

the officers of Earth organizations, creating a macro-level spillover effect. Anthropology: people imbue certain digital objects with meaning; those meanings become shared, making the objects symbolic on a macro level; people begin to manipulate the symbols and meanings just as they do on Earth; in principle, the symbol structure can extend into or interact with the Earth's symbol structure, another macro spillover. And so on.⁹

In principle, then, events in synthetic worlds claim serious attention not just because they are human, but also because they may have effects that radiate outward into the ordinary world of Earth. Synthetic worlds may affect the daily lives of people who have no idea what the Internet is. And this is not necessarily a matter of scale. Jamaica is a country of some two million people, but on the basis of cultural impact, if nothing else, it cannot reasonably be argued that Jamaica is a trivial place that should be ignored. As we will see in the next chapter, synthetic worlds already host populations many times that of the island nation that gave the world reggae. They are also growing much more rapidly. As the synthetic country that Sabert visited becomes more populous, even in the near term if not over a longer time frame, the ripples of outward influence that we first observed through his eyes will begin to loom larger.

2

THE USER

The introduction claimed that games, especially virtual world games, were becoming serious business. Chapter 1 then offered a tour of a typical virtual world of today. Some effort was made to show how easy it is for a user to become immersed in the virtual space, with feelings closer to "I am there" as opposed to "my character is in the game." That transference of identity and place is not exactly remarkable, however, now that the Internet has been around for a decade or two. Ever since text-based chat rooms began cropping up in the 1970s and 1980s, many writers have described how virtuality works, how it affects identity and presence, and how experiences online can be so meaningful for those who pursue them. The literature on cyberspace in general is in fact very large and it would be distracting to get into it too deeply. The point is that many a hardheaded and experienced reader would react to chapter 1 with a healthy "So what? It's been done." The mere fact that practical virtual reality has moved from glowing green text to a graphical, games-based interface does not necessarily imply that anything important has happened. I would argue, on the contrary, that these changes make virtual worlds much more immersive and, by deepening the level of social realism, much more like real life, a factor which is in my view quite significant. But let's accept the point: Someone made a cool Internet video game; so what?

Here's where significance really starts: the users. This chapter will discuss the scope and practice of synthetic worlds usage as we observe it at the start of the twenty-first century. The basic message is that there are many more users than you might imagine; their numbers are growing rapidly; they are located in places you'd never suspect; they are not the people you thought they would be; and their motives seem to be both sensible and loaded with heavy implications. In other words, you might think that once a fantasy world appeared, there would be a few rather nerdy people who would use it; they'd probably be high school kids from

places like San Francisco; and they'd be playing because they like to hang out in dark basements and shoot orcs. All of these impressions are wrong. The people who immerse themselves in virtual worlds are much more like the target reader of this book (a reasonable, professional, serious adult person) than one might have thought. The margin of society is not likely to be the permanent home for the people and practices involved with virtual worlds. Most near-term projections indicate, in fact, that the lifestyle described in chapter 1 will be part of ordinary life for a rapidly growing fraction of the Earth's population. And while long-run projections are more tentative (and will be left to the final chapter of the book), it seems that, unlike gory shooter video games, skateboards, and punk music, there is no obvious limit to this growth, no point at which one can say, "Even the truest fan will give this up and start living like the rest of us." In other words, the arguments and data here suggest that synthetic worlds may well be like cars, radio, and TV in the long run, gradually becoming something that everyone uses without thinking about it. Whether things will develop that way is too hard to predict, though, so for now we will keep the focus on near-term projections, which, as I said, indicate substantial growth.

The Lay of the Synthetic Land

Before getting into the possibilities of growth, let's first consider some data about the state of affairs today. At the time of this writing, synthetic worlds constitute a small subset of the Internet. Table 1 lists all of the known worlds with more than 100,000 paying subscribers as of late 2004.

The first thing that leaps out of the table are the raw numbers. There are over 15 virtual worlds that meet the 100,000 subscriber criterion, despite the fact that Internet access costs and game subscription fees are not insignificant anywhere. In the United States, the game software for a virtual world typically costs as much as \$50, subscription fees are \$10–\$15 monthly, and the required high-speed network setup requires a fairly high-end computer (\$1,500) and a cable or DSL subscription (\$30–\$50 monthly). Elsewhere, some components might be cheaper (game subscriptions in China, for example) but others more expensive (Internet access in China), so that one cannot explain variations in the numbers on the basis of overall cost. Rather, culture and net access seem to be the determining factors.

The largest subscription figures are for Asian games such as *Lineage*, *Legend of Mir*, and *Mu*; in fact, all of the worlds with more than one million subscribers are in Asia. The reports from which these data were drawn also indicate that China already appears to have the single largest number of users, while Korea seems to

Table 1 Subscription-based synthetic worlds (December 2004; minimum subscription level 100,000)

World	Release date	Subscriptions*	Subject	Headquarters
Ultima Online	1997	220,000	Medieval	US
Lineage	1998	2,500,000	Medieval	Asia
EverQuest	1999	420,000	Medieval	US
Dark Age of Camelot	2001	250,000	Medieval	US
Legend of Mir II	2001	2,000,000	Medieval	Asia
Runescape	2002	100,000	Medieval	Europe
Final Fantasy XI	2002	500,000	Medieval	Asia
Ragnarok Online	2002	300,000	Medieval	Asia
Westward Journey II	2002	1,500,000	Medieval	Asia
Mu	2002	1,500,000	Medieval	Asia
Cross Gate	2002	1,000,000	Medieval	Asia
Star Wars Galaxies	2003	300,000	Space	US
Lineage II	2003	1,500,000	Medieval	Asia
World of Legend	2003	1,000,000	Medieval	Asia
Toontown	2003	150,000	Children	US
Legend of Mir III	2003	1,000,000	Medieval	Asia
City of Heroes	2004	175,000	Superheroes	US
EverQuest II	2004	200,000	Medieval	US
World of Warcraft	2004	500,000	Medieval	US

*Subscriptions: number of paying subscribers. Data are approximate, as there is no centralized reporting source. Industry analyst Bruce Sterling Woodcock summarizes population levels drawn from insider reports and press releases at <http://pw1.netcom.com/~sirbruce/Subscriptions.html>. Consultant Betsy Book maintains an updated review of social virtual worlds at <http://www.virtualworldsreview.com/>. Figures for Asian virtual worlds rely on "China Internet Sector," a report by JP Morgan Asia Pacific Equity Research (May 2004).

have the highest density of users per capita (Herz 2002). The figures for China are especially worth noting, given that Internet penetration in that country remains very low, less than 6 percent of the urban population as of 2004 (JP Morgan 2004). We can expect Chinese participation to grow even more, since the track record for growth in this sector has suggested that high-speed Internet access is a major predictor of virtual world size: as DSL and cable expand in a country, the number of subscribers rises.

The United States and Europe, meanwhile, have smaller numbers but more product innovation, with worlds deviating from the Medieval Fantasy norm

by going into such areas as Space/Science Fiction, Children's Adventure, and Superheroes.

Overall, the figures in table 1 suggest that virtual worlds are significant, just based on populations. The worlds listed there together have almost 13 million subscribers. While this almost certainly does not amount to 13 million separate individuals (players are known to buy two accounts in the same game, or hold accounts in several games at once), it very probably does exceed 10 million people—for reference sake, that's the size of the city of New York.

