It was an hour before midnight, three hours into the night shift with nine more to go. At his workstation in a small, fluorescent-lighted office space in Nanjing, China, Li Qiwen sat shirtless and chain-smoking, gazing purposefully at the online computer game in front of him. The screen showed a lightly wooded mountain terrain, studded with castle ruins and grazing deer, in which warrior monks milled about. Li, or rather his staff-wielding wizard character, had been slaying the enemy monks since 8 p.m., mouse-clicking on one corpse after another, each time gathering a few dozen virtual coins — and maybe a magic weapon or two — into an increasingly laden backpack.

Twelve hours a night, seven nights a week, with only two or three nights off per month, this is what Li does — for a living. On this summer night in 2006, the game on his screen was, as always, World of Warcraft, an online fantasy title in which players, in the guise of self-created avatars — night-elf wizards, warrior orcs and other Tolkien-esque characters — battle their way through the mythical realm of Azeroth, earning points for every monster slain and rising, over many months, from the game’s lowest level of death-dealing power (1) to the highest (70). More than eight million people around the world play World of Warcraft — approximately one in every thousand on the planet — and whenever Li is logged on, thousands of other players are, too. They share the game’s vast, virtual world with him, converging in its towns to trade their loot or turning up from time to time in Li’s own wooded corner of it, looking for enemies to kill and coins to gather. Every World of Warcraft player needs those coins, and mostly for one reason: to pay for the virtual gear to fight the monsters to earn the points to reach the next level. And there are only two ways players can get as much of this virtual money as the game requires: they can spend hours collecting it or they can pay someone real money to do it for them.

At the end of each shift, Li reports the night’s haul to his supervisor, and at the end of the week, he, like his nine co-workers, will be paid in full. For every 100 gold coins he gathers, Li makes 10 yuan, or about $1.25, earning an effective wage of 30 cents an hour, more or less. The boss, in turn, receives $3 or more when he sells those same coins to an online retailer, who will sell them to the final customer (an American or European player) for as much as $20. The small commercial space Li and his colleagues work in — two rooms, one for the workers and another for the supervisor — along with a rudimentary workers’ dorm, a half-hour’s bus ride away, are the entire physical plant of this modest $80,000-a-year business. It is estimated that there are thousands of businesses like it all over China, neither owned nor operated by the game companies from which they make their money. Collectively they employ an estimated 100,000 workers, who produce the bulk of all the goods in what has become a $1.8 billion worldwide trade in virtual items. The polite name for these operations is youxi gongzuoshi, or gaming workshops, but to
gamers throughout the world, they are better known as gold farms. While the Internet has produced some strange new job descriptions over the years, it is hard to think of any more surreal than that of the Chinese gold farmer.

The market for massively multiplayer online role-playing games, known as M.M.O.’s, is a fast-growing one, with no fewer than 80 current titles and many more under development, all targeted at a player population that totals around 30 million worldwide. World of Warcraft, produced in Irvine, Calif., by Blizzard Entertainment, is one of the most profitable computer games in history, earning close to $1 billion a year in monthly subscriptions and other revenue. In a typical M.M.O., as in a classic predigital role-playing game like Dungeons & Dragons, each player leads his fantasy character on a life of combat and adventure that may last for months or even years of play. As has also been true since D. & D., however, the romance of this imaginary life stands in sharp contrast to the plodding, mathematical precision with which it proceeds.

Players of M.M.O.’s are notoriously obsessive gamers, not infrequently dedicating more time to the make-believe careers of their characters than to their own real jobs. Indeed, it is no mere conceit to say that M.M.O.’s are just as much economies as games. In every one of them, there is some form of money, the getting and spending of which invariably demands a lot of attention: in World of Warcraft, it is the generic gold coin; in Korea’s popular Lineage II, it is the “adena”; in the Japanese hit Final Fantasy XI, it is called “gil.” And in all of these games, it takes a lot of this virtual local currency to buy the gear and other battle aids a player needs to even contemplate a run at the monsters worth fighting. To get it, players have a range of virtual income-generating activities to choose from: they can collect loot from dead monsters, of course, but they can also make weapons, potions and similarly useful items to sell to other players or even gather the herbs and hides and other resources that are the crafters’ raw materials. Repetitive and time-intensive by design, these pursuits and others like them are known collectively as “the grind.”

