protection of player assets. This acknowledgement acts in conjunction with empathetic responses motivated by common "newbie experiences," and a recognition that positive in-game experiences promote player retention. Together these factors drive a general disdain for scammers and exploitation, while also

motivating pro-social behaviours. Furthermore, Tyro's and Kay's acts of giving are indicative of the manner in which gifts, in virtual worlds, serve both economic and social functions, just like gifts in the actual world.

The gifting that Baron, Era, Tyro, and Kay described is hierarchically redistributive, as items are reallocated from higher level players to lower level players. These acts of gift-giving are variably motivated by both self-interest and altruism. Giving is driven by emotional and financial investment in the long term success of EU, concerns regarding personal reputation, and empathetic responses; it serves to build and reinforce relationships. Economic models of gift giving note that during the formation of relationships "inefficient" exchanges, where the cost to the giver exceeds the value to the receiver, contribute to the formation of trust and cooperation (Carmichael & MacLeod, 1997). In EU, hierarchically redistributive giving seems to reverse this process. The subjective value and relative use-value of gifts, like an Opalo gun, is less for an established player (the giver) than it is for a new player (the recipient). Yet, the perception that the giver is acting contrary to self-interest, and sacrificing something of value, remains. So, redistributive giving can therefore contribute to the development of trust, in either an individual player or the game community in general. Furthermore, the kinds of goods exchanged in these instances and their relative value to each party are indicative of each player's position within the game hierarchy and the social distance between them. As such, gift giving, lending, principles of helpfulness, and more conventional market trades indicate that exchange in EU can act as both a reflection of social distance and as a means of creating ties.

Reciprocity, Exchange, and Social Distance

The modes of exchange that occur within EU are closely linked to social relations. However, methods of exchange and accompanying norms of reciprocation cannot be straightforwardly classified as a consequence of social distance in accordance with the continuum model of reciprocity, as developed by Sahlins (1972). In accordance with Sahlins' (1972) model, exchanges between people with close ties, such as kinship, tend to be governed by norms of generalised reciprocity, characterised by altruism and generosity. In contrast, exchanges between strangers, or more distant acquaintances, tend to exhibit negative reciprocity, where the primary concern of individual actors is personal gain or profit. In between these two extremes lies balanced reciprocity, where exchanges are direct and equivalent. Sahlins' (1972) model implies that if people "engage in negative reciprocity their relationship is distant, and if they engage in generalised or balanced reciprocity their relationship is more close" (Harrison, 1993, p. 15). This model points towards the analytic significance of social distance, in relation to the forms of reciprocity exhibited within particular modes of exchange. However, its application to actual, or virtual, world contexts is not unproblematic.

Harrison (1993) criticizes Sahlins' (1972) model by contending that it is circular. Sahlins (1972) argues that reciprocity is an effect of social distance, while simultaneously implying that social distance is "an effect of the form of reciprocity [used]" (Harrison, 1993, p. 15). Harrison (1993) goes on to argue that, in relation to instances of exchange in Melanesia, different forms of reciprocity "are not necessarily reflexes of pre-existing social boundaries, but can be powerful symbolic devices for constructing or maintaining these boundaries" (p. 16). Through Harrison's (1993) arguments it becomes apparent that in a Melanesian context, where "relations between

actors are themselves *given*" (p. 16), people are not so much concerned with the construction of relationships, but rather with the "building of social divisions" (Harrison, 1993, p. 16). Harrison's (1993) arguments centre around rejecting the applicability of an individualistic Hobbesian notion of human nature to Melanesian societies, where people are conceived of as inherently social and embedded in ties of kinship and obligation. In the instances that Harrison (1993) analyses social ties must be negated in order for people to engage in competitive, violent, or self-seeking acts. Negative reciprocity subsequently acts as a symbolic device for creating or asserting social distance, rather than as a consequence of it (Harrison, 1993). In relation to EU, these trends are reversed. Yet, Harrison's (1993) analytic conduit remains relevant, albeit in accordance with a somewhat opposite trajectory.

Individualistic understandings of human nature tend to be the norm in EU. The competitive capitalist environment and equation of monetary gains with success are conducive to atomistic self-seeking behaviour. Also, the majority of people do not have pre-existing ties to other players when they enter the game-world. Eighteen of the twenty players that I interviewed had no existing actual world ties to other community members when they started playing. Two players mentioned that they began playing with friends and three others introduced actual world friends or family members to the game once they had started playing. People tend to spawn alone, rather than being born into established networks of kinship and co-residence. The generalised reciprocity, exhibited in acts of helping noobs and hierarchically redistributive gifting, subsequently serves as a means of creating ties between new arrivals and the game community. These acts of altruism and generosity are directed towards strangers. Therefore, they cannot be viewed as an effect of close-ties, but rather as a symbolic means of creating relations in

a world where participants' a-priori state is one of solitary individualism. This evaluation holds true even in instances like Tyro's scavenger hunt, as the recipients still viewed his actions as altruistic; the trust inducing impacts on strangers remained, despite his self-directed motives. Generalised reciprocity also occurs once close ties have been established, or in situations where actual world relations exist. In such instances, acts like sharing ammunition or healing do serve as a means of affirming the privileged status of these relationships. Otherwise, the majority of in-game exchanges are characterised by balanced or negative reciprocity.

Instances of lending tend to involve a fairly balanced form of reciprocity. Both parties, in a lending exchange, must bracket self-interested motives and there is no direct or disproportional generation of profit, or loss, if the loan is returned. The recipient benefits from the use of lent items, while the lender can expect to benefit from them returning the favour in the future. The lender must deal with risk, while the recipient deals with temptation, and both benefit from the demonstration of trust that the exchange provides. Zerg's story indicates that lending is mobilised as a means of strengthening ties and as a method of affirming existing relationships. So, within his soc., this form of exchange acts as both a signifier and means of attaining insider status. Also, lending generally only occurs once basic relationships have been established. In instances where items are not returned, the balanced nature of the exchange is inverted and ties of trust are generally severed. However, in the majority of instances behavioural confirmation, caution when lending, and concerns regarding reputation, prompt trustworthy behaviour. As such, both lending and gifting give serve as means of managing the atomistic individualism that spawning alone, zero-sum play, and competitive market exchanges can create.

Market exchanges, that occur either via auction sales, street trade, or between established trading partners, tend to exhibit either balanced or negative forms of reciprocity. Auction trading is the most impersonal form of market exchange. These trades may occur between strangers who may never meet and their identities are often irrelevant. Although, players may avoid buying from people they do not like, or from those that they view as exploitative or direct competition. Similar principles apply to street trading, and both of these forms of exchange tend to be governed by norms of negative reciprocity, as players seek to maximise individual returns. Maximising motives are also apparent in trade partnerships. Although, these relationships are characterised by a lesser degree of social distance. Trade partnerships also tend to exhibit slightly more balanced forms of reciprocity than auction or street trades. As actors may check self-interested motives, slightly, in order to maintain the mutual benefits of the exchange partnership. Checking personal self-interest and the pursuit of profit is also used as a means of establishing ongoing trade relations. "Good deals" on street or action trades may act as a basis for the formation of closer trading ties, despite the initially impersonal nature of an exchange, as my own trade relationship with Uri demonstrates. Reputation can also play a particularly significant role in relation to market exchanges, as Tyro's observation that "people like to buy from people they know" demonstrates. Reputation can serve to bridge the social distance associated with otherwise impersonal exchange. In conjunction, these forms of exchange demonstrate that the stuff of relationships is often a matter of transactions (Van Loon, 2010). However, "[t]hese transactions cannot be reduced to purely economic functions" (Van Loon, 2010, p. 23).

Exchanges in EU serve as a means of creating ties, they also act as a reflection of established relationships, or a lack thereof. Practices of gift-giving and helpfulness counter the alienating affects of spawning alone and economic competition. These practices also serve to integrate new players into the moral community of the game-world. This implicit motivation prompts the generalised reciprocity apparent in the conventions of gifting and helping noobs. Actions that contravene this convention, by exploiting new players lack of knowledge or another's generosity may result in reputational damage or isolation, as "by disregarding the accepted code of honor, or generosity, the individual cuts himself off from the community and becomes an outcast" (Polyani, 1944/1968, p. 46). These damages are reminiscent of the reputational damages incurred from the contravention of norms of legitimate acquisition, as described in the previous chapter. Conversely, by bracketing self-interest, players lay the foundations for the formation of trust relationships that, in conjunction with reputation, serve as a means of bridging social distance and managing risk. In addition, lending acts as a means of establishing and consolidating relationships, as by submitting to actual monetary risks, or shunning temptation, players create a basis for the development of trust. The social significance of these other-regarding actions is heightened by the commonly held belief that people are inherently self-regarding. This liberalist conception of human nature is reinforced by the game's economic structure and together these precepts affirm a construction of the market as a separate sphere. In this market sphere negative reciprocity and expressions of "natural" self-interest are expected and can, therefore, be enacted without having a detrimental influence on someone's social or moral standing. Actions that are acceptable in certain circumstances are unacceptable in others, and gift economies and commodity exchanges merge and co-exist in EU, just like they do in the actual world.

Conclusions

An exploration of the influences of Entropia's RCE on in-game behaviours demonstrates that markets are social phenomena, even though they are often conceived of as separate spheres. Markets are created by people, via the enactment of "collective understandings, norms and assumptions" (Sinclair, 2009, p. 453). Norms of exchange in EU demonstrate how players both enact and resist the competitive individualistic ethos of the game's economy. Pro-social behaviours, such as gift giving or collaborative play, are variably motivated by both altruism and self-interest. Exchange serves as a means of integrating new participants into the player community. Exchange also acts as a basis for the formation of trust relationships and as a means of pursuing personal gain. These processes, demonstrate that exchange cannot be purely reduced to either the exercise of reciprocity or utility maximisation (Davis, 1992). The RCE creates the problem of trust and it can alienate people from each other, but it can also facilitate displays of altruism and provide a basis for the formation of trust relationships. People spawn alone and self-interest does exist, but play is often more fun with others and exchanges enable the formation of the trust required for social play.

Expressions of deep play such as team hunts, costly altruism, or risky acts of lending are not an indication that money does not matter. As Geertz (1972) points out, such acts are only meaningful *because* money matters and in EU it matters *a lot*. Actual world understandings of economies, money, and human nature add meaning to game-specific practices. Real money results in real risk, which in turn enables the formation of real trust and enduring social-ties. The RCE influences the social structures of the game-world and the manner in which in-game relationships develop. Yet, the impacts of the economy on the game community extend further still, as the RCE shapes in-world

conceptions of work and play, relations of production and consumption, and the language, etiquette, and behaviours associated with trade. The following chapter explores these additional dimensions of the virtual world economy in more detail.

Chapter 7. Work, Play, Prosumption, and Trade

Virtual world economies can challenge the dichotomous presentation of economic relations as either production or consumer-centric. These economies also subvert binary distinctions between work and play (Bruns, 2008; Pearce, 2006). In MMORPGs play becomes a form of production (Pearce, 2006). This restructuring of production is accompanied by a reorganisation of consumption (Dyer-Witheford, 1999).

Concurrently, virtual monies enable the formation of "closed circuits of labour exchange with their own nominal currency" (Hart, 2001, p. 318). In EU, these circuits of labour exchange occur within an economy that involves processes of playful work and work-like play. In this RCE game-world, production and consumption are intertwined, scarcity is artificially created, and trade involves confrontations between game-specific notions of ethics and economic self-interest.

This chapter explores the structures of the Entropian economy through an analysis of processes of work, play, production, consumption, and trade. The chapter begins by outlining how EU confounds binary distinctions between work and play. This outline is followed by an analysis of production in EU. The analysis utilises "prosumption theory" in order to challenge the dichotomous construction of economic relations, as either producer or consumer centric (Ritzer & Jurgenson, 2010). These arguments are followed by a description of how the game-world addresses the "problem of abundance" and creates artificial scarcity. The chapter then concludes with an exploration of trade in EU. The analysis of trade outlines how the game's pre-programmed distinctions between trade-terminal and market-value work in conjunction with differentiations between stackables and items to prompt the formation of exchange relations. This final section of the chapter further investigates trade as a social process and explores the

roles, relations, linguistic conventions, and understandings of ethics and etiquette that have developed in response to the game's real cash economy.

Work and Play

Play is often defined as the antithesis of work (Huizinga, 1944/1970; Callois, 1961).

The characteristics of play, outlined by play theorists, are surmised by Nardi (2010) as:

1. A subjective experience of freedom.
2. An absence of social obligation and physical necessity.
3. A subjective experience that is absorbing, compelling, or pleasurable.
4. Occurrence in a separate realm, sometimes referred to as the magic circle.

(p. 102)

Work, on the other hand, is characterised by the "toil of a labourer in which the wage is the sole reward" (Nardi, 2010, pp. 94-5). MMORPGs often problematise this distinction, as play does not occur in a separate domain that is distinct from the socio-cultural realities of the actual world and "players often engage in work like activities" (Nardi, 2010, p. 95). Game-play is voluntary, yet the pursuit of game objectives often involves completing tasks that players would not engage in otherwise. Such tasks are often referred to as "grinding," a term that denotes engagement in repetitive, and often mundane, in-game activities. Furthermore, collaborative play is frequently accompanied by a sense of obligation towards one in-game social group. Also, in EU, the RCE shatters Huizinga's (1944/1970) magic circle and the conceptual separation of play and culture, through the incorporation of culturally constructed notions of monetary value and work into a play space.

