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## THE ECONOMICS OF FUN: BEHAVIOR AND DESIGN

### Interlude: What's Happened to Reality?

The commercial, political, and legal considerations of the last two chapters showed how ordinary notions of reality get warped once the synthetic world appears. At first, you might have said that the things on the Earth are real and the things in a synthetic world are not. Then you notice that money in synthetic worlds has all of the features of money outside synthetic worlds, and this fact (plus the political and legal validations that synthetic worlds receive) makes you conclude that everything is real, both inside and outside the membrane. And this is well in accord with the views presented in chapter 2, where play theorists were said to view daily life as having elements of play, and where media psychologists were said to have shown that treating events in the synthetic world as real is all but involuntary. But then in the last chapter, when considering the effects of commercialization on synthetic worlds, I gave arguments for keeping the membrane as solid as possible, lest crass market forces erode the precious fantasy atmosphere. But if everything inside and outside is equally real, how can there be any fantasy atmosphere to protect? Isn't it inconsistent to claim that events inside a synthetic world are real, but that they are also unreal?

Well, no. It's just that the word "real," handy as it is in some contexts, is not very helpful here; the meaning of this word truly does have to be warped to capture the complexity that synthetic worlds present. Synthetic worlds are both real and unreal. They are real in the sense that they matter to people. They are also real in the sense that the institutions we find within them can be traced back to very ordinary human impulses. But they are unreal in the sense that the resulting patterns of behavior there are potentially different from those on Earth. Consider

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sex, for example. Sex in synthetic worlds is real; the courtship is real, the passion is real, the orgasms are real (Dibbell 1999; Taylor 2002). Institutions like dating, gift-giving, and marriage are also real. What is not real, in the sense of being not like things in daily life, is the fact that by switching avatars, you can have sex in all four quadrants of the human pairing possibilities graph (M/F, F/M, M/M, and F/F) *with the same partner*. This variability in avatar-mediated pairings may be a good thing or a bad thing, but it certainly is a new thing, and we have no idea what its long-run consequences may be for human social relations.<sup>1</sup> There is no question that it forces us to enter into a whole sequence of very complex rethinking, which can be very disorienting.<sup>2</sup> But while this rethinking is going on, it would be a shame if something were to happen at this early stage—say, a regulation that no one can use an avatar with a gender different from that of their Earth body—that makes this new form of behavior disappear. Therefore we should be careful that our awareness of the realness of things inside synthetic worlds does not cause us to treat them so much like daily life on Earth as to destroy the unrealness they also exhibit. The membrane is porous, but that does not mean we should puncture it willfully or remove it completely.

In chapter 2 I warned that synthetic worlds were, in a sense, play spaces and nonplay spaces at the same time, and that this level of complexity would be necessary to hold on to throughout the book. Here in part 2 we begin to see the practical consequences of failing to hold on to that complexity. If we think too simply, we perhaps think of synthetic worlds as a meaningless fantasy land and assume that no one in their right minds would care what is happening there; and then a small, energetic company like IGE comes along and grabs the first niche in what might become a massive and lucrative market. Or, being too simplistic in the other direction, we think of synthetic worlds as just an extension of daily life and assume that no one in their right minds would fail to see that everything is real there; and then judges start handing down opinions by which a game company is held liable because Ozgord the Ogre stole \$200 worth of virtual gold pieces from Migdan the Midget. Either/Or thinking does not work here. The phenomenon requires some subtlety in treatment. We need to be able to make astute moves like IGE's without bringing contemporary tort law into Middle Earth, where it most certainly does not belong.

The subtleties required will eventually be incumbent on professionals in many disciplines, but given that my highest degree is in economics, it is there that I would like, at first, to consider what those subtleties might entail. In fact I think the economic activity inside synthetic worlds is an especially revealing case of the warping of the word "real." I am certain that one could write similar cases for other disciplines and phenomena (and I imagine those cases will be forthcoming

eventually), but in this chapter I would like to focus on the very ordinary, and yet the very extraordinary, economic forces that synthetic worlds produce.