For players lacking time or patience for the grind, there has always been another means of acquiring virtual loot: real money. From the earliest days of M.M.O.’s, players have been willing to trade their hard-earned legal tender — dollars, euros, yen, pounds sterling — for the fruits of other players’ grinding. And despite strict rules against the practice in the most popular online games, there have always been players willing to sell. The phenomenon of selling virtual goods for real money is called real-money trading, or R.M.T., and it first flourished in the late 1990s on eBay. M.M.O. players looking to sell their virtual armor, weapons, gold and other items would post them for auction and then, when all the bids were in and payment was made, arrange with the highest bidder to meet inside the game world and transfer the goods from the seller’s account to the buyer’s.

Until very recently, in fact, eBay was a major clearinghouse for commodities from every virtual economy known to gaming — from venerable sword-and-sorcery stalwarts EverQuest and Ultima Online to up-and-comers like the Machiavellian space adventure Eve Online and the free-form social sandbox Second Life. That all came to an official end this January, when eBay announced a ban on R.M.T. sales, citing, among other concerns, the customer-service issues involved in facilitating transactions that are prohibited by the gaming companies. But by then the market had long since outgrown the tag-sale economics of online auctions. For years now, the vast majority of virtual goods has been brought to retail not by players selling the product of their own gaming but by high-volume online specialty sites like the virtual-money
superstores IGE, BroGame and Massive Online Gaming Sales — multimillion-dollar businesses offering one-stop, one-click shopping and instant delivery of in-game cash. These are the Wal-Marts and Targets of this decidedly gray market, and the same economic logic that leads conventional megaretailers to China in search of cheap toys and textiles takes their virtual counterparts to China’s gold farms.

Indeed, on the surface, there is little to distinguish gold farming from toy production or textile manufacture or any of the other industries that have mushroomed across China to feed the desires of the Western consumer. The wages, the margins, the worker housing, the long shifts and endless workweeks — all of these are standard practice. Like many workers in China today, most gold farmers are migrants. Li, for example, came to Nanjing, in the country’s industry-heavy coastal region, from less prosperous parts. At 30, he is old for the job and feels it. He says he hopes to marry and start a family, he told me, but doesn’t see it happening on his current wages, which are not much better than what he made at his last job, fixing cars. The free company housing means his expenses aren’t high — food, cigarettes, bus fare, connection fees at the local wang ba (or Internet cafe) where he goes to relax — but even so, Li said, it is difficult to set aside savings. “You can do it,” he said, “but you have to economize a lot.”

This is the quick-sketch picture of the job, however, and it misses much. To sit at Li’s side for an hour or two, amid the dreary, functional surroundings of his workplace, as he navigates the Technicolor fantasy world he earns his living in, is to understand that gold farming isn’t just another outsourced job.

When the night shift ends and the sun comes up, Li and his co-workers know it only by the slivers of daylight that slip in at the edges of the plastic sheeting taped to the windows against the glare. As Li clocks out, another worker takes his seat, takes control of his avatar and carries on with the same grim routines amid the warrior monks of Azeroth. On most days Li’s replacement is 22-year-old Wang Huachen, who has been at this gold farm for a year, ever since he completed his university course in law. Soon, Wang told me, he will take the test for his certificate to practice, but he seems in no particular hurry to.

“I will miss this job,” he said. “It can be boring, but I still have sometimes a playful attitude. So I think I will miss this feeling.”

Two workstations away, Wang’s co-worker Zhou Xiaoguang, who is 24, also spends the day shift massacring monks. To watch his face as he plays, you wouldn’t guess there was anything like fun involved in this job, and perhaps “fun” isn’t exactly the word. As anyone who has spent much time among videogamers knows, the look on a person’s face as he or she plays can be a curiously serious one, reflective of the absorbing rigors of many contemporary games. It is hard, in any case, for Zhou to say where the line between work and play falls in a gold farmer’s daily routines. “I am here the full 12 hours every day,” he told me, offhandedly killing a passing deer with a single crushing blow. “It’s not all work. But there’s not a big difference between play and work.”