And there are many more worlds that are not listed in table 1:

- There are dozens of places that are modeled as subscription services but have fewer than 100,000 subscribers.
- There is a growing number of synthetic worlds that do not follow the monthly subscription model. For example: Playdo is a Swedish virtual chat space, mostly for teens but not restricted to them. It's free to register, and members can walk around in a 2D virtual space and talk to friends and so on. The service has more than 300,000 members. If it's free, then where does the revenue come from? Consider the business model for Habbo Hotel, a similar UK site. Registering for Habbo is free, but to gain access to in-world activities (swimming pools) and items ("furni"—furniture) you have to buy in-world currency—using real money. Beyond this, the opportunities for product placement are obvious. Coke maintains a virtual world called "Coke Studios" at <http://www.cokemusic.com/>, where users can hang out, wander, chat, and be immersed in the idea that drinking Coke is a cool thing. Project Entropia, with more than 150,000 downloads of its free software, charges no fee but rather sells its currency for real-world cash.
- Even simple instant-messaging systems are acquiring a virtual reality backdrop of sorts. If you use Yahoo! Instant Messaging, you can make an avatar that will appear whenever your messages arrive, and, well, you don't want your avatar looking stupid like the free ones they offer, do you? Of course not. Nice faces, outfits, backgrounds, and more can be purchased for a modest fee. It is evident that well outside the realm of fantasy game worlds, the virtual world experience is beginning to take root as a common feature of human communication.
- Many people are becoming familiar with online gaming in general. As I write this, on an ordinary Thursday afternoon, 178,000 people are playing games with one another at Yahoo! Games, and a further 148,000 are at MSN's gaming site Zone.com. Studies have suggested that these casual gamers tend to be older than synthetic world gamers, many in their 30s and 40s, and are also more likely to be female. It would be a small step to embed these casual games (card

games, puzzles, and so on) in an environment, with an avatar interface; one recent game/world, *Yohoho! Puzzle Pirates*, has done exactly that, growing rapidly to more than 10,000 paying subscribers. Casual online gaming is even more widespread in Asia. In a press release dated September 2004, Chinese gaming industry partners Shanda and Nexon announced a world record for simultaneous online play of a single game, with over 700,000 Chinese gamers playing a game called *BNB*. It's a game where families play as a team against other families, and it's just the latest example of the immense numbers coming from the Asian gaming market.

As the phenomenon of practical virtual reality spreads beyond the model of subscription payments for access to a terrain, it becomes harder to measure, forcing a reliance on (still too rare) surveys and reports as another way to estimate these numbers. Perhaps the most likely to be accurate is the annual survey of the Interactive Digital Software Association, taken from a representative sample of the US population. The survey suggests that of the 145 million people who play games in the United States, 7 percent are involved in persistent world gameplay.¹ This would make the synthetic world population 10 million people, and that is in the United States alone. A more global estimate comes from a report by DFC Intelligence, a reputable game industry analysis firm, which counted 73 million online gamers worldwide in 2003 (DFC Intelligence 2003). Of these, 38 percent are "hard-core," intense users. Since synthetic worlds tend to be *the* example of hard-core use of online games, assigning the 38 percent hard-core users to synthetic worlds would place the number of these gamers at 27 million.

We really have no idea how many people are currently quite comfortable putting on an avatar and going "somewhere else." An absolute minimum figure would be 10 million. My guess is that it is perhaps 20 or 30 million.

At this size, the phenomenon of synthetic worlds seems to have become something more than a niche activity. Indeed, the activity in these places is orders of magnitude larger than in their ancestors, text-based adventure games and chat rooms.² Yet the road from simple text to immersive worlds is basically linear, and many of the practices and usage patterns we see today have been in place for quite a while. Text-based multiuser spaces first appeared in the late 1970s, and the first graphical chat world—a world with visible characters rather than just typed sentences—was developed in the 1980s by LucasArts (Morningstar and Farmer 1990). Over the next decade, this basic visual chat concept was expanded to include immersive gaming systems and richer graphics. When first-person graphics were developed (Kushner 2003), they quickly made their way into the graphical chat arena, and the first visually immersive synthetic world was released as *Meridian*

59 in 1996. *Meridian 59* was not extremely successful, but several games in its wake were. *Ultima Online*, released in 1997 (Electronic Arts), acquired a population of over 200,000 people. *Lineage*, released in September 1998 (NCSoft) quickly had over one million. *EverQuest*, released in 1999 (Sony Online Entertainment), grew to 450,000. After these successes, new worlds then began to appear at a rapid rate. By my own calculations, the rate at which new worlds now appear is an almost exact match of Moore's Law: like the amount of processor power on a chip, the number of virtual worlds has been doubling every two years or so. The phenomenon that was first discovered in online text messages has continued to grow exponentially for some 20 years now.

Perhaps most interesting about these developments is the fact that most of the worlds never go away. With few exceptions, worlds do not close once they are opened. This is absolutely astonishing in the context of games, where an industry rule of thumb holds that approximately 95 percent of titles will fail and disappear from the shelves after six weeks.³ By contrast, the seven-year-old world of *Ultima Online* still has more than 150,000 actively paying subscribers, at more than \$10 a head. Indeed, all of the oldest games have amazingly robust population counts. Synthetic worlds, it seems, almost never die.

Thus in terms of raw numbers, growth, and sheer persistence, synthetic worlds have made themselves worthy of note, especially given the unusual nature of life inside them.

The Connection to Video Games

Some of the success of synthetic worlds derives from the general increase in online video-gaming as a social phenomenon, whose development has been described by Brad King and John Borland (2003) among others.⁴ When technology first provided games on video consoles in the late 1970s and early 1980s, there was an explosion of arcade gaming that collapsed fairly quickly. We now know that the collapse did not occur because people tired of games and went back to watching TV; it happened because the personal computer arrived and, with it, the ability to play games in your own room at drastically lower prices. More and more households bought computers, and they also bought computing devices that did nothing but play games. Within just a decade, the introduction of the computer and the game console as standard home entertainment gear induced a radical change in the nature of a typical childhood in the United States, Japan, and Europe (Rushkoff 1996). By the year 1995 or so, the typical child grew up playing video games at home. And it seems he did not stop playing video games once he left

home: The Pew Internet and American Life Project reported in 2003 that 70 percent of college students played video games at least once in a while (Pew 2003). Each year saw another increase in the average age of a game player. By 2004, the IDSA's annual consumer survey revealed the following general statistics about the state of game-playing in the United States:

- Those people who play video games or computer games now represent more than 50 percent of the population over age 6.
- The average game player is 29 years old.
- 43 percent of game players are women.
- 97 percent of games are purchased by adults over age 18.
- 60 percent of parents play games with their children at least once a month.⁵

The people who played games as kids in the 1980s and early 1990s became game-playing adults after the turn of the century. And apparently many of them—20 million or so—began to play massively multiplayer online games.

As this growth continued, games began to garner more attention from scholars. In the humanities, a new field of "Ludology" has appeared which claims that games are a unique form of cultural expression; opponents of this new school argue that games are an extension of existing artistic forms (Aarseth 1997; Juul 2001; Murray 1997). In other words, scholars in the humanities tend to view games as special books, or as something more powerful than books; either way, games have become important. Meanwhile, education scholars now point to the interactivity of games as a feature that makes them excellent teaching and training tools (Prensky 2000; Pesce 2000; Berger 2002; Gee 2003; Williams 2003; Squire and Jenkins 2004; Steinkuehler 2004). And as soon as games began to acquire a strong multiplayer component, social scientists began to take notice. The early text-based virtual worlds were subjected to incisive ethical and legal analysis (Dibbell 1999; Mnookin 2001), and the best paper on the social scientific meaning of the much more populous contemporary virtual worlds has been written by two lawyers, F. Greg Lastowka and Dan Hunter (2004). Contemporary synthetic worlds have also caught the attention of sociologists (Jakobsson and Taylor 2003), economists (Castronova 2001), historians (Burke 2004), and social network analysts (Ducheneaut and Moore 2004). I am certain that by the time this book goes to press, there will be many more articles to cite here, from a wide variety of disciplines. And as scholarly activity increases, we see the foundation of new journals, research centers, and Game Design and Game Studies certificate programs at universities around the world.⁶ As games have grown in social salience, the attention scholars give to them has increased likewise.⁷

All of these signs suggest that video games have become an important force in contemporary culture. Within the category of video games in general, we now see that the massively populated online variety is gathering steam, growing to occupy the time of perhaps 10 to 20 million people, as noted above. With all of the scholarly work now emerging, we can take a closer look at who these people are.