The real cash economy (RCE) problematises binary notions of work and play, because it enables the incorporation of remunerable activities, employment, and obligations into the game-world. For example, grinding can be reminiscent of wage labour, since it involves engagement in activities that people may not find particularly pleasurable, or compelling, in the pursuit of monetary gains. Also, players may engage in explicit wage-labour and enter into employment relations with others by working as event promoters or service providers. In these instances, differentiations between work and play become subjective, as the same activity may be viewed as work by one person and play by another. Those that run businesses, employ others, and make a living from EU tend to label their in-world engagements as both work and play:

[Deathifier] It's officially work. Officially it's my full time job now and it's been that way for a few years, but in practice it's very much a combination of both of them [work and play].

[SBI] Well, it is both work and game to me. I partly/sometimes find it fun and sometimes [I] find it stressful.

Participants also engage in work-like activities in order to fund play-like activities, such as participation in collaborative events or competitions.

Play activities are generally defined as either actions that are not explicitly geared towards the generation of money, or instances where players accept that their activities will most likely generate losses. "Shared loot" events, like robot wars, where vast collectives of players take part in killing large mobs together, are generally seen as play activities. Participation in the World of Firepower (WoF) event is also frequently defined as an act of play; although, participation in this event is also generally accompanied by a sense of obligation towards one's national social network. For the

majority of players, participation in these kinds of collaborative events involves an acknowledgement that they will spend more PED than their activities will generate, except in cases of extreme luck. Events or activities that generate only costs and no tangible monetary returns, such as vehicle races, the EU world boxing championships, and spontaneous sparring in PvP rings, are also commonly seen as acts of play. In all of these instances, participants tended to view their PED expenditure as a cost that is reimbursed in entertainment value. However, even in relation to events, strict distinctions between work and play are frequently confounded. People pursue loot and profit during collaborative events and attempt to minimise their costs. Non-loot based events generate monetary and/or reputation based gains for sponsors, land owners, organisers, and winners. These gains are accrued in exchange for the expenditure of effort or the contribution of resources. So, even activities that are generally associated with play contain work-like elements.

The everyday activities associated with particular game careers also confound simplistic distinctions between work and play. From an outside perspective, the sight of Uri standing at a crafting terminal for hours on end, repeatedly producing the same weapons, does not appear playful. SBI's descriptions of managing crew members and flight schedules, and Tyro's references to advertising budgets and brand management, did not sound particularly playful either. The trader's practice of standing at Twin Peaks teleporter repeatedly shouting their wares does not evoke a sense of subjective freedom or playful non-obligation. Even participation in game missions reflects processes of labour when viewed from the outside:

[Chris] A friend of mine sometimes comes over and sits and watches me playing, he can't understand how I can go do a mission and kill 10k mobs, he must think I'm crazy.

These actions appear work-like because they are "activities in which the actions needed to attain ends are not in themselves absorbing or compelling" (Nardi, 2010, p. 106). However, those that do not earn their actual world living through EU are under no actual obligation to participate in the virtual world.

EU *is* a game-world and the activities that Uri, SBI, Tyro, Chris, and the traders partake in *are* fantastical acts of play, aimed at securing an imaginary livelihood in a make-believe world. Yet, the RCE precludes a separation of play and work activities based on objectives, like the distinction between gold farmers and players that Nardi (2010) posits in relation to WoW. Play in EU is often motivated by, and structured around, the pursuit of profit. Ludic and financial objectives intertwine, as players attempt to earn a living through game-play, or at least generate enough returns to ward off their next deposit for as long as possible. As a result, activities in EU often reflect Rea's (2009, as cited in Nardi, 2010) notion of aspirational gaming. This concept was originally used to describe the practices of aspiring professional gamers in Korea, whose activities were not yet profitable, but nonetheless geared towards "the object of professional status and high income" (Nardi, 2010, p. 107). The allure of EU is the potential to earn a living through game-play, without having to explicitly invest in developing "pro-gamer" status or engage in subversive acts, such as gold farming (see Dibbell, 2006; Nardi, 2010). Getting paid to play is the dream that many aspire to:

[Brox] I have a sticker in front of me that I actually gave out at a forum: "tired of killing monsters and not getting paid."

Over time, attempts to earn an actual world living through game-play often give way to more modest objectives, such as minimising deposits or playing for free. However, the attraction, of getting paid to kill virtual monsters, lingers. Earning money remains a primary motivator for many in-world actions and even activities that are generally conceptualised as play have a profoundly economic dimension due to the prosumption characteristics of the EU economy.

Prosumption

Prosumption theory acknowledges the inter-relatedness of economic roles and the manner in which production and consumption combine to enable the co-creation of value (Ritzer & Jurgenson, 2010). The economic significance of manufacturing, during the industrial revolution, gave rise to production-centric socio-economic theory (Ritzer & Jurgenson, 2010). The emergence of consumption based economies, in the post WWII era, shifted the analytic lens towards the role of the consumer (Ritzer & Jurgenson, 2010). In contrast, theories of prosumption challenge binary distinctions between consumption and production (Ritzer & Jurgenson, 2010). However, the application of prosumption theory to online environments is not necessarily straightforward.

Axel Bruns (2007) argues that in relation to Web 2.0 applications, which utilise user-created content, an alternative produsage model is more accurate than a prosumer model. Bruns' (2007; 2008) critique draws on Toffler's (1971) original definition of prosumption as the involvement of the consumer in production, and he argues that user-content based worlds move beyond mere involvement. Instead, these produsage environments are said to utilise a "hybrid form of simultaneous production and usage"

(Bruns, 2007, n.p.). Producers environments, like social networking sites, are those where "usage is necessarily also productive" (Bruns, 2008, p. 21). Online environments are producer based when usage manifests *as* the creation of content in a collaborative process of continuous building and extension. This is different to a prosumer model because the notion of prosumption maintains a linear value production chain that follows the path:

producer → distributor → consumer (Bruns, 2007, n.p.).

In relation to user-created content this linear model is problematic because often content does not take the form of "discrete product versions, but rather rapidly evolving revisions of existing content" (Bruns, 2007, n.p.). In such environments, content is continually under-development and participants roles in the productive process are fluid and collaborative.

Open source software installations, such as the protocols used in the production of the crypto-currency Bitcoin, can be considered producer products. However, in relation to production in EU, a prosumer model is more fitting precisely because it maintains some of the linear aspects of traditional production. Within traditional forms of production the consumer has little control over the structure of an end product (Bruns, 2007). Materials are constructed according to "an existing blueprint, recipe, or other model.... [and the consumer] usually remains at a significant distance from the original producer" (Bruns, 2007, n.p.). This linear model is reminiscent of the Entropian productive process.

In EU, users do not, for the most part, create content itself. Production in EU is therefore more closely aligned with what Ritzer and Jurgenson (2010) have termed traditional forms of prosumption, as opposed to producer. Traditional forms of

prosumption incorporate the consumer in a productive capacity, however the characteristics of prosumption products are predefined (Ritzer & Jurgenson, 2010). An actual world examples of this form of prosumption is flat-pack furniture construction; users are involved in the productive process, but have little control over the features of the end product (Ritzer & Jurgenson, 2010). In EU, MindArk creates and maintains the platform, as well as setting the algorithmic parameters that determine the appearance and structures of in-world content. MA maintain control over the characteristics of goods in EU in a manner that is analogous to the forms of producer control found in traditional examples of prosumption. Yet, in relation to virtual commodities, the emergence of content is dependent on the actions of users. MindArk maintains ultimate productive capacity and quantity control, through the generation of content and the setting of supply parameters via item drop-rates, but it is the players that craft, hunt, or mine commodities into existence. Game-play manifests as both production and consumption, and this results in the co-creation of value that is characteristic of a prosumption economy.

The co-creation of value occurs because users contribute to the generation of corporate capital for MindArk, through the pursuit of personal profit via game-play, deposits, and withdrawals. "Corporate revenues consist of the net sum of deposited and withdrawn amounts from Entropia Universe made by users." (MindArk, 2013, p. 19). In addition, MA generates income through sale of virtual assets, such as Calypso land-deeds, land areas, and planet franchises. Income is also generated through deposit and withdrawal fees, which are respectively set at approximately 3.5% and 1% of the deposited/withdrawn amount. Furthermore, the income generated from the fees and commissions automatically deducted from auction sales is split 50:50 between MindArk

and Planet Partners and, in instances where shops are not located on land areas owned by other users, the automatically deducted shop sales taxes are similarly split. Value is co-created because the land areas, planets, land-deeds, and goods generated by MindArk attain monetary worth through the actions and investments of players. As such, processes of play manifest as both production and consumption. MindArk introduces new items into the game, they also set the base value of items and determine a basic level of availability. However, an item's market value will ultimately depend on the actions of the game community. An item's value is, in part, determined by how much it is used or produced. An item's availability is, in part, determined by the extent to which players hunt the creatures or use the blueprints that "drop" a given item and the degree to which items are used up during play. As such, game-play becomes a means of production and the relations that emerge through play can, therefore, be considered relations of production.

The relations of production that emerge through game-play are an example of the manner in which MMORPGs "exhibit emergent self-organising tendencies as well as operat[ing] under some degree of corporate governance" (Bruns, 2007, n.p.).

Differences, in relation to the forms of community and economic interactions that occur within particular virtual worlds, are derived from differences in governance and world design (Bruns, 2008). For example, the prosumption economy of EU is different from what Boellstorff (2008) termed the "creationist capitalism" of Second Life (SL). SL utilises a produsage model and the world incorporates an abundance of user-created content. In SL, "creativity ... [operates] as ... [the] primary mode of production, governance and subjectivation (self-making)" (Boellstorff, 2008, p. 210). In EU, content is designed and managed by MindArk, but produced (and consumed) by participants

through game-play. Users contribute to the generation of corporate capital for MindArk through the pursuit of personal profit and, as a result, "[v]alue [is] ... jointly created by both the firm and the consumer" (Prahalad & Ramaswamy, 2004, p. 7). Game-play involves simultaneous processes of both production and consumption and player specialisations consequently manifest as divisions of labour that develop in accordance with the ludic features of the virtual marketplace. My ongoing trade relationship with Uri was structured around these processes of specialisation, work-like play, production, and consumption, and it was driven by the manner in which MindArk had addressed the problem of abundance.

The Problem of Abundance

Uri and I now were now meeting regularly, usually either when he had guns to sell or when I needed a new weapon. Our relationship had grown out of our respective specialisations and our complementary skill sets, but it was also necessitated by a particular feature of the weapons I was using, namely their "limited" status. All items in EU decay with use, but unlike "unlimited" (UL) items, goods with an "L" for "limited" after their name cannot not be fixed using a repair terminal. The extent to which this game feature influenced my relationship with Uri became apparent in late August, while I was out hunting Leviathan in the waters near Port Atlantis.

I had been shooting the sea monsters for a few hours, while chatting intermittently with Leah, Jac, and Zerg. I had been paying little attention to the condition of my weapon when I noticed the following notification in the dialogue window:

Your Svempa X1 (L) is close to reaching minimum condition. Please note that limited (L) items cannot be repaired.

This message meant that the limited weapon I was using had almost reached a level of disrepair that meant it would no longer function. The health bar of the sea monster I was shooting was almost half empty and I had already invested about 5PED worth of ammunition in the kill, in addition to healing and decay costs, so I was not going to stop shooting it now. I kept firing and after a few more shots the following message appeared:

Your Svempa X1 (L) has reached its minimum condition and cannot be used.

I quickly switched to using my rifle and after a few more shots the Leviathan tilted onto its side and died. I clicked on the creature's corpse and about 20PED worth of various oils, components, and ammunition filled the loot window. I then pressed "T" on the keyboard and sat back watching the global stream as I waited for my avatar to teleport back into the city. After a few seconds the screen blurred and then refocused on Twist standing in front of the revive terminal in the nearby city of Port Atlantis.

I glanced back at stream of purple text listing the steady flow of winnings occurring at various locations across Calypso and noticed a familiar name:

Doric Uri General manufactured an item (Svempa X1 (L)) worth 53PED

Uri was online and he was crafting guns. I opened my friends list and sent him a PM:

[Twist] hey, hope I'm not disturbing :)

[Uri] hey :)) nope go ahead

[Twist] I'm after 1 X1 and bulltac70 if u can :)

[Uri] I have high tiers svempa x1

[Twist] sorry, 2 x bull tac 70

[Uri] you need it?

[Twist] no high tiers please cheap ones

[Uri] ok

[Twist] sorry poor atm ;) where?