There is one other reason to focus on synthetic economies at an early point: the economy is in fact an integral part of the fantasy. Nothing makes a world feel more alive than an active market system. Developers seem to recognize this. With very few exceptions, every synthetic world has a set of user institutions, game mechanics, and AI systems that collectively constitute an economy. Most worlds tout the existence of an economy as an important selling point: "This amazing new world has an entirely player-driven economy, where items you find or make can be bought or sold to other players! You can be a merchant if you want; buy low and sell high, and you can make yourself rich!" Once the world is launched, discussions of the economic system often occupy center stage in the game and on discussion boards. Indeed, because of the critical role that prices and wages play in the fantasy, there seem to be as many self-proclaimed experts on the economy as there are players.

Among these interested users, it's quite common to read that a world's economy is "broken," although that judgment is usually based on a misconception of what an economy is. Economists would prefer the following language: "The economic conditions of this world are not what I want them to be." And certainly, comparatively few of the economies in the current group of MMORPGs seem to operate in the best way. There seems to be a knowledge gap; it seems to me that adhering to a few simple doctrines would make the economies function much better. It's arrogant to say that, of course, since I've never developed a virtual economy myself. I recognize that I am explaining to the islanders how to cast their nets. Consider the arguments I present as food for thought, then: the honest opinion of an outsider who has thought a great deal about economics while spending a great deal of time online. It's not that I sought out synthetic economies to study; synthetic economies just exist, everywhere, in the games I play. Indeed, despite the pride with which marketing departments proclaim the existence of a real economy in the worlds they are promoting, it is very hard for me to conceive of any persistent community of people that would *not* have an economy. I don't think it's possible, as a review of some basic economic principles should help make clear.

### What Is Economics?

Synthetic worlds are so complex that it's necessary to start at the beginning, with basic definitions. Economics is usually defined as the study of choice under scarcity. The idea is that any human being has desires, and that these desires can

never be fully satisfied with current resources. Resources are scarce, and that forces us to choose where to allocate our resources so as to obtain the best mix of desires that we can. The problem of choice under scarcity is not some rare condition, it is in fact inherent in our physical natures. If the amount of food in the world tripled or quadrupled or grew by 100,000 times, food would still be scarce because it would still have a positive price. That price might be low—one millionth of a penny—but it would still be positive. And that means that every cheeseburger I eat is going to reduce the resources I have for other things. I will still have to decide how much to spend on food, which means, collectively, all humans will have to decide how much of our resources to expend creating food to eat. Scarcity emerges from the fact that the Earth only has so much stuff on it, and this stuff can only be made into a certain portfolio of things to eat, drink, wear, and play, while my desire to eat and drink and wear and play is virtually limitless. Indeed, time is perhaps the ultimate scarce resource. We only live so long. If we had one million Earths, we still would not be able to do and have absolutely everything we can imagine. No, we would have to choose how our time is allocated. That's what economics involves—not money or markets per se, but constrained choosing.

Like the rest of us, users of synthetic worlds have to choose how to allocate their time. They have to decide what worlds to visit, and, once in the world, they have to decide how much time to spend doing different things. It's part of the deal we all got when we became human beings. Thus, choice under scarcity happens whenever a human decides what to do. The economy "happens" in that moment. In other words, *every synthetic world has always had an economy*, without exception.

In fact it would be impossible to design a synthetic world without an economy. If you create a 3D space with things to do and then admit people into it, economic decisions will be made. The mere fact that the developers have put gold pieces and markets into the world does not mean that they have created an economy; it was already there. And the mere fact that gold pieces aren't worth what they used to be, or that the price of something has gone up or down, never means that the economy is "broken." The evolving lattice of individual choices is just having an effect on things; the numbers by which we observe the economy are changing, but the economy is always existing and functioning like a genuine economy. The economies of these worlds, as a matter of fact, are not just "functioning like a genuine economy": they *are* a genuine economy.