User Characteristics

So: who are the people who spend time in synthetic worlds? Based on the way history unfolded, with video games effectively acting as a spawn-bed for synthetic worlds, it would be tempting to assume that people in synthetic worlds are just like video gamers in general. That would be a mistake, however. I've noted already that the game industry is only the easiest place to observe the virtual world phenomenon; the phenomenon itself now extends beyond games and into human communication as a whole. Surveys of general game-player characteristics are therefore going to be less relevant than direct surveys of people who participate in virtual worlds of some kind.

We are fortunate to have a number of these direct surveys which, for mostly accidental reasons, have focused on the most popular synthetic world in the United States, *EverQuest*. The first person to collect systematic data there was a then undergraduate Haverford College psychology student named Nicholas Yee. Yee's project was called "The Norrathian Scrolls," "Norrath" being the name of *EverQuest's* world (Yee 2001). In his initial study Yee posted surveys at his website and then invited *EverQuest* players to take them, collecting reliable demographic and psychological data from about 2,448 players. To date, Yee's website (www.nickyee.com) remains one of the best online sources of information about this phenomenon. Yee found that while the vast majority of his respondents were male (84 percent), their average age was 25.7 years. Two-thirds were working, only one-third were students. One-third of the men and 60 percent of the women were married. Twenty percent of the respondents had at least one child. A quarter of the respondents played with a sibling or a child or a parent. These figures certainly do not cohere with the vision most of us have about online fantasy game players: we expect to see unmarried teenagers, students, with no children, playing alone; we find older people, who are more connected than we would expect.

These impressions are confirmed by a second study, namely my own, conducted in summer 2001. Once again *EverQuest* players were the target. Like Yee's, my data were drawn from a sample of fan-site browsers who were invited to answer a questionnaire. I recognized that this would bias the results toward hard-core players,

so I used data from direct observations within the game world to construct weights that would improve the representativeness of the survey data.⁸ In any case, tables 2–4 present weighted characteristics from my sample of 3,916 respondents (for more detail on the survey, see Castronova 2001).

My first concern in the survey was to determine how immersed a typical user felt himself to be. I posed a series of questions asking how the respondent felt about Norrath. Table 2 gives the responses. They show that a significant number of people think of Norrath as their main place of residence; large numbers would spend all of their time there if they could. Roughly speaking, we can characterize about one-fifth of Norrath's users as more or less fully immersed; they treat the game world as their life world. Moreover, a clear majority wishes to spend more time in Norrath than is now possible. These attitudes mesh well with my personal impression when visiting the place: most people wish they could spend more time there, and a smaller but still significant number devotes all thought to the world.

The next question I posed was whether these self-styled "residents" of Norrath, those who viewed it as their principal home, were much like the stereotype that we apply to video gamers: disaffected, isolated, socially awkward, youths. Data presented in table 3 argue against that view. The table lists the demographic and

Table 2 Participation in Norrath and Earth society

Statement	Agree or strongly agree	Disagree or strongly disagree	Don't know/not applicable
I live outside Norrath but I travel there regularly.	84	12	4
I live in Norrath but I travel outside of it regularly.	20	74	6
I wish I could spend more time in Norrath than I do now.	58	34	8
If I could make enough money selling things from Norrath, I would quit my current job or school and make my money there instead.	39	57	4
If I could, I would spend all of my time in Norrath.	22	74	4

Source: Norrath Economic Survey 2001. $N = 3,353$ to 3,365. The data are weighted so that the distribution of avatar levels in the data is comparable to the distribution of avatar levels in Norrath.

employment characteristics of self-reported “residents” and self-reported “non-residents.” It appears that there are few differences between the fully immersed and the less immersed. The residents are somewhat less likely to be married or caring for children, but not dramatically so. Both groups are above college age. Both consist primarily of workers, not students. Both earn reasonable monthly incomes. Both groups are overwhelmingly male.

Table 3 Characteristics of *EverQuest* players

Characteristics	All respondents	Residents*	Visitors*
Age (years)	24.3	22.4	24.8
Female (%)	7.8	10.1	7.2
Region: United States (%)	81.3	82.4	81.1
Region: Canada (%)	6.6	7.5	6.4
Region: Western/Southern Europe (%)	8.9	7.1	9.4
Number of adults in household	2.1	2.1	2.1
Married or cohabiting (%)	22.8	15.9	24.5
Single (%)	60.0	68.0	58.1
Have children to care for daily (%)	15.0	11.4	15.9
Education: less than high school (%)	12.4	19.4	10.6
Education: high school degree only (%)	35.6	41.7	34.1
Education: college degree or more (%)	31.0	18.6	34.1
Employment status: working full-time (%)	53.4	41.5	56.4
Employment status: student, working (%)	19.4	22.3	18.6
Employment status: student, not working (%)	15.6	21.1	14.3
Weekly work hours†	39.0	36.5	39.5
Monthly earnings (\$)‡	3,154.12	2,621.85	3,268.96
Hourly wage (\$)‡	20.74	17.57	21.42

Source: Norrath Economic Survey 2001. $N = 3,619$. The smallest cell count is 401, for resident hourly wage. The data are weighted so that the distribution of avatar levels in the data is comparable to the distribution of avatar levels in Norrath.

*Residents agree or strongly agree that they “live in Norrath and travel outside of it regularly”—see table 2. Visitors are all others.

†Work hours less than 5 per week were set to “missing.” Earnings less than \$5 per month or more than \$100,000 per month were also set to “missing.” Thus, these are averages among those who work for pay, excluding those earning more than \$1.2 million per year. Monthly earnings are after tax (“take-home pay”). Non-US respondents converted earnings to US\$ using prevalent exchange rates. Many respondents refused to answer the income question on grounds of privacy. Still, there were 2,853 valid responses to the question, a 79 percent response rate.

‡The hourly wage divides monthly earnings by four times weekly hours.

In terms of their use of the game world, residents and nonresidents also appear to be similar. Table 4 gives the hourly time investment of a typical player, and shows that while fully immersed people do spend more time in Norrath, it is not dramatically more time. Both groups spend more than 4 hours daily and more than 24 hours weekly in the world. In terms of time investment, both groups seem to be heavily immersed in Norrath.

How much time is this really? Figure 1 presents the distribution of typical weekly hours in Norrath among survey respondents. The vast majority of players seem to play less than 30 hours weekly. Data from Nielsen Media Research, also indicated on the figure, show that this is less than the average weekly TV viewing hours of adult men and women, and comparable to that of children and teens. If we note that this sample of *EverQuest* players is biased toward hard-core, intense players—these are people who surfed a fan site and then chose voluntarily to answer a lengthy survey about the game—the data suggest that *EverQuest* is just another form of media entertainment for most people. Even hard-core players seem less invested in *EverQuest* than the average adult is invested in television.

More recently there have been two new statistical studies of *EverQuest* players, by UK psychologists Griffiths, Davies, and Chappell (2003, 2004). In one study, the psychologists gathered data from the polls that are posted occasionally at fan sites by the site administrators. As in previous studies, about 85 percent of the respondents were male, but the vast majority were above age 18. Only about one-third were in school. In a follow-up web-based survey study, Griffiths et al. found that of the 541 respondents, 81 percent were male, and the average age was 28. Some 40 percent were married or cohabiting. Eighty percent reported an occupation other than “student.” Over 75 percent played *EverQuest* with friends; 25 percent reported playing *EverQuest* with their romantic partner. The average weekly time in the

Table 4 Norrath characteristics

Norrath characteristics	All respondents	Residents*	Visitors*
Hours in Norrath over the past 24 hours	4.5	5.4	4.24
Hours in Norrath in a typical 24-hour period	4.7	6.0	4.43
Hours in Norrath in the past 7 days	26.3	32.5	24.8
Hours in Norrath in a typical 7-day period	28.9	36.1	27.1

Source: Norrath Economic Survey 2001. $N = 3,467$. The data are weighted so that the distribution of avatar levels in the data is comparable to the distribution of avatar levels in Norrath.