I turned to Wang Huachen, who remained intent on manipulating an arsenal of combat spells, and asked again how it was possible that in these circumstances anybody could, as he put it, “have sometimes a playful attitude”?

He didn’t even look up from his screen. “I cannot explain,” he said. “It just feels that way.”
In 2001, Edward Castronova, an economist at Indiana University and at the time an EverQuest player, published a paper in which he documented the rate at which his fellow players accumulated virtual goods, then used the current R.M.T. prices of those goods to calculate the total annual wealth generated by all that in-game activity. The figure he arrived at, $135 million, was roughly 25 times the size of EverQuest’s R.M.T. market at the time. Updated and more broadly applied, Castronova’s results suggest an aggregate gross domestic product for today’s virtual economies of anywhere from $7 billion to $12 billion, a range that puts the economic output of the online gamer population in the company of Bolivia’s, Albania’s and Nepal’s.

Not quite the big time, no, but the implications are bigger, perhaps, than the numbers themselves. Castronova’s estimate of EverQuest’s G.D.P. showed that online games — even when there is no exchange of actual money — can produce actual wealth. And in doing so Castronova also showed that something curious has happened to the classic economic distinction between play and production: in certain corners of the world, it has melted away. Play has begun to do real work.

This development has not been universally welcomed. In the eyes of many gamers, in fact, real-money trading is essentially a scam — a form of cheating only slightly more refined than, say, offering 20 actual dollars for another player’s Boardwalk and Park Place in Monopoly. Some players, and quite a few game designers, see the problem in more systemic terms. Real-money trading harms the game, they argue, because the overheated productivity of gold farms and other profit-seeking operations makes it harder for beginning players to get ahead. Either way, the sense of a certain economic injustice at work breeds resentment. In theory this resentment would be aimed at every link in the R.M.T. chain, from the buyers to the retailers to the gold-farm bosses. And, indeed, late last month American WoW players filed a class-action suit against the dominant virtual-gold retailer, IGE, the first of its kind.

But as a matter of everyday practice, it is the farmers who catch it in the face. Consider, for example, a typical interlude in the workday of the 21-year-old gold farmer Min Qinghai. Min spends most of his time within the confines of a former manufacturing space 200 miles south of Nanjing in the midsize city of Jinhua. He works two floors below the plywood bunks of the workers’ dorm where he sleeps. In two years of 84-hour farming weeks, he has rarely stepped outside for longer than it takes to eat a meal. But he has died more times than he can count. And last September on a warm afternoon, halfway between his lunch and dinner breaks, it was happening again.

The World of Warcraft monsters he faces down — ferocious, gray-furred warriors of the Timbermaw clan of bearmen — are no match for his high-level characters, but they do fight back and sometimes they get the better of him. And so it appeared they had just done. Distracted from his post for a moment, Min returned to find his hunter-class character at the brink of death, the scene before him a flurry of computer-animated weapon blows. It wasn’t until the fight had run its course and the hunter lay dead that Min could make out exactly what had happened. The game’s chat window displayed a textual record of the blows landed and the cost to Min in damage points. The record was clear: the monsters hadn’t acted alone. In the middle of the fight another player happened by, sneaked up on Min and brought him down.

Min leaned back and stretched, then set about the tedious business of resurrecting his character, a drawn-out sequence of operations that can put a player out of action for as long as 10 minutes. In farms with
daily production quotas, too much time spent dead instead of farming gold can put the worker’s job at risk. And in shops where daily wages are tied to daily harvests, every minute lost to death is money taken from the farmer’s pocket. But there are times when death is more than just an economic setback for a gold farmer, and this was one of them. As Min returned to his corpse — checking to make sure his attacker wasn’t waiting around to fall on him again the moment he resurrected — what hurt more than the death itself was how it happened, or more precisely, what made it happen: another player.