Much of the confusion in discussions about economic topics stems from common misunderstandings about what an economy is and what it is not. Among users and developers, a great deal of energy is expended discussing things that are

only the outward manifestations of underlying economic processes. Consider money. Many people treat money as *the* economy. Synthetic world user handbooks, under "Guide to the Economy," often write something like "In Castrovia, 1 gold piece equals 10 silver pieces, which equals 100 copper pieces." This is a largely irrelevant fact, at least as regards the economy. Money is just a convenience for recording choices and their effects. The economy is the choices, not the money by which I register the choices. If at some point the price of some object changes from 1 gold piece to 1 million gold pieces, that fact, in itself, is of no consequence. The price simply states a rate of transaction that by itself has no implication for anyone's well-being. If houses cost \$100,000 and I am being paid \$60,000 per year, I am in the same situation as I would be if houses cost \$1,000,000 and I were being paid \$600,000 per year. True, an understanding of the economy involves understanding monetary issues. But the things we care about involve not money per se, but the underlying conditions of choice under scarcity that monetary accounting allows us to measure.

Thus right from the start, this view that economies of synthetic worlds are somehow capable of existing, or not existing, or of being broken, or not broken, stems from a fundamental misunderstanding of what economics is. Similarly, only those who have never grasped the fundamentals of the discipline can hold the view that the economy of these places is not a "real" economy. So, let's dispense with these ideas immediately. Synthetic worlds do have economies; they are as authentic as the Earth's economy; and they have this authenticity simply because time is scarce, a feature that no design document can alter.

That having been said, it is fair to ask what kinds of phenomena are usefully subsumed under economics. Following the choice-under-scarcity paradigm, we would want to include all decisions in which users allocate their resources to different ends. This includes such things as labor supply (work), consumption (buying things), and investment (accumulating physical or avatar capital). It absolutely includes exchange between users. At the macro level, economic issues include the structure of institutions that support the economy: market-making, monetary policy, transportation, and banking. These issues are at the core of an economic study of synthetic worlds.

#### What's the Objective of Economic Design?

On Earth, we guide economic policy choices by reference to theories of ethics. At the risk of grotesquely oversimplifying, we could note that one of the most popular is utilitarianism, which holds that the object of policy is to maximize the

collective well-being of the populace, where well-being is in the eye of the beholder. Another is Kantianism, which holds that there are absolute goods and bads, with the worst thing you could do being to treat another human being like a thing rather than a person. My own leaning is toward a concern for the dignity of the human person, a post-Holocaust concept with roots in both Kantian thought and the medieval religious conception of the common good. I am no ethicist and the specific schools are not important; rather, the idea is that, in the real world, you are supposed to take a school and do economic policy with an eye to the objectives it dictates.

The game development industry takes all of this and throws it out the window. It's probably a good thing. When you are designing a game, the objective is FUN! People should be happier after playing a game than they were before. The fun objective could in principle be traced to a utilitarian concept (maximize the total fun of the people), and a reasonable argument for doing that would be that almost all worlds today are run by profit-seeking enterprises. Maximizing profit could be taken to be equivalent to maximizing fun for lots of people. While this looks like a utilitarian approach to game design, it would be a mistake to assume that game designs emerge from a desire to maximize happiness. Profit motives in themselves do not, in fact, imply that the items produced will maximize happiness for the greatest number of people.<sup>3</sup> Moreover, game designers themselves are driven by more than profit. Fun is a legitimate objective all by itself. One gets the feeling, when playing many games, that the thing exists only because the people who made it thought it was a blast to play. Indeed, those are often the best games. But then, not everyone has the developers' tastes. In designing for fun, developers may or may not meet some overarching policy objective. Or perhaps we need to admit Fun as a legitimate guide for policy.

Rather than try to impose an ethics on the industry, let's take the fun objective as given and work within it. If the objective of game economic design is to provide a system that, rather than meet some condition of philosophical ethics, simply enhances the user's fun level, that puts us at an odd moment in this story. I, Castronova, PhD Economist, with over a decade of experience writing, teaching, and speaking about questions of Economics and Public Policy, must now answer the following question:

#### What Makes an Economy Fun?

Never has an alleged expert been less prepared to answer a legitimate and important question in his area of expertise. I can honestly say that this is the hardest economic policy question I have ever encountered. What makes an economy fun?