[Uri] new oxford

[Twist] kk

I ran down to the end of the pier and jumped into the large teleporter. As usual, an alphabetical list of locations appeared on the screen, and I scrolled down the list until I found "New Oxford." The screen blurred again and when it refocused Twist was standing in the TP just north of the large reindeer shaped shopping mall in New Oxford. I knew Uri was crafting, so I turned towards the hanger near the TP and went inside. Sure enough, Uri was standing next to the crafting terminal. I clicked "wave" and as Twist vocalised he turned towards me and waved back. Uri opened a private trade window and placed the weapon and the two amplifiers inside:

[Twist] u have a calculator? :)

[Uri] yes

[Uri] 843

[Uri] $485 + 2 * 179$

[Twist] of course I trust u :)

[Uri] :)

[Twist] thx wish me luck then I'll be back for more lol

[Uri] gl :)

The weapons and amps I was buying from Uri usually lasted about two weeks during periods of frequent game-play. The cost of the items was equivalent to a six month subscription for most of the big name MMORPGs at the time, but I was not depositing \$84 every two weeks. Most of the time, the PED I was spending was generated through hunting and selling loot, by "cycling PED" within the game. I would usually make enough money from hunting to cover costs for a while. I would often make a small loss, but still come back with enough PED to stock up on ammunition, fix my gear, and purchase new limited weapons that would last for the next few weeks.

The introduction of limited items had occurred early in the history of the EU, before I started playing. Prior to this all items in-game were unlimited (UL) and although they would decay over time, and require repairs, they would not become unusable. At the time, the addition of limited items represented a major shift in the structure of the EU economy:

[Deathifier] [The transition] from the unlimited economy to the L-economy was *very* major at the time. I remember it coming in and I remember going "ahhh I hate this L shit I don't want any of that." This is a guy who's now got enough unlimited stuff to equip an army. But, after a while, I sort of thought about it, looked at the discussions and looked at the economics and I thought "hang on a sec, if the unlimited stuff stays there is no cycle of resources, which means that eventually everything would be worth nothing, because there would be no point hunting for stuff that has no value to sell."

Producers based online spaces, that are orientated around user-created content, are often characterised by abundance and balanced exchange, as opposed to the scarcity and

unequal exchange typical of traditional capitalist markets. However, the maintenance of a prosumption economy requires some degree of scarcity in order to ensure continual cycles of production and consumption. The introduction of limited goods enabled the creation of artificial scarcity within the Entropian economy. As a result the "L-economy" served as a means of solving what Kelly (2004) has called "the problem of abundance" (n.p.).

The problem of abundance occurs because "developers, unlike real-world producers, can instantiate game goods in near-infinite quantities"(Kelly, 2004, n.p.). Virtual commodities do not break, suffer actual wear, or rely on finite resources in the same way that physical commodities do. So, without ludic mechanisms to control supply, after a while, game goods could exist in such great quantities that their market value would be nullified. Such abundance and diminishing value would be particularly problematic for a RCE game-world, where items are monetary assets. Limitations on in-game resources, imposed using the drop-rates of loot, is one method that MindArk uses to control supply levels. Yet, mechanisms for decay are still necessary because a prosumption based economy can only function if items are "used up" and have to be reproduced. Otherwise, eventually even rare items would become commonplace, prices would fall accordingly, and production and trade relationships would become unnecessary. Repairs alone could not assure the level of scarcity required to fully manage the problem of abundance in EU, so MA introduced limited goods.

Scarcity is an essential variable in a RCE game where play manifests as both production and consumption. Scarcity necessitates play and "[t]he point of economic policy in a game isn't to simulate reality; it's to make the synthetic scarcity so entertaining that the

truly scarce good - players' time - goes toward solving problems in the game, not in the outer world" (Castronova, 2006, n.p.). The introduction of limited items, in combination with variable drop rates, ensured the artificial scarcity required for the functioning of the game economy and the continuation of cycles of play. In addition, the L-economy created a basis for ongoing trade relationships. Yet, the RCE meant that unlimited items were not removed from the game, as removal would have essentially amounted to an eradication of player assets. As a result, distinctions between the relative market value of L and UL items arose; often the UL version of a particular item commands a significantly higher market price than its corresponding L version. These higher prices are driven by both the reduced supply of UL items and the convenience associated with using them. Utilizing a UL item is convenient because it means players can forgo the uncertainties associated with fluctuating supply and variable auction prices; the possession of UL items also means that players can often avoid the social complexities associated with trade.

TT, Mark-Up, Auctions, and Street-Selling

Trade is a social process that is heavily influenced by the economic structures within which a given exchange occurs. Understandings of value are expressed during trade and in EU these understandings are structured around the game's attribution of a trade terminal (TT) value to goods and the concurrent operation of the "mark-up" system. Trade terminal (TT) values are assigned to all items in Entropia. TT value means items can be inserted into one of the game's many trade terminals and exchanged for a guaranteed base worth at any point in time. Price fluctuations enter the economy through the addition of a mark-up that varies in accordance with supply and demand.

Economic trends, in relation to an item's mark-up, are displayed on graphs contained in the item's information box and accessed by clicking on the item. In relation to sales, mark-up is usually indicated as a percentage of the TT value. For example, the price of an item may be listed in the auction with a mark-up of 152%, meaning that in order to purchase it a buyer would have to pay the seller 100% of the TT value, plus an additional market value of 52% of the TT price. A weapon with a TT value of 43PED and a listed mark-up of 152% would consequently cost 152% of the base (TT) value, in this case 43PED plus 22PED, so a total of 65PED. It makes little economic sense to sell an item with a relatively substantive mark-up to the trade terminal, as in doing so the seller forfeits potential earnings. In this sense, the mark-up system encourages auction trade. However, auction trade does have associated risks and costs.

Auction sales involve sellers paying an upfront fee of 0.50PED and further sales fee of up to 100PED if, or when, an item is sold. The sales fee is initially calculated using the mark-up indicated in the starting bid, as set by the seller, and if necessary it is recalculated upon sale. At the time of writing the formula for calculating total auction fees was as follows:

$$\text{Auction fee} = 0.50 + (74.625 * \text{Markup}) / (1492.5 + \text{Markup})$$

Items can be listed in the auction for a maximum of seven days. The seller sets the starting bid and, if they wish, a "buy-out" price. Buyers can either choose to bid on an item and wait for the auction to end, or pay the buy-out price and acquire the item immediately. If an item is not sold, within the time limit set by the seller, it is return to the seller's inventory. In such cases, there is no sales fee, but the initial auction fee is still lost. These fees mean that it is not always prudent to sell an item at auction. If the mark-up for a commodity is too low an auction sale may result in a player earning less

from the sale than they would have if they had placed the item in the trade terminal; such items are often referred to derogatorily as "TT fodder." However, additional earnings can still occasionally be accrued from low mark-up commodities, if the goods in question are "stackable."

Stackable goods are those which can be piled on top of each other in a player's inventory and they are differentiated from commodities known as "items" that cannot be stacked. Oils, wools, hides, minerals, and ammunition are all stackable commodities that can be grouped into piles of varying sizes in a player's inventory. Stacks can be split and regrouped at will, although different stack size limitations do apply to different kinds of goods. A further feature of stackables is that they can be looted from other players in red (lootable) PvP zones. Stacks of goods can also be transferred between avatars and sold, as bundles, at auction or through private trade. As a result, it can be worthwhile to sell low mark-up stackables at auction, but only if the stack is large enough to justify a price that will cover auction fees and produce at least a little excess profit.

Tools, weapons, and vehicles are all examples of non-stackable goods that are classified as "items." Each instance of these items appears separately within a player's inventory; they can only be entered into the auction one at a time and they cannot be looted in red PvP zones. It is illogical to sell items at auction if the associated mark-up is not high enough to cover fees and produce excess profits. Although, it is possible to accumulate small gains through the sale of low mark-up items, and small stacks, through private trade. Private trade eliminates the risk of having to pay a fee even if goods are not sold. However, it can be a time-consuming process. The establishment and social

reproduction of trade hubs reduces the time associated with finding a trade partner and the city of Twin Peaks is one such hub.

Even a brief encounter with the city of Twin Peaks enables the user to identify it as a centre of commerce. Avatars tend to gather around the teleporter in the centre of the city, as illustrated in figure 8, and as soon as one arrives in the area the dialogue box in the corner of the screen erupts with offers of sales and trade. The character of Twin Peaks, as a centre of trade and interaction, is continually reinforced as people direct new players there in response to questions about where to buy or sell goods. The consensus which emerges around the social meaning of this place results in the continual reproduction of its character. Traders and service providers at "Twins" repeatedly announce what they are buying, selling, or providing over the trade chat channel. These offers appear in the dialogue box in the corner of the screen and different coloured text is used for different message channels. The different coloured text enables players to easily differentiate between general, society, team, and trade messages, as well as announcements and the global stream.



Figure 8: Twin Peaks teleporter: A centre of trade and commerce

Trade and service messages appear in grey text and usually consist of a succinct description, as well as prices and information on the location of the trader. People also often add punctuation marks or promotional language to their messages in order to draw attention. These messages are then repeated, at fairly regular intervals, in a consistent style. A basic knowledge of game goods and terminology is often required in order to understand these messages, as the examples in figure 9 demonstrate:

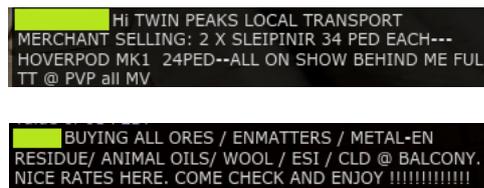


Figure 9: Trade chat messages

The use of the @ symbol as shorthand for "at" is a common convention in online communications. In the instances above "@" is being used to denote the seller's location. The phrase "full TT" indicates that items have a full trade terminal value, meaning that they are either unused or fully repaired. The abbreviation "MV" dictates that the items are being sold at market value. New players pick up this terminology relatively quickly through engagement with the game and others within it. There is also advice on the Entropedia game-wiki and across multiple forums and guides regarding the etiquette of "street selling." Advice on trade etiquette from these guides states that players should provide short precise messages. People are also advised not to "spam the chat" by constantly reposting the same message and not to open a trade window with someone who is not advertising. In addition to these guides, players learn conventions of trade etiquette by observing and emulating existing traders.

Trading, Reselling, Ethics, and Mistakes

"Trader" is an established profession in EU, although social distinctions are often drawn between traders and what are known as "resellers." Traders tend to be defined as those who have established exchange relationships with hunters, miners, or crafters and who "add value" to their products (Entropia Directory, n.d.). Trade partnerships allow hunters, miners, and crafters to forgo the time and uncertainty associated with auction trade, as it can take days or weeks of game-play to accrue a stack of goods large enough to justify an auction sale. Furthermore, auction sales take time and there is no guarantee that one's items will sell promptly, or even at all. Trade relationships enable players to turn loot into PED quickly, so that they can purchase the items and commodities they need to continue playing. One result of this convenience is that sellers will most likely offer traders a good price, therefore enabling the trader to profit at auction. The player is essentially selling the risk associated with the resale of their loot, and by buying the risk the trader gains a lower price and is consequently more likely to be able to make a profit. This results in a relationship of mutual benefit and traders are therefore generally perceived of as providing a service. Additionally, some will add value to goods through augmentation or by utilising them in production. These kinds of trade relationships aid the economy by ensuring a continual cycle of play, which in this RCE world is tantamount to both consumption and production. Trade relationships also promote sociality and the development of trust. Reselling, on the other hand, tends to be much more impersonal and is not always looked upon as favourably as trading is.

Reselling is generally defined as the sale of products for profit, without the addition of value through either service provision or augmentation (Entropia Directory, n.d.).

Almost all players will resell goods at some point during their game careers. However, distinctions are drawn between the occasional resale of goods and those who make a

career of reselling. Further distinctions are then drawn between "honest" and "dishonest" resellers. Resellers may earn PED through buying stackables in small quantities and reselling them in bulk, via street trade, at auction, or in shops. This practice is generally conceived of as an acceptable form of reselling. In contrast, some people earn PED by hoarding goods, in an attempt to create artificial scarcity (beyond that which is already established by the L-economy) and inflate prices. Others may seek to take advantage of a new player's lack of market and game knowledge by undervaluing and then buying up their wares. Such acts are generally frowned upon. Market manipulation results in higher costs to play for the general community. Undervaluing goods discourages new players from engaging in EU and gives resellers, in general, a poor reputation. Resellers may also purchase underpriced items at auction and resell them at market value for profit. This practice is slightly more ethically ambiguous as it may involve profiting from other's mistakes, lack of knowledge, or desperation.

Some cases of mistaken pricing, where players have accidentally under-valued the goods that they were selling at auction, are documented in forum posts. On occasion, these posts are accompanied by explicit appeals for buyers to come forward and return, or reimburse the mistakenly priced items. Other posts may be less explicit and simply document mistakes, perhaps with an implicit hope that community pressure will encourage the buyer to come forward and help the seller rectify their mistake. Such posts usually prompt mixed responses.

Moral stances, in relation to mistaken sales vary between players and often depend on the details of a particular case. In the case of a mispriced stack of goods that resulted in

a 3000PED (\$300) loss for the seller many people responded with sympathy, but evaluated the occurrence as an expensive mistake and pointed out that little could be done as "all trades are final":

Sorry to see it happened to you.

Probably won't happen to you again 😊 there is no way for you to get it back, all trades are final. Next time double check the item you are selling (Anon 1, 2012).

However, some forum participants did evaluate this case an example of a buyer profiting from the exploitation of another's misfortune:

It's a shame people deliberately "exploit" others like this (Anon 2, 2012)

A similar case, where a lower value item was mistaken for a higher value item and placed in the auction, resulted in a 30'000 PED (\$3000) loss for the seller.