*Residents agree or strongly agree that they “live in Norrath and travel outside of it regularly”—see table 2. Visitors are all others.

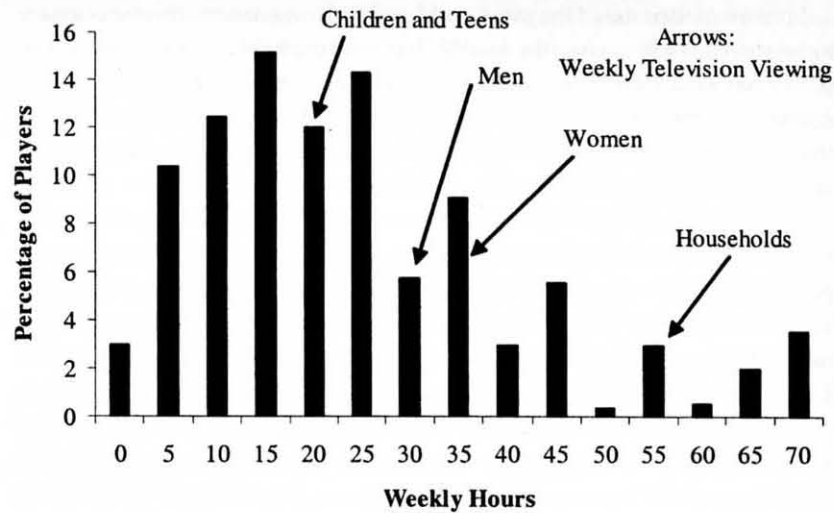


Figure 1 Distribution of weekly hours in *EverQuest* versus TV viewing (Author's data from the "Norrath Economic Survey," 2001, and Nielsen Media Research, obtained June 22, 2003, from <http://www.tvb.org/>)

world was about 25 hours. As for what they liked most about the game, the top three responses all related to social roles: "It's a social game," "You can group with others to have adventures," and "You can join a guild [an in-game player club]." Again, the data resist interpretation along the expected lines; we would not conclude from this that the synthetic world phenomenon is mostly about teens, mostly about outcasts, mostly about shooting orcs and demons. It rather seems social, even communal, and no more intense time-wise than watching TV.

This actually accords well with my own anecdotal impressions from touring and traveling in a great many synthetic worlds. *EverQuest* is not special in this regard. Indeed, if anything, the *EverQuest* players ought to have more in common with the stereotypical teenage video game junkie, since it is a fairly intense fantasy-based game, far more than a dressed-up chat room. And indeed, *EverQuest* players share some similarities with video gamers in general; they are predominantly male, for example. And yet my feeling, backed up by my own surveys and those of others, is that the comparison between video gamers in general and the typical synthetic world user is not helpful. These folks are not so much game players as travelers or explorers. They are generally mature, well-spoken, and responsible. They are usually in close connection with family members (including both parents and children), whether those family members play or not. It is common,

for example, to be traveling in a party and have one member say that he'll have to take a break for the night because his child is now home. Synthetic world users are avidly social, always looking for ways to team up with others to go pursue some activity or another. Like most game players, they came of age in the late 1980s and early 1990s, when computer and console gaming had become normal. And while they are now older and holding down jobs, they are still playing video games, albeit much more sophisticated ones. Like most game players, the synthetic world visitors spend quite a lot of time playing, and they do so with family and friends. But unlike regular gamers, those in the synthetic world seem to maintain a great deal of their social connections exclusively online, which accounts for the large number of hours spent there (as well as some of the more medieval-like social structures that emerge; see Jakobsson and Taylor 2003). And yet the motive for pursuing their sociality in cyberspace rather than the real world remains obscure.

Effects of Games

Searching for motives, we might consider more deeply the effects that games have. What is the experience unique to synthetic worlds that is so attractive for so many?

Unfortunately, there is much more research into the effects of video games in general than on the specific effects of massively multiplayer virtual world games. And it would take us astray to delve too deeply into the video game effects literature. (For a comprehensive review, see Kwan-Min and Peng 2004.) The games in this literature are, in many ways, so completely unlike the typical synthetic world experience as to make any findings about their effects of only doubtful relevance. For example, a typical study places a subject in a first-person, single-player shooter-type game, and then observes how physiological or cognitive metrics respond to various in-game events, or how attitudes change before and after the experience. Unfortunately, the core features of this kind of game (raw violence, rapid-fire action, and the lone-wolf, kill-or-be-killed mentality) are almost never observed in synthetic worlds. First, a large number of those worlds are really only about chatting; there's no fighting at all. Second, very little happens individually; the whole point of a social world is to be social, to work in teams. Third, in those worlds where fighting happens, network latency prevents any kind of rapid-fire combat action.⁹ By far the most frequent combat move is to wait until the time is right, and then hit one button: Attack, Heal, Cast Spell, etc., depending on the role you occupy in your group. Therefore, studies of single players, playing games with rapid eye-hand coordination and a flow of gory moments, are really not relevant.

Since there do not seem to be any studies that focus specifically on the physiological or attitudinal effects of synthetic world experiences, however, the ordinary video game research is the only evidence we have. Video games have been shown to have some positive impacts; kids who play them have better eye-hand coordination, for example (McSwegin, Pemberton, and O'Banion 1988; Green and Bavelier 2003). Nonetheless, most research focuses on the negative. Indeed the dominant issue in the literature has been the question of whether violence in games makes kids violent in real life.¹⁰ On the basis of this literature, and with the support of anecdotal evidence from parents and teachers, legislatures in the United States have on occasion sought to ban violent video game sales to minors. These laws have regularly been overturned by courts as violations of free speech rights. Still, from the tenor of the outrage expressed, it is hard not to conclude that video games are just the latest in a series of bugbears of parents who have become frustrated and frightened about how violent American society has become. In sympathy with those parents, I truly wish that video games, TV, rock n' roll, the nickelodeon, and wireless radio receivers were at fault, because then we could just have banned these things in sequence and our problems would have been solved long ago. Unfortunately, one suspects that violence in youth media is rather more of a tonic against violence in daily life than an incitement to it. The preeminent scholar of fairy tales, Bruno Bettelheim (1976/1985), reminds us that make-believe violence is very helpful for childhood psychological development. There are violent fairy tales that are good, and peaceful ones that are awful; the same is probably true of video games. The ethical analysis of playing and designing is still in its infancy (Reynolds 2002). Still, the implicit message here is that we ought to be thinking very seriously about the quality of the games that occupy the time of our children.¹¹

And when it comes to issues of time, here we have a clear point of overlap between video game research and synthetic world user effects: the prospect of addiction. According to Yee's surveys (2002), many *EverQuest* users consider themselves addicted to the game. In 2003 there were reports, perhaps apocryphal, that a Korean player had died of exhaustion after spending 80 continuous hours in *Lineage* without a break. An *EverQuest* user who committed suicide was said to have done so out of desperation at events within the game world. Indeed, Yee is able to identify a smoking gun: he finds that the reward structures in *EverQuest* are designed as a classic randomized reinforcement mechanism that is known to induce process-based addictions.¹² And in this potential for addiction, synthetic worlds are quite similar to ordinary video games, and even computers in general. There are doctors who focus exclusively on Internet and computer addiction as a behavioral pathology (Young 1998; Greenfield 1999). According to Dr. Maressa Hecht Orzack, of the Harvard Medical School, the dangers are apparent:

She [Dr. Orzack] has studied recreational drug use and thinks that inappropriate computer use is similar. Her sense is that we are just seeing the tip of the iceberg. Our society is becoming more and more computer dependent not only for information, but for fun and entertainment. This trend is a potential problem affecting all ages, starting with computer games for kids to chats for the unwary or vulnerable adult. ("Computer Addiction Services" website, <http://www.computeraddiction.com/>)

When people spend dozens of hours weekly at their computers, or on the Internet, or playing video games, it is almost certain that some other activities will suffer. The question is, when does this behavior warrant the label "addiction"? Addiction is a strong word, calling for both renunciation on the part of the subject and forceful intervention by others. For some behaviors, it is the right word. My mother was addicted to alcohol; it added no joy to her life but rather interfered severely with all of her relationships; she should indeed have turned her back on it, and others ought to have taken some responsibility. Now suppose she instead had been addicted to *EverQuest*. To me, that sentence, in comparison to alcohol addiction, sounds like someone suggesting, "What if your mother was addicted to France instead of alcohol?" I would reply, "Fine! She likes France. Let's move to France. End of problem." The point is, a behavior becomes problematic when, and only when, it degrades other important things in life. A 60-hour-a-week compulsive *EverQuest* user who fails to speak to his own children when they come home from school is engaging in a problematic behavior. But consider the same user, living alone, with all his friends being online and in the game—is his devotion of time to cyberspace problematic? In the end, we can only judge whether presence in a virtual world is good or bad by reference to the ordinary daily life of the person making the choice to go there. For some people, Earth is where they really ought to spend their time. For others, perhaps the fantasy world *is the only decent place available*. Unfortunately, we have no studies that go into any detail about the daily lives of synthetic world users, so we cannot really tell whether they are addicted, or just making an understandable choice.

Prospects for Growth: Basic Projections

Having been unable to make solid statements about the motivations behind the choice to enter a synthetic world, then, we now face a certain degree of difficulty in answering an important question: Will this behavior become more common or less? Or will it level off at some point?

The question demands some attention primarily because social scientists have begun to raise it. A game world like *EverQuest* is not so interesting necessarily for what it is; it bears interest because of what it may become, and more than a few analysts have pointed out that a widespread growth of synthetic worlds would have fairly serious implications for daily life. Certainly the behavior patterns, time use, and even cognitive functioning of countless individual people would change. For society as a whole, however, the effects on relationships, law, economics, and even government would be too large to predict with any accuracy. Suffice it to say that the decampment of hundreds of millions of people into computer-generated fantasy worlds would be noticeable in many spheres of life.

Strong growth is certainly the shared projection of market analysts, such as the Asian Equity Research wings of firms like JP Morgan and Bear Stearns. In 2004, both groups issued "buy" recommendations for a number of Korean and Chinese firms based on an anticipated growth in online gaming (JP Morgan 2004; Bear Stearns 2004). Their growth predictions do not consider user motivations directly; rather they simply note that high-speed Internet access and age cohort have been the most reliable historical indicators of growth, and both are trending upward. The Internet access effect is easy to understand; online games are better to play and easier to get involved in when the Internet is an always-on, always-fast service in the home. As for the age cohort, data indicate that even after Korea was broadband-saturated right around the turn of the century, its online gaming activity continued to increase. Apparently, once an age group becomes familiar with the act of visiting a virtual world, its members never quite give it up completely. Thus as the net-savvy age cohort makes its way upward in Korea's age distribution, the fraction of Koreans who are interested in virtual worlds continues to rise. A similar phenomenon is observable in the United States, as the general popularity of video games keeps rising along with the average age of a video gamer (now 29). Both the age cohort effects and the penetration rate of broadband in China have led analysts to predict strong growth for games and large profits for Asian game developers.

Spreading Internet access and aging are processes that are not confined to Asia, of course, and this has led analysts in the United States to predict strong growth here. Only 4 million US homes had high-speed Internet in the year 2000, but about 14 million had it by 2002. According to an August 2004 report by DFC Intelligence (2004b), a well-reputed US consulting firm that specializes in video game markets, this figure had risen to 26 million by the end in 2003. DFC compares this figure to about 20 million networked homes in Europe and 36 million in Asia, concluding that there is much growth potential for high-speed Internet around the world. DFC therefore expects global revenues from online gaming to

follow that growth, rising over 500 percent (!) from 2003 to 2009, reaching almost \$10 billion by that point. In April 2003, DFC also predicted that total game industry revenues (including both online and offline games) would rise from \$20 billion to \$30 billion between 2002 and 2007, an annual growth rate of 8.4 percent.¹³ In June 2003, PricewaterhouseCoopers predicted an annual growth rate of game industry revenues of 24.6 percent for the same period.¹⁴ In July 2003, DFC estimated that the number of *online* gamers would grow from 73 million in 2003 to 198 million in 2008, a growth rate of 22 percent annually. As to whether or not these figures are at all reliable, a June 2004 DFC report (2004a) noted, meekly, that its growth predictions had consistently been on the low side during this period of rapid growth. We all know that prediction is a tricky business ("especially when it involves the future," said Niels Bohr). And yet it is hard to walk away from this stack of reports by well-known and reputable consulting firms without believing that there will be many more people in synthetic worlds in years to come.

Let's examine what the growth rates reported above might mean for the population of synthetic worlds. Assume that the global virtual world population is at the low end of conceivable estimates, at 10 million people, and that it will grow only as fast as the most moderate game industry growth projections given above (8.4 percent annually). Under these assumptions, the population of synthetic worlds would grow to over 40 million people by 2020 and almost 100 million by 2030. I hesitate to project much farther than that, but it seems that the base is significant enough that even a moderate growth rate, over just the course of the next generation, would transform synthetic worlds into a broadly significant phenomenon. And this also raises the possibility that, from that point forward, their impact may end up being comparable to the media innovations of the twentieth century—radio, film, television. The only way to argue against this conclusion requires a story in which high-speed Internet (which will only get faster) and the maturation of the population, for some reason, no longer induce more online gaming as they have done in the past. I think that this would be a hard story to sell, certainly harder than the story of growth told by these consulting firms. And for that reason I am fairly well persuaded that synthetic worlds will become more and more important at least for the next decade or so and perhaps beyond.

The Open Question: Why Will They Grow?

So far in this chapter, we've analyzed the current population figures of synthetic worlds and then attempted to discover, through the existing research on synthetic worlds in particular and video games more generally, a set of user motivations

that would allow us to predict the near-term course of this technology. Unfortunately, the existing scholarly research does not shed much direct light on user motivations in the case of synthetic worlds, so our only real source of basic projections has been the game consultant industry. The projections they make are quite strong. They are also mechanistic, relying entirely on a historical connection between broadband penetration, population aging, and online gaming. And while I find those predictions persuasive, they are also unsatisfying. To say that Timmy Jones now spends 30 hours a week enacting a second life as a pirate in a virtual world, and that he does that because his family just got a cable modem, does not really explain why Timmy has the latent desire to be a pirate rather than just plain Timmy Jones. Similarly, to say that more Canadians are pretending to be wizards and warriors these days because people born after 1980 are quite likely to do that, and there are more and more of them every year, does not explain why people born after 1980 like to be wizards and warriors in the first place. What's wrong with just being Canadian? In the end, then, even though we ought to be very confident that synthetic worlds will grow, we still haven't understood why.

Asking "why cyberspace—why not Earth" is, of course, asking the most important question, fraught with implication. Since we have no direct research on it, we will have to paste together what conjectures and evidence we can. Largely, this is a move from data analysis to cultural theory, and thus more open to critical assessment on the part of the reader. But the move is necessary, at least at a speculative level; we really do need to ask why, and to try to grasp for an answer.