If I have little of substance to say about that, I can always blame my colleagues: There is no research on this question in my discipline. We have endless research about whether an economy is efficient, whether it is just, whether it is productive, wealthy, growing, balanced, or constrained, but we have no research on whether it is fun. You see, the dismal science has not considered the possibility that the economy might usefully be considered as an entertainment product, even though on reflection that might be its core purpose. But economics has no concept for *fun*. The closest thing it has is *utility*, which is a numerical index showing the distance between our current state and our ideal state. I suppose if you do something fun, your utility index will rise—you got closer to your ideal state. But an increase in utility does not measure the change in happiness, the joy, the sense of emotional satisfaction, that comes with *fun*. As mentioned in chapter 2, the relationship between economic events (changes in income) and happiness is fairly complex (Easterlin 2001; Castronova 2004). For example, Frey and Stutzer (2001) report that changes in income have less effect on our happiness than changes in our ability to engage in politics. Is there a connection here to *fun*, to the play impulse of Piaget and Huizinga? Perhaps. But economics, at the moment, is not in a position to comment. With happiness being such a problem for us dismalists, how does the economic policy specialist handle *fun*?

Since there are no precedents (of which I am aware) in academic literature, the only approach to this question seems to be a combination of the developed wisdom of the game design community with some personal intuition about what makes game activities enjoyable. Game designers spend almost all of their time thinking about creating fun, and we can see in their successful products actual examples of fun at work. Some sensitivity to economic and political history is also useful here. Humanity becomes obsessed with certain things for certain reasons, and perhaps one of them is because engaging with those things is usually fun. What is it about the stock market and recall elections that attracts so much attention? Perhaps playing stocks and screaming for someone's head are fun games above all else.

What follows is a tentative list of features that can make an economy fun, based on my experience and understanding of both economics and games; there is also some support for them from the field of hedonic psychology—for example, the idea that work can be enjoyable (Kahneman, Diener, and Schwarz 1998). This material also draws on the vast grey literature of game designer interviews and columns on the Internet, much of which is summarized in the relevant chapters of such design guides as Bartle (2003) and Mulligan and Patrovsky (2003), and at Raph Koster's website.<sup>4</sup> The list of fun features here overlaps to a considerable extent with those of the design community, but I've tried to put them in order from most to least important from my own point of view as an economist and a player.

## 1. CONSUMPTION AND ACQUISITION

The most fun thing about the economy is getting something you've come to desire. When you buy something, the fun comes from several sources. Certainly, you enjoy the uses of the new object; it does things for you that you could not do before. But it is also fun simply to go around and collect information about qualities and prices, and then make a choice about which thing to buy. That is, the very process of making a choice under scarcity is enjoyable. It is a puzzle whose solution is often satisfying in and of itself. A third source of fun is the wearing and using of the item, which can earn all kinds of social notice and respect.

Beyond shopping is the joy of acquisition, the accumulation of an empire of objects. That acquisition is an important source of fun per se is amply demonstrated by a story from the early days of *Ultima Online*, when the world allowed unlimited storage of items for free. Someone decided it would be fun to have shirts, indeed a great many shirts. He somehow acquired and stored over 10,000 of them, for reasons unknown.<sup>5</sup> Just having things is enjoyable.

## 2. FAIR RETURNS TO WORK AND SKILL

A second fun thing to do in an economy is to go about activities that may or may not be fun in and of themselves, but then get a great reward for them. People seem to enjoy expending their time and effort, even in quite boring tasks, and getting something nice as a result. They also like being rewarded for being good at something. If a job is handed out by some mentor-figure NPC, doing it can make you feel like an important person. If the mentor manages to sweep you up in the emotional content of the quest, doing the work can make you feel like a real hero. Wouldn't we all like to have a boss who convincingly explains that our work is of dire importance? As for work itself, there seems to be much fun in doing things that are in themselves unpleasant and difficult, if the successful completion of those things can be worn as a badge of honor. The reward, in other words, doesn't have to be a useful or fun thing in itself, it need only be an obvious outward sign that the wearer of it has done some difficult work to get it.