The second more expensive case of mistaken selling was met with a more unified response from the game community. In this case the majority of players agreed that the right thing for the buyer to do would be to return the mistakenly sold item. Notions of honesty, honour, and morality were invoked as support for claims that the buyer should return the item or reimburse the seller:

This is a game and there is such a thing as 'fair play' regardless of whether there is real money involved or not (Anon 3, 2012).

I hope whoever bought is honest! (Anon 4, 2012).

I hope that whoever bought it is honourable, obvious mistake (Anon 5, 2012)

I hope the guy who got it has some morals and will return it! (Anon 6, 2012)

People generally agreed that if the buyer kept the item they would be profiting from another's misfortune. Most judged this as unethical behaviour or, at least, as contrary to

notions of "fair play." However, some players maintained that there was nothing inherently wrong with profiting from an advantageous purchase and that the burden of fault lay with the seller. People also acknowledged that the buying of mistakenly underpriced items was commonplace:

There are resellers who stand and reload the auction every 10 seconds looking for mistakes like this (Anon 7, 2012).

Yet, regardless of people's moral stances towards to the situation, the majority of players recognised that the auction purchase itself did not contravene any of the official game rules:

Any purchase from the auction shouldn't equate to you having to be honest. You buy from the auction what's available whether it's expensive or cheap. Honesty has nothing to do with it. The person who bought this does have every right to cheer and clap for the windfall he has purchased, but deep down he/she would know that someone has made a mistake and would be kicking themselves. This is where the "honourable" kicks in (Anon 8, 2012).

Legally the buyer has every right to keep it and ppl shouldn't victimize him.

On the other hand it'd also give some real insight into the core value system of the person. It'd be an internal fight between 2 conflicting situations, legality vs core moral value system (Anon 9, 2012).

The buyer did nothing wrong he bought a item from auction and his rep cannot be tarnished in any way in-game as he has not ripped anyone off or anything else along them (*sic.*) lines (Anon 10, 2012).

Respondents also conceded that in this case the pursuit of profit, something which is broadly accepted as a legitimate motivator for in-game actions, conflicted with common conventions of ethical play:

Morals go out the window when someone sees an absolute bargain (Anon 11, 2012).

It will come down to capitalism versus ethics (Anon 12, 2012).

In the first case, the buyer kept the underpriced goods and stated that he felt no moral obligation to rectify the seller's mistake. Forum moderators backed up the seller's decision, stating that no game rules had been broken and the buyer's reputation should not be tarnished by the purchase. The thread was then closed. The second situation was never publicly resolved and the thread was eventually closed anyway. The general consensus among the community was that the buyer should return the item, or reimburse the seller. Although, many participants questioned whether others would actually act in accordance with their publically stated moral stances if they were put in a similar situation. Responses to both of these cases are indicative of the manner in which "[m]oney determines the morality of exchange only insofar as previously existing moral orders maintain, in the long run, their durability in the face of short-term individual competition" (Maurer, 2006, p. 19). The ethical dimensions of trade in EU are bound up in understandings of reputation, which can conflict with the general acceptance of economic self-interest as a prime motivator for in-game actions; an assumption that is derived from the attribution of value to virtual goods. This association of money with self-interest and the manner in which this association is reinforced by the attribution of value to virtual currencies and goods, and enacted in social exchanges in the game-world, is examined in more detail in the following chapter. For now, it is suffice to say

that evaluations of the "rightness" of exchanges are derived from at times conflicting conceptions of reputation, value, and self-interest.

Polyani (1944/1968) argues that the value of material goods lies in their capacity to safeguard social standing and survival. In EU, the same is true for immaterial, virtual, goods. "Survival" on Calypso pertains to the player's ability to stay in the game and continue cycling PED. The generation of PED through work, play, trade, employment, or depositing enables players to purchase the goods required for further play. The cyclical processes of spending money on play and playing to generate money defines people's existences on this virtual planet. So, the notion of survival in EU relates primarily to economic survival, as the generation of capital is a pre-requisite for almost all in-game activities.

Loot is valuable, whether it is accrued through play or acquired through trade. Loot enables players to generate the funds that facilitate further play, thus ensuring economic survival. Economic survival is closely intertwined with social survival, as the links between economic, avatarial, and cultural capital outlined chapter five demonstrated. However, the maintenance of social ties in EU does not necessarily entail the suppression of economic self-interest. Rather, economic self-interest is itself mobilised as a means of upholding norms of trade etiquette and trust, through the mechanisms of reputation; a good reputation can produce long term economic benefits, a poor reputation can result in isolation and losses. However, tensions often occur between the acceptance of self-interest as a motivating force for in-game action and the ethical realities of exercising self-interest in a social virtual environment.

Conclusions

Entropia's real cash economy blurs the boundaries between work and play through the integration of remuneration into play activities and the creation of work spaces in a game-world. Work activities are characterised by the pursuit of profit and activities generally defined as play are often associated with a relinquishment of the profit motive. However, in practice even these boundaries are blurred, as what counts as work for one person may be seen as play by another and vice versa. Dispositions towards the game-world are reminiscent of processes of aspirational play, whereby people attempt to earn a living through computer gaming. Aspirational gaming involves hard-work, but in essence EU is game and the aim of the game is economic survival through continued participation in prosumption.

The economy in EU is structured around a melding of production and consumption in play. The resultant relations of prosumption maintain a relatively linear model of production, where consumers (players) are integrated into the productive process. This in-game mode of production is more restrictive than the collaborative produsage models utilised in online realms that are based user-created content, as the prosumption model enables MindArk to maintain ultimate control over production and supply within the game-world. However, players are still integrated into the productive process as game-play manifests as both production and consumption, resulting in the co-creation of value. Accordingly, player specialisations manifest as divisions of labour that structure exchange relations within the virtual marketplace. The creation of artificial scarcity, via the introduction of limited goods, in conjunction with the trade terminal, mark-up, stackable, and item systems necessitate the formation of trade relationships.

Maintenance of these relationships often entails the balancing of economic self-interest

against considerations of etiquette and personal, or collective, ethics. As a result, the RCE creates tensions between self-seeking profit maximisation and relations of interdependence, as players seek to survive in this social game-world that incorporates work, play, production, consumption, and most importantly real money.

Chapter 8. The Real Cash Economy

The real cash economy (RCE) is central to people's experiences in Entropia and in many cases, it is what prompted people to start playing the game in the first place:

[Zen] It's the real cash economy that was intriguing.

[Ric] I read clip in the newspaper about hunters killing monsters and made a real living through that. It was the oldschool ubers (Swedish) back in the day, just after the beta finished. 18'000PED a month profit on average, well, in those days.

[Annie] One of the MA guys were (*sic.*) on a local TV station here chatting about how it was free to play and make money and such lol :) Think it was CEO himself - TV station long gone tho, so [I] can't find the clip which I wanted to do a while ago, lol. And why? The usual noobie thing, get rich, lol, but that was quickly taken away when I played a few hours, hehe :)

[Deathifier] I was looking around for games to try out online ... it was in its first open trials, so I signed up ... I jumped in, deposited next day, and went from there. I can't remember exactly where I found it, but it was online somewhere ... it was probably some sort of gaming news site or something. It was very pioneering, Entropia, the way it was presented was the whole real cash economy, you can make money, and this and that.

[Rydx] I actually found out about it from the Guinness book of records. I saw that Treasure Island was sold for like 25'000 dollars or something, but between then and when I actually started was a couple of years, because my computer wasn't really good enough then. The reason I really started playing was because

of that lure of the ability to make real money, but then I actually stayed for how fun the game was and how many friends I was making.

The RCE influences the game's structure, practices of play, in-world relationships, and the game culture. The RCE means that life, work, and play in EU are embedded in economic processes. These monetary realities complement the socio-technical and ludic relations that develop within the game-world. Thus, adding an economic dimension to the experience of virtual being.

The influences of the RCE are apparent in players' understandings of value and in practices of play. Furthermore, the bi-directionally exchangeable nature of the PED situates the currency within broader codes of meaning, whereby value is attributed to money. The RCE creates distinct links between the virtual space and the supposed realities of monetary value. These links raise questions about how virtual currencies and goods are to be understood, in relation to notions of value, in both virtual and actual worlds. These questions of value form the basis of the analysis contained in this penultimate chapter.

This chapter examines monetary value, in relation to both virtual currencies and Entropia's game commodities. The chapter questions relationships among notions of money, value, reality, and power; in a discussion that has implications which extend well beyond the confines of one particular virtual world. The chapter begins by analysing the value of virtual currencies in relation to regression theorem. This analysis is followed by an exploration of crypto-currencies, laissez-faire economics, power, and the social construction of monetary value. The chapter then moves on to an examination

of value in relation to the PED and Entropia's virtual commodities, and concludes by consolidating the impacts of the real cash economy on life in Entropia Universe.

The chapter explores how the monetary realities of RCE virtual worlds serve as a means of transcending the ontological ambiguity associated with virtuality (Kedzior, 2007).

Kedzior (2007) hypothesizes that this sense of transcendence is the result of consumption, as consuming virtual goods, with monetary value, is said to contribute to processes of self-making. Thus, resulting in a heightened sense of embodied presence in the virtual world (Kedzior, 2007). RCE virtual worlds, such as EU and Second Life, have indeed "set new stages for consumption" (Kedzior, 2007, p. 2). However, in EU the transcendence that Kedzior (2007) notes is not simply a function of consumption, but rather a consequence of broader actual and virtual world understandings of monetary value.

Virtual Currency

Capitalism, Marx and Engels observe, 'cannot exist without perpetually revolutionising the instruments of production, and thereby the relations of production, and with them the whole relations of society' (including those of consumption). (Harvey, 2008, p. 6)

PED, Second life's Linden Dollar, and the crypto-currency Bitcoin are the most well known virtual currencies that incorporate two-way exchange. They can all be exchanged for actual and/or virtual goods and currency, at either fixed or floating exchange rates. None of these currencies are legal tender and they can only be used online. However, they do have monetary value, at least for their users. The rise of virtual currencies and commodities can be viewed as simply the most recent

manifestation in the evolution of capitalist economies. In accordance with this historical-materialist perspective, shifts from colonisation, to globalisation, and now virtualisation are simply manifestations of capitalism's relentless striving towards the "conquest of new markets" (Marx & Engels, 1848/2008, p. 42). Virtual goods are "additional items on what free-market economists and rational-choice political scientists call the 'menu' of choices available to us as consumers ... they have the affective structure of commodities that we fetishize, and frantically accumulate and consume" (Shaviro, 2007, p. 3). Yet, the immateriality of virtual currencies and commodities also draws attention to "a relentless drift towards abstraction at every stage of the productive process. A melting away of the solid – the tangible, the material - in the face of a system forever impatient to discard what exists and create what doesn't" (Dibbell, 2006, p. 22). Inadvertently, this drift towards abstraction is revealing the manner in which "[c]apital itself is a virtual fiction ... enforced by law, and naturalized by habit and custom" (Shaviro, 2007, p. 7). So, the rise of virtual monies can encourage us to question these processes of naturalisation and the value of money in general.

Studies of money reveal how its "reproduction as an institution depends on how unproblematically it is taken for granted" (Carruthers & Babb, 1996, p. 1557). In situations where the value and function of money is called into question its social construction is revealed (Carruthers & Babb, 1996). "Taken for granted beliefs are challenged, and people articulate their previously implicit expectations about money and its purpose" (Carruthers & Babb, 1996, p. 1557). The worlds of virtual currencies provide such a challenge, as they problematise conventional understandings of the relations among states, currency, physicality, and value. Virtual currencies fulfil the general criteria that economists set for money; they are divisible, "roughly

commensurable, highly portable, and [they do] not decay" (Graeber, 2001, p. 92). They also appear to support some aspects of Misesian regression theorem, by demonstrating that the function of money, as a medium of exchange, is more fundamental to its usage than the presence of political assurances of value.

Regression theorem states that units of money are valued due to their expected purchasing power (Mises, 1953). According to Mises (1953) "money has no utility other than that arising from the possibility of obtaining other economic goods in exchange for it" (p. 97). In accordance with this view, monetary value is derived from the capacity to use a particular token in an exchange (Mises, 1953). Beliefs regarding a token's exchange-value are seen as the result of memories of prior assurances of value (Mises, 1953). Evaluations regarding the expected purchasing power of money tomorrow are said to be based on the memory of its purchasing power yesterday, in a process of temporal regression that, according to Mises (1953), extends to the point at which monetary exchange emerged from a supposed state of barter. Under such barter systems, exchange-value was said to be derived from subjective evaluations of an item's relative use-value in relation to other goods and a person's wants or needs (Mises, 1953). Graeber (2011) has of course contested this "myth of barter." However, the assumption that money emerged from barter, rather than from credit and debt as Graeber (2011) demonstrates, remains pervasive in western economics. This belief also has a formative influence on folk theories of money and regression theorem's associations between value and exchange are particularly relevant to the worlds of virtual crypto-currencies.

Mises' (1953) regression theorem represents a challenge to arguments regarding the state's role as a guarantor of monetary value. Monetary value is seen as the result of human action, rather than as a result of politico-legal assurances (Mises, 1953).

Consequently, Mises' (1953) theory provides a basis for acute forms of laissez-faire markets, as the state's financial regulatory role is reduced to the management of money supply. Regression theorem also seems to support assertions regarding the value of virtual money. Although, regression theorem has been mobilised in critiques of virtual currencies (see European Central Bank, 2012).