One avenue of attack might focus on synthetic worlds primarily as games, and then assume that, since games are fun, an increase in access will result in more game-playing. While this is easy, it is too simple. Synthetic worlds are more than a game, or, if they are a game, they are such a unique game that assuming they are "fun" does not really help. We would still need to ask why they are fun, for whom.

Now let's take the other extreme and assume that synthetic worlds are not games at all but rather forums for communication. This requires a somewhat more complex answer to the question of growth. Under this view, growth will depend on whether avatar-mediated communication is better than its competitors at facilitating the interactions that humans want to have. This, certainly, was the argument put forth long ago by the early advocates of virtual reality in the workplace, such as John Walker (1988). To define what we mean by "better," imagine an economic theory of communications technology, which says that of two technologies with the same communicative quality, we should expect the cheaper one to dominate. Another way of saying the same thing is this: of two technologies with the same cost, the one that delivers communications of better quality

will dominate. Synthetic worlds are a form of word-communication (through text and, lately, voice) that also enables a kind of physical bodily communication, through the gestures and position of the avatar. They thus offer a higher-quality forum of interaction than the chat room or the telephone, neither of which gives any scope to the body. And while video conferencing gives both body and voice, it does not do so in a way that allows people to mingle with one another in a world-like space; it is very expensive, bandwidth-wise; and avatar voice conferencing is a pretty close substitute that costs much less. Thus, relative to these other communications tools, synthetic worlds do seem very competitive on grounds of either service or cost or both. By this reasoning, we would once again expect synthetic worlds to grow in time, because they are a lower-cost, higher-quality communication tool than any of their competitors.

What about an in-between view, that what happens in these places is not just play, and not just communication. It is a complex thing, a combination of real interaction and a play-like context. That complexity may be easy enough to perceive, since we are talking about a fantasy world here; it really does seem odd to think that people can quite comfortably chat about their affairs when one looks like a wizard, the other looks like an orc, and the things they talk about include the killing of dragons. The mixing of play and not-play there is almost tangible. Where things get stranger still, and become harder to handle, is when we realize that we only understand this mixing of play and nonplay because we are actually involved in it every day, here on Earth. No, not as conversations between wizards and orcs, but as conversations between professors and athletes, judges and truck drivers, presidents and fruit pickers. If I were to say that the primary distinction within these pairs is, mostly, the powers and especially the costume given to them by the "Game of Life," I would not be the first to do so (see, for example, Baudrillard 1981/1994). It's actually an old and respected way to view human society. And thus we can say equally of our daily lives and of synthetic worlds, that "all the world's a stage, and all the men and women merely players."

We might well wonder why the real world has developed into what seems to be a game at times. Two writers in particular can shed some light on that. Specifically, the works of play theorist Johan Huizinga (*Homo Ludens*, 1938/1950) and child development expert Jean Piaget (*Play, Dreams, and Imitation in Childhood*, 1945/1962) clue us in to just how complex the interaction of play and society may be. Taking Piaget first, he could be said to argue that playing is an integral component of our development. We seem to have intrinsic motives to engage in pretense and fantasy, both as a way to learn about the world as well as to build our own skills. Play brings us joy, intrinsically, and evolution has specifically made play a joyful activity because that joy motivates us, especially when very young,

to learn and train and grow in ways that will help us survive.¹⁵ Now considering Huizinga, he could be said to argue that play is a cultural practice that has existed both in its own, separate sphere (for example, as sport), but it has also appeared as an integral part of ordinary life (for example, as ritual).¹⁶ Thus the game-like character of life may come from a deep-seated motive to play: how do we know that the activities we engage in out of a self-expressed joy (buying and selling stocks for thrill rather than profit, for example) are *not* moments of play? And it may also stem from the insertion of play institutions into ordinary life: how do we know that a given social institution (the stock market, for example) is *not* a game?¹⁷ Thus for both cultural and developmental reasons, it makes sense that any given activity may be play or not-play, depending on the judgments of both the players/users and the broader culture. And this in turn shows why aspects of daily life can often be compared to a game.¹⁸

Taking this comparison to the macro level, when we think of the Institution of the Whole, of all our society at once, our minds can use Piaget and Huizinga to conceive of a "Game of Life," a game that is, in fact, everything, and is played by everyone. This is exactly the situation described by the Argentine writer Jorge Luis Borges in his short story "The Lottery in Babylon": a society with a game turns into a game with a society. From this perspective, there really does not seem to be an essential difference between the synthetic world and our world. If our world can be said to be a game of the whole, then surely a synthetic world is no more and no less than that.

And in the recognition of essential similarity between our world and the synthetic world, I believe, is where we get some solid answers to the question of growth. When Huizinga and Piaget (and for that matter, Shakespeare) wrote that real life is something of a game, they were writing at a time when real life was the *only* game.

That is no longer the case.

This realization truly deserves emphasis:

- For the first time, humanity has not one but many worlds in which to live.
- We are no longer stuck with the Game of Life as we receive it from our ancestors. We can make a new one, almost however we like.
- The human systems on old Earth are comparable to the human systems emerging on terrains created inside machines.

These are but different ways of saying the same thing, and they all have the same implication for our predictions of the future: the new worlds being built will grow in popularity if, and only if, they provide a better life experience than

the world we were born into. A competition is afoot. As with any competition, the outcome depends on the characteristics of all participants. Whether the synthetic world grows does depend on the nature of experience within it, but, critically, it also depends on the nature of experience here on Earth. People will go where things are best for them. It is an issue of migration.

A theory of growth, then, boils down to this: Synthetic worlds, being much like our world in their essence, will grow in popularity if they seem to be better places to spend time. There's already some evidence on this score, in that whenever synthetic worlds have become better, more people have begun to use them. It is a fact of history that when the linking of computers in networks first became common in the late 1970s, text-based online multiplayer virtual worlds were among the first applications to emerge immediately (Bartle 2003), almost as if that was the one function that humans most desperately wanted networks to perform. The worlds that were created then were not simple gaming worlds; rather, they quickly became hosts to very intricate and very real social dynamics (Dibbell 1999; Curtis 1997). Then when networks became able to transmit enough data to render 2D environments, graphical chat worlds appeared, again, immediately, as if that deeper level of virtual interaction were, as before, the one thing people wanted from the new technology. And a third time, when immersive 3D environments became available in the mid-1990s, the first virtual world employing that technology appeared—again—*immediately*, and again as if that were the principal thing people wanted from their 3D technology. At each step, the number of people living virtually has increased, from hundreds to thousands and now many millions. None of this was strictly necessary. It could have been the case that the move from 2D to 3D rendering had no effect on the number of people who like to spend time in an alternative life. On the contrary, though, this history gives one the impression that there is a huge throng of people just waiting at their terminals for a fantasy world to come along, one that is just immersive enough, under the technology they can afford, to induce them to take the plunge and head off into the frontier forever.

Perhaps we can find further evidence by asking whether life in a synthetic world, on its face, seems to have characteristics that might make it a better place, at least for some people. Consider *Ultima Online*, released in 1997, which became one of the more popular 2D worlds. Here you have a world that looks like our world, only better: it has trees and buildings, but they are ideal trees and ideal buildings, and there's no smog or traffic. The social world of *UO* also functions in a very pleasing way: The trees can be chopped for wood, the wood can be carved into axes, the axes can be used to chop trees. Players can become miners, smiths, musicians, hunters, tailors, or inhabit any of a wide variety of legitimate economic, social,

political, and military roles, all of their own choosing. All of these roles are actually useful in society: Loggers are needed because house-builders and ship-builders need wood. Miners are needed because smiths need ore. Smiths are needed because adventurers need armor. And the more time one spends being a smith or a logger or a miner, the better one's avatar's skills become. As skills improve, so does social standing; it is possible to become a very important person, just by devoting time to the development of your avatar's human capital.