It isn’t that WoW players don’t frequently kill other players for fun and kill points. They do. But there is usually more to it when the kill in question is a gold farmer. In part because gold farmers’ hunting patterns are so repetitive, they are easy to spot, making them ready targets for pent-up anti-R.M.T. hostility, expressed in everything from private sarcastic messages to gratuitous ambushes that can stop a farmer’s harvesting in its tracks. In homemade World of Warcraft video clips that circulate on YouTube or GameTrailers, with titles like “Chinese Gold Farmers Must Die” and “Chinese Farmer Extermination,” players document their farmer-killing expeditions through that same Timbermaw-ridden patch of WoW in which Min does his farming — a place so popular with farmers that Western players sometimes call it China Town. Nick Yee, an M.M.O. scholar based at Stanford, has noted the unsettling parallels (the recurrence of words like “vermin,” “rats” and “extermination”) between contemporary anti-gold-farmer rhetoric and 19th-century U.S. literature on immigrant Chinese laundry workers.

Min’s English is not good enough to grasp in all its richness the hatred aimed his way. But he gets the idea. He feels a little embarrassed around regular players and sometimes says he thinks about how he might explain himself to those who believe he has no place among them, if only he could speak their language. “I have this idea in mind that regular players should understand that people do different things in the game,” he said. “They are playing. And we are making a living.”

It is a distinction that game companies understand all too well. Like the majority of M.M.O. companies, Blizzard has chosen to align itself with the customers who abhor R.M.T. rather than the ones who use it. A year ago, Blizzard announced it had identified and banned more than 50,000 World of Warcraft accounts belonging to farmers. It was the opening salvo in a continuing eradication campaign that has effectively swept millions in farmed gold from the market, sending the exchange rate rocketing from a low of 6 cents per gold coin last spring to a high of 35 cents in January.

Of course, nobody expected the farmers’ equally rule-breaking customers to be punished too. Among players, the R.M.T. debate may revolve around questions of fairness, but among game companies, the only question seems to be what is good for business. Cracking down on R.M.T. buyers makes poorer marketing sense than cracking down on sellers, in much the same way that cracking down on illegal drug suppliers is a better political move than cracking down on users. (Only a few companies have found a way to make R.M.T. part of their business model. Sony Online Entertainment, which publishes EverQuest, has started earning respectable revenues from an experimental in-game auction system that charges players a small transaction fee for real-money trades.) As Mark Jacobs, vice president at Electronic Arts and creator of the classic M.M.O. Dark Age of Camelot, put it: “Are you going to get more sympathy from busting 50,000 Chinese farmers or from busting 10,000 Americans that are buying? It’s not a racial thing at all. If you bust the buyers, you’re busting the guys who are paying to play your game, who you want to keep as customers and who will then go on the forums and say really nasty things about your company and your
The cost to farmers of being expelled from WoW can be steep. At the very least, it means a temporary drop in productivity, because the character has to be to built up all over again, as well as the loss of all the loot accumulated in that character’s account. Given the stakes, some Chinese gold farms have found that the best way to get around their farmers’ pursuers is to make it hard to distinguish professionals from players in the first place. One business that specializes in doing just that is located a few blocks from the gold farm where Min Qinghai works. The shop floor is about the same size, with about the same number of computers in the same neat rows, but you can tell just walking through the place that it is a more serious operation. For one thing, there are a lot more workers: typically 25 on the day shift, 25 on the night shift, each crew punching in and out at a time clock just inside the entrance. Nobody works without a shirt here; quite a few, in fact, wear a standard-issue white polo shirt with the company initials on it. There is also a crimson version of the shirt, reserved for management and worn at all times by the shift supervisor, who, when he isn’t prowling the floor, sits at his desk before a broad white wall emblazoned with foot-high Chinese characters in red that spell: unity, collaboration, integrity, efficiency.

The name of the business is Donghua Networks, and its specialty is what gamers call “power leveling.” Like regular gold farming, power leveling offers customers an end run around the World of Warcraft grind — except that instead of providing money and other items, the power leveler simply does the work for you. Hand over your account name, password and about $300, and get on with your real life for a while: in a marathon of round-the-clock monster-bashing, a team of power levelers will raise your character from the lowest level to the highest, accomplishing in four weeks or less what at a normal rate of play would take at least four months.