In order to understand relations among digital monies, laissez-faire economics, regression theorem, and the cultural construction of value the umbrella term "virtual currency" must be first be clarified. This clarification involves drawing distinctions between virtual currencies and eMoney, as eMoney, or digitally stored legal tender, does not challenge conventional understandings of monetary value or the assumed necessity of state financial regulation. The category virtual currency must also be further subdivided into corporate run game-currencies and crypto-currencies. This distinction needs to be drawn because crypto-currencies potentially constitute a much more significant challenge to established understandings of money than virtual game currencies.

Distinctions between eMoney and virtual currencies, based on notions of legal tender, appear rather unproblematic. However, in relation to questions of value differentiations are much less clear-cut. In 2012, a European Central Bank (ECB) report on virtual money labelled bi-directionally exchangeable currencies like the PED "similar to any other convertible currency with regard to [their] interoperability with the real world" (p.

14). This evaluation hints at a potential relation of ontological equivalence between the value of actual and virtual money. However, the ECB (2012) also distinguishes between eMoney and virtual currencies in a manner that appears to contravene notions of equivalence. eMoney is defined as currency that is issued in accordance with a fixed supply, by a regulated legally established monetary institution, and stored electronically in “traditional currency (euro, US dollars, pounds, etc.) with legal tender status” (ECB, 2012, p. 16). Virtual currencies, on the other hand, are defined as “invented [digital] currencies ... without legal tender status” (ECB, 2012, p. 16). Virtual currencies are listed as being unregulated and issued by non-financial private companies, so the possibility of redeeming funds is not guaranteed (ECB, 2012).

The ECB's (2012) distinction asserts that the value of eMoney is more “real” than the value of virtual money because it is saved in traditional currency denominations and backed by regulatory power and financial institutions. Yet, elsewhere the report states that, in accordance with regression theorem “money becomes accepted not because of a government decree or social convention, but because it has its roots in a commodity expressing a certain purchasing power” (ECB, 2012, p. 23). Regression theorem is mobilised, in the report, as a means of critiquing the crypto-currency Bitcoin. However, the critique appears to contradict earlier assertions of interoperability and regression theorem contravenes the argument that the value of eMoney is derived from legal assurance.

According to regression theorem, a currency's use-value is derived from its capacity to be used in exchange. Therefore, if virtual currencies are utilised in commodity exchange they can, in accordance with Mises' (1953) theory, be considered to have a use-value

that is ontologically equivalent to that of actual currencies. This equivalent use-value currently only exists because of links to legal tender. However, it is feasible that in time the assumed necessity of these links could diminish. Nonetheless, the current necessity of these links demonstrates how understandings of monetary value are grounded in acts of belief, as well as legal reassurance. We believe that we can exchange dollars for things because this belief has been validated in the past. Legal assurances simply mean that we do not need to consider the collective acts of make-believe and socio-economic convention that go into the construction of monetary value. These processes of belief and confirmation are now being extended to the worlds of virtual currencies. Furthermore, the rise of crypto-currencies means that the necessity of political financial regulation is being brought into question.

Crypto-Currencies

A spectre is haunting the modern world, the spectre of crypto-anarchy.
(May, 1992, n.p)

Crypto-currencies, such as Bitcoin, are particularly problematic for financial institutions, as the decentralised nature of these currencies challenges the presumed economic necessity of institutional regulation. Also, unlike game currencies, such as the PED or Second Life's Linden dollar, crypto-currencies are not issued by private companies with associated legal and tax obligations, nor are they contained within the confines of a virtual world. Instead, crypto-currencies are based around the idea that a decentralised cryptographic network can take the place of a centralised authority, in relation to the control over money supply and the regulation of transactions. This idea extends the radical libertarian ethos of the free-software movement, as articulated by Coleman (2013), to include the concretisation of a truly laissez-faire monetary system

that is free from any form of institutional control. The processes involved in this transformation become particularly apparent when we examine the functioning of the most well known crypto-currency, Bitcoin.

Bitcoins can either be "mined" or purchased and it is a floating currency, so its value against actual world currencies varies¹¹. It can be used to purchase goods or services, via encrypted online transactions, and it is bi-directionally exchangeable. In order to mine for Bitcoin users essentially donate their computer processing power to "process transactions, secure the network, and keep everyone in the system synchronized together" (Bitcoin, 2014, n.p.). Miners run the Bitcoin client on their computers in order to repeatedly calculate "hashes" and thus, locate a transaction within a "blockchain." In simplified terms, a blockchain is essentially a transaction database and hashes are analogous to transaction records. The miners' computers locate, verify, and process transactions, while simultaneously controlling currency flow. Users that donate their computers to maintaining the network in this manner incur costs, such as electricity costs, telecommunications fees, and hardware costs. However, the work their computers do, in processing transactions and maintaining the network, is rewarded through the allocation of new Bitcoin and/or transaction fees to miners. These rewards are automatically given out when miners' computers successfully solve hashes and locate a block (transaction record) within a given blockchain (transaction database). The mined Bitcoin are released from a finite pool of 21 million exemplars, and each coin is divisible by up to 8 decimal places. Here, computer labour manifests as the encryption and maintenance of transaction records, that ensures the finitude of Bitcoin and enables the crypto-currency to circulate.

¹¹ Between December 2013 and January 2014 the value of ₿1 fluctuated between US\$500 and US\$1000

The Bitcoin website attributes the idea of a crypto-currency to a 1998 post, by the user "Wei Dai," on the cypherpunks mailing list (Bitcoin, 2014). However, articulations of the idea of a decentralised anonymous crypto-currency previously appeared in Timothy May's (1992) *The Crypto Anarchist Manifesto* and Jim Bell's (1995-6) *Assassination Politics*. In 1992, May proposed that "public-key encryption, zero-knowledge interactive proof systems, and various software protocols for interaction, authentication, and verification" (n.p.) could be utilised to create a monetary system that would fundamentally alter the nature of economic governance and commerce. May (1992) argued that "[j]ust as the technology of printing altered and reduced the power of medieval guilds and the social power structure, so too will cryptologic methods fundamentally alter the nature of corporations and of government interference in economic transactions" (n.p.). In 1995-6, Jim Bell half-jokingly proposed that "modern methods of public-key encryption and anonymous digital cash" (n.p.) could be used to crowd-fund political assassinations. Bell (1995-6) proposed a system where users donate in order to "guess" the death date of (un)popular political figures. In 2013, both of these concepts have been actualised. Cryptographic currencies, like Bitcoin, exist and Bell's (1995-6) idea appears to have been the inspiration for the website "The Assassination Market."

The Assassination Market lists the names of prominent political and financial figures under the tagline "this machine kills fascists." Names are shown next to a bounty and people's current status, as alive or dead. Users can suggest names, donate using Bitcoin, and claim a share of the bounty if they correctly predict the death date of any of those listed. At the time of writing, the name at the top list was the out-going head of the Federal Reserve, Ben Bernanke, with a bounty of \$124.22. Although, as yet, no known

assassinations have taken place as a result of this website. The assassination market goes beyond ideologies of laissez-faire economics and highlights the subversive potential of virtual currencies. However, Bitcoin itself embodies some of the driving ideals of the crypto-anarchist movement. These are ideals of freedom from control, government surveillance, and institutional regulation. With these driving ideals, and the emergence of currencies that challenge the assumed necessity of traditional regulatory bodies, it is no wonder that financial institutions, such as the ECB, have been critical of virtual money.

The ECB (2012) critique of Bitcoin differentially focus on either the security of the system, or on attempts to refute assertions of monetary value. It is argued that a lack of regulation and anonymity enable illegal activity (ECB, 2012). This problem is heighten in relation to Bitcoin as it is a decentralised open source crypto-currency, rather than a game-currency run by a corporation with associated legal liabilities. Yet, the ECB report does acknowledge that many online financial services can be subject to malicious exploitation and that these problems are not particular to virtual monies or crypto-currencies. The ECB (2012) also criticises evaluations of the value of Bitcoin by stating that “Bitcoins have no intrinsic value, unlike gold” (p. 23). Gold has use-value, based on its physical constitution, that exists aside from its value in exchange; something which Bitcoin and other virtual currencies do not have. However, reserve currencies and fiat currencies are no longer linked to gold, so this comparison does little to support the supposition that the monetary value of legal tender is somehow more intrinsically *real* than the monetary value of virtual tender. The use of regression theorem to criticise Bitcoin's monetary value is also problematic.

The ECB (2012) uses regression theorem to critique the seemingly circular nature of value production in relation to Bitcoin. At first glance, Bitcoin does appear to be based on circular processes of value production. The work of the miners' computers enables transactions to occur. The miner is paid for this work, but the currency s/he is paid in only has value as long as the network is maintained. So, the value of Bitcoin is contingent upon the maintenance of the system that assures its value. Yet, in essence, this is no different to money in the actual world, as defunct currencies like the DDR's Ostmark demonstrates. Physical exemplars of defunct currencies may maintain some historic and sentimental value. However, if they are no longer exchangeable for goods or further currency they cannot be considered to have monetary value. The use-value of virtual currencies, as a medium of exchange, is of course context specific and contingent upon their acceptance as currency, but so is the use of actual world currencies. I cannot (yet) use PED, Linden dollars, or Bitcoin to purchase a loaf of bread at my local Australian baker, anymore than I can use Euros or US dollars. However, as long as each of these currencies have expected purchasing power, in particular domains, they can be considered as having use-value derived from the potential for exchange. In accordance with regression theorem this is the use-value of money.

A denial of the validity of virtual currencies as means of exchange, due to a lack of institutional backing, is tantamount to an admission that the value of currency is simply derived from political power. Conversely, an acknowledgment that the value of money is contingent on its capacity to be used in exchange must lead to an acknowledgment of the monetary value of virtual currencies. Currency "is valued not because it serves in itself to satisfy wants, but as a medium of exchange, having purchasing power over

other things" (F. W. Taussig, 1911/2013, p. 124). Social consensus regarding the value of currencies is derived from an acknowledgement of their utility in exchange and confirmed by the backing of those in authority. Yet, the existence of virtual currencies calls into question the necessity of traditional financial regulatory bodies, while also drawing attention to both the ontological ambiguity and socially constructed nature of monetary value. By highlighting these facets of monetary systems virtual currencies, like PED and Bitcoin, reveal the nature of monetary value as a virtual fiction and a socio-political construct.

Real value?

All game currencies have value, in the form of purchasing power, in relation to particular game-worlds. Also, if virtual currencies are mobilised in commodity exchange they should be considered to have a use-value equivalent to that of actual world currencies. However, game-currencies are not primarily mobilised for the purchase of actual world goods. As a result, bi-directionally exchangeable game-currencies create the paradoxical situation, whereby fictional money, used to purchase fictional goods in a fictional space, has real value. In this sense the monetary value of game-currencies is analogous to Juul's (2005) conception of computer games as "half-real." In Juul's (2005) original formulation the term "half-real" was used to refer to the relations between real rules and fictional settings in game-worlds. In relation to EU, Juul's (2005) formulation of the ontological hybridity of game-worlds can be extended to valuations of virtual currency, as the label "half-real" reflects player's experience of the currency as simultaneously actual and fictional:

[Tyro] I spent less than 1000PED I'm sure, 100 bucks and that's real money, but I make a lot of money and, at that time, I was entirely non-deposit so it was monopoly money.

Tyro's comments demonstrate how the PED is simultaneously seen as a reality and a virtual fiction. The monetary value of the PED is realised at the moment when it enters into a relation with actual world currency, either through deposits, withdrawals, or player's calculations of rate conversions. At this point of conversion the currency is incorporated into the actual world codes of meaning through which value is attributed to money. The PED is not real, but its bi-directionally exchangeable nature renders it experienceable, meaningful, and appraisable in accordance with known systems of value.

Western folk theories of money tend to draw heavily on the narratives of traditionalist economics. Understandings of "the value of money," as a relation between labour and purchasing power, reflect the constructions of value posited in traditional economic theory. Furthermore, popular acceptance of the "myth of barter" and corresponding assumptions that monetary systems, markets, and value are naturally emergent social phenomena, naturalises the institutions that assure the exchangeability of money and the power structures of conventional capitalism (Carruthers & Babb, 1996; Graeber, 2011). These narratives of money, construct the emergence of coinage as natural, thus grounding monetary systems in something other than mere convention (Douglas, 1986; Carruthers & Babb, 1996). As a result, "the social construction of monetary value is collectively 'forgotten about' in order to ensure its continued functioning" (Carruthers & Babb, 1996, p. 1559). In virtual-worlds, the attribution of monetary value to virtual currency simply represents an extension of these processes of naturalisation and

forgetting. In EU, this extension is aided by the degree to which the game's structure and economy reflect traditional economic models of value.