How does all this compare to Earth? On Earth, as noted, we have trees and buildings but they are not always designed to please the eye. And we certainly cannot be whatever we want to be; much depends on our endowment of abilities and dumb luck. Plenty of roles that people want to play seem to have no use at all (blacksmith) or are currently over-occupied (aspiring artist). Devoting more time—the most equally distributed resource on the planet—to the development of a skill will not guarantee that you will get better at it. On the whole, were I the proprietor of “Earth Incorporated, the Fantasy World,” I might very well be concerned about the long-run viability of my enterprise once places like *Ultima Online* began to appear.

In contrasting the virtual world and the real world in terms of available experiences, we should consider what game designers know about the attractions of synthetic worlds to their users. Richard A. Bartle, who co-wrote the first text-based multiuser world in 1979, is a recognized authority on the motivations of the users (see Bartle 2003, p. 130), and he divides them into four types:

1. Explorers: People who come to see what is there and to map it for others. They are happiest with challenges that involve the gradual revelation of the world. They want the world to be very big, and filled with hidden beauty that can only be unlocked through persistence and creativity.
2. Socializers: People who come to be with others. They are happiest with challenges that involve forming groups with others to accomplish shared objectives. They want the world to have extensive social infrastructure and shared activities: towns, clubs, arenas, weddings, hunting parties.
3. Achievers: People who come to build. They are happiest with challenges that involve the gradual accumulation of things worthy of social respect. They want the world that allows all kinds of capital accumulation and reputation-building. They want the ability to increase the power of their avatar, to build new structures, to hoard wealth, and to change the world itself.
4. Controllers: People who come to dominate other people. They are happiest with challenges that involve competing with others and defeating them. Also described as “griefers,” they want worlds that allow users to intervene in the

activities of other users, so that a record of domination and control can be established. To them, it is all sport.

Of course, one's motives can be a mix of these, but the basic idea is that these types can help us think about the likelihood that synthetic world use will grow. They point to areas of ordinary life where something might be missing. Ask yourself: How many people do I know who have a frustrated desire to go exploring in a new frontier? How many wish they could find a different social circle? How many find themselves dying on the vine of some corporate or academic achievement system? How many just want to exert their force on others but cannot? Bartle claims, credibly, that it is possible to build virtual worlds that satisfy all of these impulses. The number who might find them attractive on these grounds may indeed be substantial.

What about the reality factor? Even if a synthetic world might provide some better experiences, that does not mean that many people will find those experiences credible. For example, perhaps not everyone can master the suspension of disbelief required to live an alternate existence. On the other hand, we noted in chapter 1 the inherent tendency of people to assign realness and emotion to things they see on computer screens (Reeves and Nass 1996). This point can be taken further. Our apparatus for sensing the environment is adapted to the environment in which humans evolved. That environment did not have media in it. If your eye sees a roaring tiger lumbering in its direction, your brain concludes, at least initially, that there is indeed a tiger on the attack. Then, within milliseconds, the lower-order reaction system (the “old brain” that evolved prior to consciousness and reason) sets off a number of processes, pumping out hormones and generating twitches and startles (Lang 2004). Eventually, your higher-level functioning may kick in, reminding the lower-level systems that the image of a tiger is only a picture on a movie screen. But that in itself requires effort; the default and unconscious assumption of the brain is that everything seen is absolutely real. In the context of immersive computer-generated games, the old brain becomes insistent: everything perceived is acting in a way that is tremendously close to the jungles we grew up in: threats are moving around out there, often barring the way between our perceived self and the resources that will help the self thrive. The new brain must either engage in a constant stream of “it's not real” reminders, or just give up and take the experience as is. In an environment populated by other people going through the same thing, the new brain is further discouraged from resisting by social forces that define Reality and Truth: if everyone pretends the dragon is real, and reacts as though the dragon is real, then for that society it *is* real, just as real as the value of a dollar. Thus as a result of both internal and external

costs, it becomes more mentally and socially expensive to *disbelieve* the dragon than to believe it. The act that requires consciousness and will is suspension of *belief*, not disbelief. The default assumption of your mind, unless you fight against it, is that everything in an immersive game world is completely real.

In an older paper, Brickman (1978) explains the apparent reality of unreal things in a different way. He argues that the psychological keys to the sense of realness are internal and external correspondence. A case can fairly easily be made that synthetic worlds establish these correspondences more securely than the real world does. Internal correspondence increases as a person's behaviors become more consistent with their own emotions; they do things because, and only because, they really do care about the consequences. External correspondence increases as the actor becomes aware that her specific actions are generating specific consequences in the world. From these definitions, one might understand how even a single-player game could become real; a person can certainly see that her actions are changing the game world (interactivity is what defines a game, after all), and she may also come to care about it as well. A multiplayer persistent world game like *UO* has even higher degrees of external and internal correspondence. Externally, there is a huge world with a large number of open-ended paths to follow, all of which have logical and visible consequences. Apply axe to tree, and you get logs. Apply pick to stone, and you get ore. Apply sword to head, and you get death. Internally, the presence of other players makes an emotional investment almost unavoidable. Even if I don't care that the Dragon of Zorg has been killed, the fact that everyone else is excited makes me excited; hence we are all excited.

It is surprisingly easy to make the case that these coherences are actually less often realized on Earth than in the synthetic world. As far as external coherence, the underlying rules of Nature, viewed as a game system, are incredibly complex; we have an entire field of endeavor, Science, devoted solely to discovering cause and effect. Internal coherence is also often blocked by the simple fact that we've been placed in roles that we do not want, yet can't escape. Compare this to fantasy game worlds, which provide free role-playing and comparatively simple cause-and-effect rule systems. They may be providing a mental experience that is pleasantly unfractured, and hence more real-seeming rather than less, in comparison to that available on Earth.

The idea of virtual worlds as a competitor with daily life clearly cannot be rejected out of hand. They may well have characteristics that make them seem just as real, or even more so, than Earth; they may satisfy desires that Earth cannot; and their brief history indicates that improvements in the immersion technology have consistently led to increases in population. To think about the future, then, we need to predict how the comparison between the synthetic world and the real world will evolve.

Looking first at the synthetic side of the competition of the worlds, we have to recognize that virtual worlds are malleable enough that almost anything could be built there. Given time and technology, in other words, we can assume that anyone who wants a certain kind of fantasy world will probably find it being provided sooner or later; in chapter 3 we will directly address the validity of this assertion. Until then, let's assume that the options for exit into fantasy will only become more varied, more intricate, more specialized as time goes on.

While virtual worlds are improving and specializing, what will be happening to our world? This is perhaps the real key to whether a mass exodus will occur, and the picture may not be so bright. Let us consider the Earth as a synthetic world itself and ask, Will this always be a fun game to play? Or, more accurately, what are the conditions under which daily life would be the best game to play, better than any computer-generated fantasy, and for how many people will these conditions apply going into the future?

These questions have only troubling answers; not many cultural theorists describe daily life in the modern era as wonderful, uplifting, exciting. Huizinga, for example, lamented the fact that modernity was gradually destroying the institutions of play in daily life: "More and more the sad conclusion forces itself upon us that the play-element in culture has been on the wane ever since the 18th century, when it was in full flower. Civilization today is no longer played, and even where it still seems to play it is false play" (Huizinga 1938/1950, p. 206). As Piaget reminds us, play has given us joy from our earliest moments of life; if it is being eroded from our daily routines, as Huizinga feared, we must be less happy as a result. Another play theorist, Roger Caillois, makes a similar point (1961/2001, p. 122). He says that things like hobbies and games, now so popular in the contemporary world, have emerged partly as distraction from the "dull, monotonous, and tiresome existence" that users otherwise would face. Ordinary life, without play, seems to be emotionally unsatisfying.