In contemporary synthetic worlds, it is not uncommon to find large numbers of people who do a mundane, unchallenging task over and over, for literally hundreds if not thousands of hours, just in order to gain some kind of advancement or reward. In my early days in *EverQuest*, I spent a great deal of time near a ruin that also happened to be the place where a certain NPC would appear extremely rarely and unpredictably. The NPC carried an item, the Glowing Black Stone, that

was of some value to wizards. I began to notice that every day, as I was going about my business, I would see one person sitting near the ruin, for hours and hours, doing absolutely nothing. After conversing with the person, I learned that he was a very powerful character who decided he wanted the Glowing Black Stone and had come to wait for it. In game parlance, he was “camping” the item. So he sat there, doing nothing at all, for hours every day. It went on for weeks. Finally the NPC appeared and the player got his Stone and went away. Word apparently went out that the Stone camp was now open, because the very next day, someone else appeared to wait for the next one. Having a Glowing Black Stone was apparently quite a badge of honor—if you had one, it showed that you had survived a horrifically boring experience. People seem to find even the most onerous tasks enjoyable, if they provide some kind of suitable reward. The mere fact that the reward is rare and visible may be enough.

As for returns to skill, people unquestionably enjoy working to develop their own abilities and then have those abilities observably compensated. We can distinguish between the skills of the person and the skills of the avatar. For the person, rewardable skills could include puzzle-solving, figuring out riddles, developing eye-hand coordination, and learning combat tactics. For avatars, the skills could really be anything: Swimming, Carpentry, Animal-Taming, Baking, Axes, Siege Equipment, Hairdressing, Lasers, Jumping, Healing, Sneaking. All of these and many hundreds more exist in synthetic worlds right now. Interestingly, the fun effect of rewards to skill does not seem to depend on where the skill resides. Users seem to enjoy having their avatar’s rated skill at Archery go up as much as they enjoy feeling their own prowess at finding, targeting, and engaging prey going up. Indeed, the fact that the Archery skill is an observable rating makes it a more fun skill to raise—how do I know that I personally am a better archer, after all? But if my avatar’s Archery skill goes up, the computer will send me an explicit message to that effect: “Your skill in Archery is now 87!”

### 3. CREATION, OF THINGS AND OF THE SELF

A third aspect of fun in an economy is the joy of creation. Whether the result be a commercial empire or a simple tunic, it is enjoyable to make things. An economy is fun if it allows people to combine basic items into more complex items. If those items can exhibit the worker’s craft, so much the better. Personalized, artistic items are the most fun of all. The rags-to-riches phenomenon seems to enchant many people; it is apparently very enjoyable to start with nothing and then make yourself into a powerful, wealthy person. And it is fun to do this according to your whims, to be your own boss.

## 4. MISSION AND PURPOSE

A fun economy gives people a meaningful role to play. The role should be individualized, because no one likes being a cog in the machine. At the same time, the role should be a critical part of the entire system, so that the worker feels needed and important. Moreover, economies generate even more fun if they are seen in competition with another economy at a macro level; each worker in Castrovia can see his work as a contribution to the greater goal of making Castrovia the wealthiest nation in the world.

## 5. ROBUST COMPETITION UNDER EQUAL OPPORTUNITY

Fifth, many people find competing with other people to be fun in and of itself, even if the object of the game is arbitrary. At the same time, the competition should be fair. If the game is about accumulating power in a synthetic world, then everyone should start with a similar set of resources. After the start of the game, the rules should not change arbitrarily to favor one person over another. At the same time, a competition is no fun if the opponents are not at least roughly comparable in power.

## 6. RISKS AND BARGAINS

Everyone loves a little gamble now and then. The economy should have some uncertainty in it, and luck should play a role. That is, independent of skills or choices, a user should have some actions rewarded and others punished just because of the roll of the die. Ideally, the risk system should reward rational odds-making and betting; it should be the case that a smart player will gradually learn when to take chances and when to walk away. Risk, especially downside risk, also raises the level of emotional investment people seem to have. A world without risk is not just boring, it is empty of things to cherish.

## 7. PROPERTY AND CRIME

Owning things feels good. A fun economy allows you to feel that you own a little piece of the world, that you have some special item or land that is all yours. On the other hand, having things stolen feels bad, while seeing criminals brought to justice feels good again. Committing crime is a fun activity for some people. Evidently, crime is a cat-and-mouse game that clearly fascinates people, judging from passive media genres. A fun economy should have property, theft, and jail too.