Ludic structures in EU reflect conventional assumptions within economic theory regarding self-seeking utility maximisation. Aspects of game-play such as the HoF list, the global stream, and "swirlies" reinforce associations between monetary returns and success. While, algorithmic correlations between avatar skills, item effectiveness, and costs support an ethos of economic efficiency. These ludic structures promote calculated practices of play, aimed at profit maximisation and cost reduction, as exemplified in the strategy of "playing eco" (economically). Moreover, participants tend to view EU as a form of zero-sum game where "one participant can gain only what the others lose" (Neumann & Morgenstern, 1953, p. 34). This perception gained support in 2012 when MA confirmed that winnings are derived from collective, profession related, "loot pools" (MindArk, 2012b). This information, in combination with the fact that MA's income is generated through the sale of virtual assets and exchange revenue, rather than from player losses, seems to lend weight to the assumption that one player can only "win" that which another "looses". However, in actuality, it is impossible to determine whether EU is in fact a zero or a negative sum game as MindArk have never confirmed exact details of the loot system, because this could potentially lead to exploitation. Nonetheless, mythologised versions of the zero-sum assumption persist among the player community and resultantly reinforce self-seeking behaviours. Structures that encourage self-regarding maximising calculations are complemented by a binary construction of value, whereby the value of virtual goods is divided into a base value and a market value, via the operation of the trade terminal (TT) and mark-up systems, as outlined in the previous chapter.

The TT/mark-up system means that the monetary value of virtual goods in EU is comprised of a binary that is reminiscent of the conceptions of value put forward in classical economic theory. Classical economic theory contrives of value as a composite of natural and market price, whereas neoclassical economic theory divides value into use-value and exchange-value (see A. Smith, 1776/2005; Ricardo, 1817/2001). Natural price is seen as a reflection of the intrinsic qualities or "use-value" of a given item, whereas market prices are "determined by the collective influence of the subjective valuations of all the persons doing business in the market" (Mises, 1953, p. 100). The similarities between notions of value in economic and folk theory, and algorithmic constructions of value in the virtual world, are sufficient to ensure an extension of conventional understanding of money and value to EU. However, to conceive of TT value as synonymous with use-value is a slight misnomer.

Marx (1867/1976) points out that, in relation to actual world goods, "the use-value of a thing is realized without exchange, i.e., in the direct relation between the thing and man" (p. 399). TT value is encoded into virtual items and exists as a feature of an item's coding independently of any engagement between players and goods. In this sense, TT value *is* an intrinsic feature of an item. However, this value is only realised, in monetary terms, through the exchanges that occur between players and MindArk, via the trade terminals. Moreover, TT value cannot be considered a pure reflection of an item's utility, in terms of game-play, as items that enable play, such as armour or weaponry, may be attributed an equivalent, or lesser, TT value than decorative items, which have no immediate use-value in terms of game-play. As such, this apparently intrinsic form of value is revealed to be an exchange relation between players and MindArk, and the result of subjective evaluations on the part of MA, regarding the role of particular items

within the game-world. Furthermore, evaluations of the mark-up system, as determined by the subjective valuations of players, simply raises questions about how such subjective valuations are made in relation to virtual goods.

Virtual Commodities

The value of a virtual commodity cannot be conceived of as resulting from the inherent qualities of the commodity itself. The digital commodity is a virtual fiction, and both currency and commodities in EU are defined by MindArk as fictional representations. Yet, the fictional nature of virtual goods does not diminish their economic significance:

[t]he mere fact that the goods and spaces are digital, and are part of something that has been given the label "game," is irrelevant. Willingness to pay, to sacrifice time and effort, is the ultimate arbiter of significance when it comes to assessments of economic value. (Castronova, 2003b, n.p.)

So, the virtual commodity has economic value, despite its fictional nature. However, this value is contingent on the operations of in-game markets and context-specific, because it is dependent on the continued operation of the virtual society and nullified outside of this context.

Virtual goods in EU *are* fictional representations. However, the willingness to invest time, money, and effort into their acquisition means that virtual commodities can be understood as "requisite objects" or genuine ontological reproductions with actual world significance (Brey, 2003). The status requisite object arises from the collective attribution of a status function to an item; a function that the item could not perform purely by virtue of its physical constitution (Brey, 2003; Searle, 1995). For example, a virtual spaceship, comprised of pixels and code, cannot function as a mode of transport

outside of the context of the game-world. However, the imposition of the status function "virtual spaceship equals mode of transport in the context of Entropia Universe," via game-code, means that a ship acquires the use-value of a means of transport within the game-world. As a result, it is accepted as a genuine ontological reproduction of a mode of transportation, within the context of the game. In most online games, virtual items attain actual world significance by virtue of the time and emotional investment that players put into acquiring them (Brey 2003; Strikwerda, 2012). Within Entropia, the significance of virtual items appears heightened due to the additional assignment of monetary value.

The monetary value of the virtual commodity, like the value of currency, is dependent on "collective acceptance or recognition or acknowledgement" (Searle, 2006, p. 53). Consensus regarding the value of goods is influenced by an item's use-value, in relation to game-play, and processes of conspicuous consumption. "High-end" items, or goods that are expensive and/or require high skill-levels in order to be used, are valued in so far as they enable high-level game-play. Yet, as Brox, pointed out, such items also act as signifiers of status, capital, skill levels, and often someone's length of time in-game:

[Brox] I like to look good, I enjoy it. It's not how you feel, it's how you look, is the old adage and I just enjoy having some good gear ... I'll skill it up, work it out, move it on, play around with it ,enjoy it, and move onto the next thing thereafter. I'm a virtual goods slut, basically, and what can I say? That's the way I do it ... What it is, is status ... you've been around long enough to actually accumulate this and be seen, and it supports your pursuits within the game.

The exchange-value and status associated with certain goods is derived from a combination of considerations that include rarity, utility, and the level of skills required

for their acquisition, production, and use. Participants are then motivated to consume by the potentialities that virtual commodities open up for them within online worlds (Ruckenstein, 2014).

Consumption in EU tends to be motivated by either social, ludic, or economic goals, and directed towards the pursuit of status, game objectives, or profit. Yet, in actuality social, ludic, and economic spheres are neither discreet, nor mutually exclusive; ludic and economic motivators are part of a greater social whole. Thus, virtual currencies, commodities, and consumption reveal that value is inextricable linked to “the way actions become meaningful to the actors by being placed in some larger social whole, real or imaginary” (Graeber, 2001, p. 254). In addition, the high degree of social stratification and high prices of items in EU, supports Wang, Mayer-Schönberger, and Yang's (2013) hypothesis that the monetary value of virtual good tends to be higher in games with steep hierarchical structures. As such, virtual goods, like virtual currencies, reveal the socially contingent nature of value.

The Real Cash Economy

The appeal is the link with real cash. It makes it more than a game. It reaches deeper parts of a person's mind/psyche I think, makes the whole experience in game more "real", but real is not the right word, more something :)

(Luke, personal communication, April 22, 2012).

I began this study because I wanted to understand why people would pay real money for virtual things. I ended it wondering whether the money was ever real in the first place, but as Luke told me, while we were sitting in his hanger at Rogue Plains: "real is not the

right word." Online worlds and digital currencies cannot be conceptualised in accordance with a binary division between reality and virtuality. References to "real-life" and life "in-game" are used to convey conceptual, experiential, and spatial differences between online and offline realms, but in actuality:

1. the space the virtual world occupies is not clearly distinguishable;
2. the population of the virtual world is ambiguous;
3. its inhabitants' identities cannot be equated with avatars;
4. social relationships are not bounded by its limits;
5. outside norms and institutions regulate behaviour within it;
6. its economy is influenced by shifts in the real economy; and
7. its law and politics are shaped by outside processes

(Lehdonvirta, 2010, n.p.).

The actual and the virtual are intertwined and monetary value is not a reflection of the intrinsic or physical properties of a thing. Money and value are social constructs, but this does not mean that they are inconsequential or imaginary; social constructs shape our experiences, actions, interactions, dispositions, identities, and the experiential realities of the worlds we inhabit, regardless of whether those worlds are physical or digital. Virtual currencies, like the PED and Bitcoin, simply reveal the nature of monetary value as a socio-political construct, as something that "exists only because we think it exists" (Searle, 2006, p. 52). So, capital *is* a virtual fiction, but the effects of money are very real.

Money influences how people think and behave towards one another. In an experimental setting Vohs, Mead, and Goode (2006) found that "people reminded of money reliably performed independent, but socially insensitive actions" (p. 1156).

Money was also shown to enhance individualism and self-sufficiency; when primed with money people tended to prefer to work alone and play alone, and communal motivations were diminished (Vohs, Mead & Goode, 2006). Similar studies of students found that those studying economics were more likely to make self-interested moves in social dilemma games, and also more inclined to assume that their competitors would do likewise, in comparison to students in other disciplines (Frank, Gilovich & Regan, as cited in Vohs, Mead, & Goode, 2006). Given these findings, it is hardly surprising that the integration of money into a virtual world should have profound influence on players' behaviours, relationships, and understandings of the game-space.

The RCE draws attention to the feedback loop that exists between the ways in which we imagine money and its effects. The influences of market based ideologies on the game-world are apparent in game structures, such as the trade terminal system, and reflected in player dispositions, as exemplified in the expectation that people will handle in accordance with economic self-interest. Assumptions about the depersonalising effects of money are indeed a western folk theory that is instantiated and substantiated in monetary practices (Bloch & Parry, 1989). Money may exert a "life-like power" over people, sociality, culture and even cognition, but only because we imagine it as such. At first glance, the impacts of the RCE on EU's game culture and the findings of Vohs et. al. (2006) appear to support Marx's (1890/1976) and Simmel's (1978/2004) assumptions that money "promotes, the growth of individualism and the destruction of solidary communities" (Bloch & Parry, 1989, p. 4). However, the impacts of understandings of money on the game community are actually more nuanced; it "brings out the best and the worst in people" (Luke, personal communication, April 22, 2012).

The RCE facilitates an extension of the experiential realities of monetary value into the game-world. Actual and virtual worlds are simultaneously distinct domains and indistinguishable spheres of experience. However, the integration of "real" money allows people to transcend this ontological ambiguity. Money is a social reality and the association of in-world deeds with monetary risks and costs imbues actions in the virtual world with an additional layer of meaning. If monetary value is real then so are the acts of altruism and exhibitions of trust that people experience in the game-world. The risks are real, the successes are real, the losses are real, the work is real, and it does not matter whether these realities are actual or imagined, because the subjective experiences are genuine. The RCE makes the experience of virtual being real.

Conclusions

Virtual money is no more or less real than actual money. If the value of money is derived from its capacity to be used in exchange then virtual currencies, that are used in exchange, also have value. However, the reduction of monetary value to processes of exchange, when viewed in conjunction with the emergence of virtual currencies, raises questions about why particular tokens are seen as having exchange value, whereas others are not. If the value of a particular token is derived from social consensus then the value of virtual currencies is as real as the value of actual world currencies.

However, the value of money is not simply derived from processes of exchange and social consensus regarding the kinds of tokens that should be used. Money is a socio-political construct and virtual currencies draw attention to the roles of political and financial power structures, in relation to the attribution of value to money.

Crypto-currencies, in particular, challenge the assumed need for financial regulatory bodies, like the ECB and the U.S. Federal Reserve. This confrontation occurs because these currencies are increasingly demonstrating that money supply and transactions can be regulated by cryptographic processes. However, these currencies are still in their infancy and it remains to be seen whether, or not, cryptography will eventually provide the basis for a truly laissez-faire monetary system. In contrast, game currencies provide a much less significant challenge to the established political and financial order. However, these currencies still draw attention to the interplay between understandings of money and its effects.

Game currencies are fictional constructs that draw on the actual world codes of meaning by which value is attributed to money. The extension of conventional economic narratives to virtual worlds facilitates an association of game monies with the experiential and social realities of currency based exchange. Narratives of money, such as the myth of barter, ground monetary systems in something other than mere convention. Thus, facilitating a conception of monetary value as an emergent natural phenomenon. In EU, the extension of these processes of naturalisation to the game-world is enhanced by features of the game design that reflect the worlds modelled in traditional economic theory, such as the TT/mark-up system. Virtual commodities subsequently attain the status of genuine ontological reproductions with actual world significance, and in EU this significance is enhanced by game-world's connections to "real" money. As a result, the RCE facilitates a transcendence of the ambiguity that results from the hybrid ontological status of virtual worlds.

Cultural associations of money with self-seeking individualism mean that assumptions, regarding the depersonalising affects of money, become a self-fulfilling prophecy. The RCE means that the impacts of these associations and assumptions reverberate throughout the game-culture. However, the economy also results in an extension of associations between monetary value and "reality" into the game-world. This process of extension lends meaning to the actions and interactions that occur in the virtual world. The experiential realities of monetary value make life in Entropia Universe "more than just a game."

Chapter 9. Virtually Reality

It's more than just a game

- MindArk

Entropia Universe is a computer game, but like many virtual worlds, it is also a complex socio-technical system. The game-world is comprised of many social and technological parts that interact to form dynamic relationships, which are structured around algorithmic and communal social rules. Interactions between the game's technological, ludic, and social components generates emergent patterns of behaviour and experience among users. These patterns of behaviour and experience, in turn, influence the composition of user's (virtual) lifeworlds. Complex socio-*cultural* systems are "emergent from the dynamic interaction of ... [their] components and are not found in the components themselves.... Similarly, some of the properties of the components themselves are functions of the particular sociocultural matrix within which they are embedded" (Buckley, 1998, p. 16). Socio-*technical* system are characterised by the "reciprocal interrelationship between humans and machines" (Ropohl, 1999, p. 59). So, EU is a complex socio-technical cultural system, and users engage with this system as a lifeworld, or a "reality which seems self evident.... within the natural attitude" (Schutz & Luckman, 1973, p. 3). The aim of this thesis was to create an ethnographic account of the socio-technical cultural lifeworld of Entropia Universe and, in pursuit of this aim, the previous chapters have outlined the relations, rules, and practices that contribute to the experience of being in this virtual universe.