According to game developer David Rickey (whose credits include the important games *EverQuest*, *Dark Age of Camelot*, and *Wish*):

At the most fundamental level, these games are about empowerment and achievement, providing a never-ending sense of increasing importance and power to the player in the form of ever larger and more important-sounding skills, items, numbers, and achievements for their character . . . At this very fundamental level, MMOs [massively multiplayer online games] . . . provide a vacation from the pointlessness of life's rat race, where no amount of effort can ensure you do more than tread water, because in the end, only a few people can be the big winners in the Game of Life.¹⁹

In other words, people go to the synthetic world because it offers emotional joys that the Game of Life does not. The Game of Life, on Earth it seems, is not a very good game at all, at least not for some people.

There is also ample social science research in the study of human happiness to support the preceding conjectures about the Game of Life. Social psychologists remind us that the need to connect is fundamental, and our increasingly mobile society may well be leaving many people isolated (Baumeister and Leary 1995). Clinical psychologist Jordan Peterson (1999) argues that a sense of the *significance* of acts is absolutely critical to basic mental functioning, and our daily life, which is now bereft of any overarching shared mythos, must inevitably suffer from the loss of meaning. Economist Richard Easterlin (2001) has shown that the incomes that many people pursue so zealously, at great personal and emotional cost to themselves and members of their family, have surprisingly little long-run impact on human happiness. Similarly, psychologists Ed Diener and Robert Biswas-Diener (2002) note that income and subjective well-being are not at all correlated. Brickman, Coates, and Janoff-Bulman (1978) discovered that people who win lotteries are not much happier after the fact than before. It seems that the moment of obtaining income is a happy one, but that the happiness does not last. From the perspective of play theory, the treadmill of income acquisition in ordinary life does not provide a good game; there are not enough moments of success, and new rewards appear only infrequently and for too few people. As a result, very many of us come to feel like we are getting nowhere at all. Behavioral psychologist Tibor Scitovsky (1976) put it bluntly: Our economy is joyless.

Is it possible that the fantasy worlds built by developers might really be better than Earth, over the long haul? In fairness, we should note that an experienced reviewer of these game worlds once tasked himself, tongue firmly in cheek, with the job of reviewing the game of Real Life. He gave it a score of 9.6 out of 10, quite high, praising especially the physical sensations and visceral thrills it provides.²⁰ But in even posing the question, this reviewer (Greg Kasavin) raises an important point: not everyone would give such a high rating to *Real Life: The Game*.

And for those for whom *Real Life: The Game* is indeed joyless, the synthetic world evidently represents a game that has many of the same features but is more fun to play. Its use therefore represents a choice, a completely rational one in fact. The reasonableness of this choice deserves to be stressed. If a person rejects a bad game in favor of a good one, who can blame her? J. R. R. Tolkien, creator of the fantasy world of Middle-Earth, once asked, "Why should a man be scorned if, finding himself in prison, he tries to get out and go home?" (1939).²¹ Going to a synthetic world may not necessarily be an exit from prison, but it is certainly an exit, and all exits are inherently political statements, according to political scientist

A. O. Hirschman (1970). Using a synthetic world can therefore be construed as a rebellious act, an exit from ordinary life, a rejection of the world that has been built on Earth. Again, Caillois (1961/2001, p. 157): "Simulation [is] in principle and by nature in rebellion against every type of code, rule, and organization."

In viewing these journeys into cyberspace as acts of rejection, I believe, we can locate the theoretical forces that will predict whether synthetic worlds will indeed grow as much as the business analysts say they will. When people choose synthetic worlds, they do so simply because, for them, ordinary life does not meet their needs. The question of whether synthetic worlds will grow is therefore ultimately a question of how many ordinary human lives exhibit that level of cultural and emotional emptiness. If critics from Charlie Chaplin to Michel Foucault are to be believed, the number of people who fit this criterion is very, very large.

While it seems likely (to me, at least) that a fairly substantial exodus may loom in the distance, I believe that there is no way to make such a prediction firm. It rests on the charge that contemporary culture leaves people feeling isolated, aimless, and bored. This may be anecdotally persuasive to some and religiously adhered to by many bright people (e.g., Putnam 1995), but it is too broad to be resolved conclusively by any evidence I can imagine. While I will return to the question of longer-run developments in the final chapter of the book, for now, we will just have to wait and see.

To sum up, we began this chapter by recognizing that the activities of a few ordinary people, no matter how odd or interesting those activities might be, do not necessarily deserve all that much attention (unless you are one of those people or related to them in some way). Thus if they are only a niche phenomenon, synthetic worlds would not seem to warrant a study like this. Participation figures show, however, that a conservative estimate puts some 10 million people or more in synthetic worlds as of 2004. This level of participation, which is comparable to the population of a great city, might already be enough to seem significant to some. Even so, an examination of market forecasts and user motivation data and theories suggests that this may only be the beginning. In the near term, if market analysts are to be believed, we can expect rapid growth. But we do not know how long that growth will last. I've assumed throughout that virtual worlds may become almost anything we want them to be, an assertion that needs to be examined more thoroughly. But I've also taken some effort to compare synthetic worlds to our world, in an attempt to understand just how many people may end up spending time "out there." It has not been hard to make the case that for some people, the synthetic world just might be a better place, and therefore any decision to spend time there might seem quite sensible. Those who feel alone or discriminated against *here* may feel connected and accepted *there*. The social roles that we

cannot have here may be possible there. Whatever you may not like about your body here, it can be undone in the building of a new body there. If you despair at your physical weakness here, you can play the role of a strong person there. If you feel ignorant here, you can play the role of a wise wizard there. If you feel frustrated at your limitations here, you may make great things happen there. And all of these experiences can occur in a way that is not mere fantasy; hundreds of thousands of other people are in that other place to validate your feelings and achievements as genuine. For indeed, everyone there will treat the place as genuine—as a place, not a fantasy. These positive experiences, available only in the synthetic world, may eventually attract large numbers of people. In that case, the phenomenon of virtual worlds might not remain in the margins of society, but rather become quite normal.

Thus, synthetic worlds may find their significance, not in being radically different from the world of ordinary life, but in being so similar to it as to present a comparable option, one that in some cases may be the better of the two. Synthetic worlds are significant not just because of the unusual things that happen there, but also because of the likelihood that within the next few decades, many more millions of people may eventually desire a life full of those unusual things, and may indeed prefer that kind of life to the life they lead now. Whether technology will be capable of fulfilling so many desires remains an open question, however, and is the subject of the next chapter.

3

THE MECHANICS OF WORLD-MAKING

This book has thus far made the case that something new and of more than passing interest is happening in the area of video games. The bizarre behaviors and experiences that have become typical within online games are somewhat worthy of note, but they seem to deserve more serious attention when we realize that, by 2004, they've become part of the normal lives of at least 10 million people around the world. Analysts expect that number to rise rapidly for at least the next few years, and it may go on growing after that. One possible limitation on growth might be that the demand for these spaces might dry up at some point. But what if, as discussed toward the end of the last chapter, the synthetic world can really be seen as a substitute for the real world, one that might well have superior features, in some cases, and for some people? We don't know how many people might find the synthetic world to be better, but it might be quite a few; the historical pattern has been that each new innovation in immersive quality has led to a leap in its population. And so we cannot rely with any confidence on a prediction of slackening demand. Put simply, if we could all live in a world that came closer to our fantasies than this world, how many would resist the temptation to do it?

The last chapter also assumed that those worlds of fantasy would eventually come online, brought to us by the new technologies that are the subject of this chapter. That claim needs to be examined very carefully. It seems likely in the short term that the makers of virtual worlds will become established as a substantial global industry. And that industry will certainly attempt to meet whatever the demand may be for more and different and better worlds. Whatever is the palette of experiences that people request, one can be fairly confident that a competitive industry will be able to provide it. One might conclude from this that