The study was informed by processes of participant observation, semi-structured interviews, and a review of game related media, forums, and websites.

Phenomenological, ludic, social, and economic theory guided the appraisal of research data; while, interactive processes of analysis and confirmation with research participants facilitated the development of a descriptive analytic account of life in Entropia Universe. The choice of method was informed by a review of prior virtual world ethnographies. This review also enabled comparisons to be drawn between EU and other virtual world platforms. The various comparisons that are made, between EU and the findings of prior ethnographic studies of WoW, Everquest II, Second Life, and Uru, point to the manner in which differences in platform design prompt experiential and social variations across virtual world communities. In addition, these comparisons highlight similarities across worlds. The focus throughout much of the thesis was on the influences of Entropia's real cash economy (RCE), as it is this particular feature of the virtual environment that differentiates EU from other large online game-worlds. EU is also a long running game with an established community, so it lends itself to studies of the impacts of bidirectional micro-transactions. Throughout this thesis, the RCE was shown to impact the game culture, sociality, and player behaviour. As such, the RCE can be said to have a formative influence on the experience of being in this particular game-world.

Virtual Being

"Virtual being" refers to an experiential state that is mediated and shaped by the technologies, ludic structures, and sociocultural processes that make up the game-world. Engagement with the game as a technological and ludic object coincides with a sense of existence in the world, that is characterised by fragmentation, reconfiguration, and flux. The experience of virtual being is predicated on an exchange of data that culminates in the construction of an avatar body. This exchange is simultaneously a contractual

transaction, whereby an individual gains access to a product, and a moment of genesis that inaugurates virtual being. Out-of-world signifiers of identity are traded for in-world ones, in the form of a digital body and screen name, and the player's avatarial presence in the world coincides with the development of embodied relations with gaming hardware. These relations facilitate a shift in players' awareness, away from their physical interactions with the technology and towards their lives on the screen. Embodied relations with hardware consequently form a basis for the relations of play that develop between participants and the game artefact.

The game artefact consists of the software and coding that delimits in-game actions and determines their consequences; it "regulates the constitution of both *that which is experienced* and *the ways of experiencing*" (Leino, 2012, p. 73). Players relations with the game artefact are characterised by considered attempts to "unravel the hidden rules and algorithms that underlie the game" (Jakobson & Pargman, 2005, p. 3). Players attempt to negate the blackboxing of the game artefact, through processes of experimentation and consideration of the game code, in order to maximise their returns and minimise the costs associated with play. This engagement with the game as a technological object coincides with an experience being *within* the world as an avatar. As a result, virtual being manifests as the paradoxical feeling of simultaneously being and acting outside of the world, while also being and acting from within (Klevjer, 2012). The ontological hybridity of game-play means that the experience of embodied presence in the physical world co-occurs with sense of re-located presence in the virtual world. The player-avatar relation is not just an embodied relation with a technological object, but also a relation of *re-embodiment*.

The experience of re-embodied presence in the game-world manifests as an alteration of subjectivity, perception, and intentionality. The avatar body provides enough perceptual feedback to modify players' perceptual and bodily sense. This modification manifests as the experience of kinaesthetic telepresence. Vection, consistent simulated physics, and the extra visual perception provided by the game's perspective controls, prompt a sense of locomotion and re-located bodily awareness in relation to the figure of the avatar.

The result is a kinaesthetic experience of presence in the physically remote location of the virtual world. This modification of subjective and perceptual experience coincides with an altered sense of selfhood and an adaptation of intentionality, in relation to the game artefact and the socio-technical amalgam of the "avatarial-I."

The avatarial-I represents a synthesis of self and digital object. This synthesis gives rise to a composite experience, which is not reducible to either of its constituent parts. The relation between the player and the avatar is one of mutual influence and the avatarial-I emerges at the indices of this interaction. An altered in-world self-concept develops in response to the interactions of projective identities, actual world identities, and the constraints of the game artefact. In particular, constraints that arise from the avatar's pre-programmed repertoire of abilities, the "no-alts" rule, and the real cash economy.

The RCE influences intention and action by prompting the integration of actual world economic concerns into the game-space. This integration cultivates a hybrid form of intentionality, characterised by the melding of game objectives and economic objectives. The real and the digital self merge, because player perceptions and self concepts are shaped by this amalgamation of actual and virtual world intentions.

Subjective experience of the virtual lifeworld is consequently comprised of a series of

relations and interactions between players and the game technologies. This subjective experience is then complemented by the intersubjective experience of being with others.

Being with Others

The experience of being with others in EU is characterised by a fragmentation of identity, the intersubjective extension of this fragmentation to others, and subsequent attempts overcome ambiguity and re-establish we-relationships in the context of the game-world. Sociality is a fundamental constituent of experience in a multiplayer world; one's in-world existence is not only located and embodied, but also social, and the encounter with the online other is influenced by in-world reconfigurations of social identity categories. Social identities in-game develop in response to both ludic and narrative structures and in interaction with actual world identity constructs. The social identity categories that develop in-game facilitate intersubjective understanding and the development of interpersonal relationships, by rendering the online other knowable in the context of the game-world. Otherwise, the in-game intersubjective encounter is characterised by ambiguity.

The hybrid experience of virtual being influences players self concept, as people recognise that their avatariar-self is not straightforward copy of their offline self. Apprehension of the ambiguity of self leads to the assumption that the other's identity is similarly altered by the game technologies and projective personas. This intersubjective ambiguity is heightened by the obscuration bodily markers of identity and presence. People respond to this ambiguity by restructuring interpretations of others around a combination of emergent ludo-narrative and actual world identity constructs.

The game's narrative provides a foundation for the development of collective identities by casting players in role of Entropian colonists. Players often self-identify with the game's fictive "Entropian" ethnicity, and these processes of narrative driven self-identification facilitate the formation of we-relationships in response to the shared context of the game-world. Processes of collective identification are then reinforced by linguistic conventions and a sense of shared history that is structured around prior iterations of the game-world. Forms of narrative driven collective identification have shifted somewhat in recent years in response to the introduction of new planets. The new planets follow discrete narratives and provide distinct play experiences and this has prompted the formation of planet based affinity groups. In some instances, the invocation of planetary "nationalities" has resulted in animosity. However, most of the time, planetary subdivisions are incorporated into a broader Entropian identity that prompts a sense of collectively within the game community. Narrative derived identity categories enable players to identify one another as belonging to a collective and/or a subset of that collective. Social roles and identities are subsequently re-established within the parameters of the fictive game ethnicity and supplemented by the integration of actual world identity categories, such as nationality and gender.

Actual world identity categories provide a common interpretative framework in accordance with which representations of self and readings of others develop. However, the interpretation of signifiers of social identity in-game is often complicated by the mediation of the digital body. The level of correspondence between someone's actual, virtual, and projective identity is often unclear. Players may respond to this interpersonal ambiguity by explicitly integrating actual world identities into their representations of self and, in the case of nationality, the social networks that they form

in-game. In some cases, nationalities are explicitly displayed via avatar names or society names, and they are sometimes incorporated into in-world events. Signifiers of nationality facilitate the formation of social sub-groups, on the basis of these explicit or contextual cues. However, someone's actual world nationality is not always straightforwardly discernable. A further actual-world interpretative framework used in-game is gender. In relation to gender identities, bodily cues are not necessarily lacking, but nor are they particularly reliable.

Gender is a pervasive cultural construct and a gender binary is written into the game's programming. Attempts to restore the body's status as a central signifier of identity often result in a re-orientation of gendered readings of others around the figure of the avatar. However, the prevalence of male to female gender switching can also prompt the assumption that the other is, by default, male. Gendered readings of avatars can consequently result in a reconfiguration of people's gendered experiences. Female players often have to counter assumptions that will not play aggressively and male players are frequently confronted with objectifying readings of their female digital selves. Gender switching draws attention to the ambiguity of gender in virtual space and people respond to this bodily ambiguity by variably privileging either offline or ludic identities.

Intimate social relationships tend to centre around accessing the "truths" of someone's offline identity and are often associated with verbal interaction. The association of offline identities with truth and authenticity represents an attempt to overcome the intersubjective ambiguity that the experience of mediated avatars creates. Notions of a singular "real" self prompt attempts to access the other's real-world identity

by using tools, such as voice chat. Voice chat reduces ambiguity by decreasing the perceived levels of mediation associated with online interactions and it also lessens asence. Asence refers to the manner in which "[o]nline-presence is continually suspended between presence and absence" (Marshall, 2003, p. 241) and it contributes to the uncertainties associated with interactions online. Verbal contact reduces asence and player's dispositions towards voice chat demonstrate how, in a realm where bodily cues are obscured, the voice can take over a primary signifier of identity. As a result, spoken interactions facilitate the formation of trust relationship as the other is no longer *"just the avatar"*. The person becomes real because of ... interaction" (Baron, personal communication, July 21, 2012). In instances where verbal contact is not an option, an acknowledgment of the fluidity of identity leads to attempts to render the other knowable in the context of the game-world; a process that involves readings of online bodies that are structured around ludic, rather than actual world, identifiers.

Ludic identifiers, such as signifiers of game careers, skill levels, or society membership, allow people to locate one another in accordance with the networks of roles, affiliations, and social structures that constitute the game community. Society and skill ranking labels, and equipment or clothing, enable inferences to be drawn about a person's skill level and skills can act as a marker of social status. However, these bodily cues are also sometimes used to obscure in-game identities, either through processes of purposeful subversion, or because the real cash economy complicates the straightforward association of skill levels with status. This potential for obscuration leads to a reframing of authenticity, as something that is related to the true representation of one's in-game roles, associations, and abilities rather than the revealing of one's offline identity.

Ludic identifiers render the other knowable in the context of the game-world. However, tensions between notions of a singular unified identity and the cyborg experience of avatarial selfhood remain. In-game understandings of social identities form in response to these tensions and influence the relations between self and other that develop in the game-world. The experience of being with others is therefore shaped by avatarial re-embodiment, narrative collective identities, actual world identity constructs, asence, ambiguity, and ludic structures. In-world relationships are then structured around socio-ludic cultural logics that develop in response to features of the game artefact and the real cash economy.

A Socio-Ludic Culture

Entropia's game culture is shaped by communal responses to the ludic and economic structures of the game-world. The game artefact and the game economy provide a framework for the formation of social structures, such as hierarchies, exchange networks, and systems of ethics. These structures contribute a cultural dimension to the experience of virtual being, as relationships within the game-world are shaped by culturally situated systems of meaning. Game mechanics set the parameters for action and interaction within the game space (Scott, 2012). Trends of interactive play, in combination with communal responses to ludic experiences, creates a socio-ludic dynamic that influences the characteristics of the game culture. In-world social structures consequently manifest as interactions between game specific understandings of avatarial, economic, social, and cultural capital. These processes of interaction are particularly apparent in the conceptions of hierarchy, ethics, and reputation that develop within the game-world.

In-world social hierarchies develop in response to the operations of avatar capital, economic capital, and game specific forms of social and cultural capital. Avatar capital is "the aggregate of avatar hours weighted by the skill levels of the avatars" (Castronova, 2003a, p. 40). However, in EU manifestations of avatar capital are complicated by the real cash economy and the tradeable nature of avatar skills. Skills can either be earned through play, or bought on the game-market. The tradable nature of skills subverts simplistic categorisations of status in accordance with skill level: "being rich and eating [skill] chips does not make you an uber in this game" (Baron, personal communication, July 21, 2012). The tradable nature of skills has also lead to a conceptual distinction between the process of skilling "naturally," through the investment of time and funds in game-play, and "chipping" in skills that have been purchased on the game market. The commoditisation of skills means that evaluations of status are not straightforwardly based on avatar capital, but rather on evaluations of someone's skills, money, non-saleable avatar attributes, and displays of game knowledge. However, the tradeable nature of skills does not diminish the significance of avatar capital within game world, as skill specialisations also create a ludic framework around which social relationships are structured. In-world social capital is formed as a result of these relationships.

Social capital manifests in social networks and connections that are "convertible, in certain conditions, into economic capital" (Bourdieu, 1986, p. 47). Avatar capital influences the formation of social capital, because players develop disparate specialties by focusing on developing skills in certain areas. Temporal and financial constraints prohibit most players from skilling in multiple areas. The complementary skill-sets, that people then develop, result in relations of interdependence and the formation of

exchange networks. Players with broad exchange networks possess a high degree of social capital. This social capital then interacts with cultural capital through the mechanism of reputation.

Reputation is a significant in-world social construct, because it influences the formation of trust relationships and the development of economic opportunities. Reputation also acts as a signifier of cultural capital. Reputations are influenced by game specific systems of ethics and etiquette that draw on the game's rules, terms of use, out of world social norms, and notions of legitimate acquisition. The game's end user license agreement (EULA) and terms of use (ToU) set the structural and legal parameters for engagement in EU. Evaluations of others' behaviours are often grounded in interpretations of these rules. In-world normative principles also draw on out-of-world values, as players tend to denounce racism and sexism. These out of world norms are then complemented by in-world notions of etiquette that draw on the sub-cultural frames of reference provided by the game's structure and the real cash economy. Acts that subvert understandings of legitimate acquisition, as something derived from the reciprocal exchange of labour, money, and goods, are denounced as unacceptable. Evaluations regarding reputation draw on this convention, in combination with out of world values and interpretations of the game rules.

Evaluative systems of thought are learned and passed on via community interactions. As a result, normative principles are sustained across consecutive generations of players. Understandings of world specific norms result in the development of cultural capital. Cultural capital manifests as linguistic, behavioural, and cognitive cultural competencies (Bourdieu, 1986). In EU, the degree of cultural capital an individual holds

is signified by their reputation. Reputation systems serve as a means of managing the risks associated with social play. A positive reputation can also result in economic advantages, because "[p]eople like to sell to people that they know" (Tyro, personal communication, December 14, 2012). Consequently, people go to great lengths to build positive reputations, and complex systems of social and economic convention develop, as players attempt to manage the problems of risk and trust in this RCE game-world.

Trust, Risk, and Reciprocity

The problem of trust arises because the risks associated with collaborative play and interaction in EU are monetary. The competitive RCE environment highlights tensions between sociality and an individualist economy. Players both enact and resist the competitive individualistic ethos of the game's economy and processes of resistance, that manifest as acts altruism and conventions of reciprocity, serve as a means of building trust. An exploration of the impacts of the RCE on trust, risk, and reciprocity demonstrates how game mechanics and processes of improvisational play can be used to prompt either cooperation or competition.

In EU, mechanisms for collaborative play exist alongside a capitalist economic model, and an assumed zero-sum structure, that tends to encourage competitive self-seeking practice. The assumption that EU is a zero-sum game, where gains for one player result in losses for another, promotes individualism. Instances of individualism are exacerbated by the fact that many participants subscribe to the belief that self-seeking behaviour is an inherent aspect of human nature. People also tend to assume that the potential for monetary gains encourages instances of egoism. The assumption that

actions generally serve egoistic motives makes collaborative play problematic, because collaboration introduces the risk of misplaced trust.

The RCE does encourage self-seeking behaviours that exacerbate the problem of trust. However, the game economy also provides avenues for the development of trust relationships. Trust tends to develop in situations of interdependence, when people are seen to depart from self-interest and enact pro-social behaviours for a common good (Wieselquist, et. al., 1999). The game provides ample opportunities for players to act in accordance with, or depart from, self-interest. Trust relationships develop in response to instances where people are seen to be bracketing self-seeking objectives.

Interdependence also encourages the formation of trust, as "[b]y encouraging players to rely on other players, strong foundations for relationships are formed" (Yee, 2009, n.p.). Dangers can necessitate interdependence and provide an opportunity for players to display pro-social behaviour. Furthermore, commonality of experience can facilitate the development of empathetic emotion, which serves to motivate altruism (Batson & Shaw, 1991).

Communal experiences of the dangers associated with traversing Calypso create a basis for the development of empathy and opportunities for the enacted of pro-social behaviours. Many participants reported experiences of "getting stuck" or lost and subsequently receiving assistance, often early in their game careers. In many cases, people then felt obligated to extend to the same level of assistance to others: "I got helped when I was a noob and now I'm in a position where I can help other people" (Leah, personal communication, July 19, 2012). Dangers, and an acknowledgment of the commonality of experience in EU, result in cycles of networked reciprocation,

whereby favours are repaid by the extension of the same favour to others. These behaviours can in turn provide a foundation for the development of trust relationships. The concerns for others' welfare demonstrated in altruistic acts, such as helping "noobs," shows that even in a competitive RCE environment actions are not singularly motivated by profit-driven self-interest. Conventions, such as lending and gift giving, also support this observation, to varying extents.

Lending is an example of deep play that subverts the individualistic "all against all" mentality that the RCE promotes. There is no game mechanism for interpersonal lending. The game rules state that "all trades are final." However, the practice of lending occurs and often with high value items. The RCE means that lending items in EU is analogous to lending money, and the practice is often interpreted as an act of altruism. Non-RCE games tend to provide participants with low cost tools that enable players to offer each other assistance, this "removes much of the ambiguity and danger ... [associated] with altruism in real life" (Yee, 2009, n.p.). Entropia's RCE means that acts of assistance, such as lending, are associated with high levels of ambiguity and monetary risks. However, these risks also render the act of lending socially meaningful.

Lending serves as a means of building, assessing, and demonstrating trust. People can evaluate another's trustworthiness by presenting them with monetary temptations through lending. Offering collateral for items serves as a means of demonstrating that one is not motivated purely by monetary gains. Lending without collateral and returning lent items acts as a means of demonstrating of trust. As a result, processes of lending enable the creation and affirmation of social ties. Gift giving also serves as a means of

building social ties and developing interpersonal trust, and trust in the community in general.

Gift giving is variably motivated by either altruism or self-interest. In some instances, gifting is used as a means of building personal reputation and accruing the economic gains that a positive reputation can convey. In other instances, gifting is motivated by charitable concerns and a desire to integrate newcomers into the player community. Gift giving usually involves the redistribution of goods down the game hierarchy. Gifts generally flow from established players towards newer players, and the subjective and relative use-value of a gift is generally higher for the recipient than it is for the giver. However, the perception that the giver is acting contrary to self-interest, and sacrificing something of value, remains. Redistributive giving therefore contributes to the development of trust and interpersonal relationships.

Lending, helping others, and altruistically motivated giving serve as means of "expressing shared values ... that transcend material gain and loss" (Kuper, 1999, p. 106). These transactions act to integrate new participants into the player community and facilitate the formation of trust relationships. In relation to mechanisms of reputation, these exchanges also serve as a method of pursuing personal gains. As such, transactions in EU demonstrate that exchanges cannot be purely reduced to either reciprocity or utility maximization (Davis, 1992). The RCE can alienate people from each other, but it also provides a framework for the formation of social relationships. As a result, Entropia's RCE demonstrates that markets are social phenomena, even though they are often conceived of as separate spheres. The social dimensions of the RCE are

also apparent in the processes of work, play, production, consumption, and trade that develop within the game-world.

Work, Play, Prosumption, and Trade

The RCE creates a basis for exchange relationships that challenge dichotomous conceptions of work and play. In the past, play was often defined as the antithesis of work (Huizinga, 1944/1970; Callois, 1961). However, in EU processes of work and play combine in manner that confounds such antithetical definitions. Game-play is voluntary, yet the RCE results in remunerable play activities and even the incorporation of wage labour into the game-world. Differentiations between work and play activities are often subjective, as the same activity may be viewed as work by one person and as play by another. People enter into employment relations in the game-world, some even earn their actual world living in-game, and participants often engaged in work-like activities in order to fund play activities.

Play activities are generally defined as actions that are not explicitly geared towards the generation of profit, or actions that would most likely generate losses. In relation to such activities, PED expenditure is seen as a cost that is reimbursed in entertainment value. However, even playful events and competitions often involve the calculated pursuit of loot or reputation based gains. Ludic and financial objectives intertwine in EU and game-play often involves "activities in which the actions needed to attain ends are not in themselves absorbing or compelling" (Nardi, 2010, p. 106). Financial incentives mean that in-game activities are often reminiscent of processes of aspirational gaming (Rea, 2009, as cited in Nardi, 2010). The allure of EU is the potential to earn a living through game-play and, like in instances of aspirational

gaming, activities are often geared towards "the object of professional status and high income" (Nardi, 2010, p. 107). Earning money is a primary motivator for many in-world actions and even the most playful activities have an economic dimension that is derived from EU's prosumption economy.

The game economy is structured around processes of prosumption, where production and consumption combine to enable the co-creation of value. This model of production differentiates the Entropian economy from collaborative produsage online spaces and the creationist capitalism found in Second Life. Produsage spaces, like social networking sites, utilise a "hybrid form of simultaneous production and usage" (Bruns, 2007, n.p.). In these online spaces usage manifests *as* the creation of content. The creationist capitalist space of Second Life works in a similar manner, as here "creativity ... [operates as the] primary mode of production, governance and subjectivation (self-making)" (Boellstorff, 2008, p. 210). In contrast, EU maintains a more linear production model. Users contribute to the generation of corporate capital for MindArk, through the pursuit of personal profit via game-play, deposits, and withdrawals. Value is co-created because land areas, planets, land-deeds, and goods attain value through the actions and investments of players. As such, processes of play manifest as both production and consumption. However, MindArk maintains ultimate control over the character and quantity of goods on the game market. The game still incorporates a co-creation of value as structural features of the world mean that "play" manifests as both guided production and acts of consumption. As a result, player specialisations manifest as divisions of labour that develop in accordance with the ludic and economic features of the virtual marketplace.

Skill specialisations necessitate the formation of trade relationships. These relationships are then reinforced by the artificial scarcity created by limited goods. Interpersonal trade also emerges as a result of the game's trade terminal/mark-up system and differentiations between stackables and items. Resultant practices of exchange are bound up in social conventions and notions of etiquette. As a result, exchange relationships, once again, highlight tensions between self-interest and solidarity, as players seek to balance economic and social survival in a fictional game-world that incorporates real money.

Real Money

The real cash economy has a formative influence on the social world of Entropia Universe; it distinguishes EU from other multiplayer domains and situates the game-world with a wider set of debates about the value of money and virtual currency. The RCE also locates the game currency within broader cultural codes of meaning, whereby value is attributed to money. Thus, creating distinct links between the virtual space and the experiential realities of monetary value. These links enable players to transcend the ontological ambiguity associated with virtuality, while simultaneously drawing attention to the socially constructed nature of money.

Virtual currencies, like the PED, Second Life's Linden dollar, and the crypto-currency Bitcoin reveal the manner in which “[c]apital itself is a virtual fiction ... enforced by law, and naturalized by habit and custom” (Shaviro, 2007, p. 7). The "reproduction [of money] as an institution depends on how unproblematically it is taken for granted" (Carruthers & Babb, 1996, p. 1557). Virtual currencies can reveal taken for granted assumptions about the value of money and crypto-currencies, in particular, may

represent a significant challenge to the established financial order. These currencies potentially provide a basis for a truly laissez-faire monetary system and attempts to critique the value of virtual currencies, using established economic theories such as regression theorem, fall short. As a result, the value and the function of money is called into question and its social construction is revealed. Game currencies provide a much less significant challenge to the established political and financial order than cryptocurrencies. Although, these currencies do draw attention to the interplay between understandings of money and its effects.

Game currencies are fictional constructs that draw on the actual world codes of meaning through which value is attributed to money. The extension of economic narratives of value to virtual worlds facilitates the association of game money with the experiential and social realities of currency. These economic narratives create conceptions of money, markets, and coinage as emergent "natural" phenomena. As a result, these narratives ground monetary systems in something other than mere convention (Douglas, 1986; Carruthers & Babb, 1996). These processes of naturalisation mean that the "the social construction of monetary value is collectively 'forgotten about' in order to ensure its continued functioning" (Carruthers & Babb, 1996, p. 1559). The bi-directionally exchangeable nature of the PED renders it experienceable and appraisable in accordance with these known systems of value. So, the value of virtual money is revealed as being no more, or less, intrinsically real than the value of actual money.

The extension of processes of naturalisation to the game-world is enhanced by features of the game's design, such as the TT/mark-up system. These ludic features reflect the worlds modelled in traditional economic theory. Associations between virtual money

and real value subsequently imbue virtual commodities with actual world significance. People pay real money for virtual things because it makes sense to do so in the context of this virtual world and money is a social construct, but this does not mean that it is not influential. Cultural associations of money with self-seeking individualism can mean that assumptions regarding the depersonalising effects of money become a self-fulfilling prophecy. However, the RCE also creates associations with "reality" that render in-world successes, losses, risks, acts of altruism, and exhibitions of trust meaningful. The RCE facilitates a transcendence of the ontological ambiguity of virtuality, by linking occurrences in the game-world to the experiential realities of monetary value; it is more than just a game and it is certainly not just make-believe.

Conclusions

The experience of being in EU is comprised of an amalgam of embodied, social, cultural, and economically situated experiences. Embodied relations with gaming technologies, play relations with the game artefact, and the experience of re-embodied presence converge to create a sense of being in the game-world. Social identities are reconfigured in the game-space through the interactions of actual world and game based ludo-narrative identity constructs. The subjective experience of being in the game world is consequently complemented by the intersubjective experience of being with others. Virtual being is also shaped by the socio-ludic structures and conventions of interaction that develop in-world, in response to the game mechanics and the RCE. The capitalist structures of the game economy promote self-seeking behaviours, but they also create avenues for the formation of meaningful trust relationships and displays of altruism. The economy means that work, play, production, and consumption intertwine and self-interest confronts sociality, as real people attempt to ensure their survival in an

economically meaningful, yet intangible online world. The virtualisation of trade, labour, commodities, and money are just the latest stages in the evolution of capitalism and we are only just beginning to see what the implications of these developments may be. Digital currencies reveal the nature of capital as a virtual fiction and, in essence, the PED is no more or less real than the dollar. The virtual lifeworld is a socio-technical amalgam of actuality and fantasy, and the virtual realities of money make the experience of being in the game-world real.

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