For Donghua’s owners — 26-year-old Fei Jianfeng and 36-year-old Bao Donghua, both former gold-farm wage workers themselves — moving the business out of farming and into leveling was an easy call. Among other advantages, they say, power leveling means fewer banned accounts. Because the only game accounts used are the customers’ own, there is much less risk of losing access to the virtual work site. For their workers, however, the advantages are mixed. Though there is a greater variety of quests and quarries to pursue, the pay isn’t any better, and some workers chafe at the constraints of playing a stranger’s character, preferring the relative autonomy of farming gold.

As one Donghua power leveler said of his old gold-farming job, “I had more room to play for myself.”

It may seem strange that a wage-working loot farmer would still care about the freedom to play. But it is not half as strange as the scene that unfolded one evening at 9 o’clock in the Internet cafe on the ground floor of the building where Donghua has its offices. Scattered around the stifling, dim wang ba, 10 power levelers just off the day shift were merrily gaming away. Not all of them were playing World of Warcraft. A big, silent lug named Mao sat mesmerized by a very pink-and-purple Japanese schoolgirls’ game, in which doe-eyed characters square off in dancing contests with other online players. But the rest had chosen, to a man, to log into their personal World of Warcraft accounts and spend these precious free hours right back where they had spent every other hour of the day: in Azeroth.

Such scenes are not at all unusual. At the end of almost any working day or night in a Chinese gaming
workshop, workers can be found playing the same game they have been playing for the last 12 hours, and to some extent gold-farm operators depend on it. The game is too complex for the bosses to learn it all themselves; they need their workers to be players — to find out all the tricks and shortcuts, to train themselves and to train one another. “When I was a worker,” Fan Yangwen, who is now 21 and in Donghua’s main office providing technical support, told me, “I loved to play because when I was playing, I was learning.” But learning to play or learning to work? I asked. Fan shrugged. “Both.”

Fan himself is a striking case of how off-hours play can serve as a kind of unpaid R. and D. lab for the farming industry. He is that rarest of World of Warcraft obsessives, a Chinese gold farmer who has actually bought farmed gold. (“Sure, I bought 10,000 once,” he said, “I don't have time to farm all that!”)

When Fan shows up at the wang ba after work, it is a minor event; the other Donghua workers pull their chairs over to watch him play — his top-level warlock character is an unbelievable powerhouse that no amount of money, real or virtual, can buy.

What makes Fan’s dominance so impressive to his peers is that he achieved it in regions of the game that are all but inaccessible to the working gold farmer or power leveler. Therein lies what is known as the end game, the phase of epic challenges that begins only when the player has accumulated the maximum experience points and can level up no more. The rewards for meeting these challenges are phenomenal: rare weapons and armor pieces loaded with massive power boosts and showy graphics. And the greatest cannot be traded or given away; they can only be acquired by venturing into the game’s most difficult dungeons. That requires becoming part of a tightly coordinated “raid” group of as many as 40 other players (any fewer than that, and the entire group will almost certainly “wipe” — or die en masse without killing any monsters of note). Each player has a shot at the best items when they drop, and players must negotiate among themselves for the top prizes. These end-game hurdles have some subtle but significant effects. For one thing, they force the growth of “guilds” — teams of dozens, sometimes hundreds, of players who join together to hit high-end dungeons on a regular basis. For another, they shut farmers out from an entire class of virtual goods — the most marketable in the game if only they could be traded.

For a long time the Donghua bosses, Fei and Bao (known even to employees as Little Bai and Brother Bao), could do no more than nurse their envy of the raiding guilds’ access to the end game. But Fan’s prowess pointed to another way of looking at it: raiding guilds weren’t the competition, they realized; they were the solution. Donghua would put together a team of 40 employees. They would train the team in all the hardest dungeons. And then, for a few hundred dollars, the team would escort any customer into the dungeon of his or her choice. And when the customer’s longed-for item dropped, the team would stand aside and let the customer take it, no questions asked. Thus would the supposedly unmarketable end-game treasures find their way into the R.M.T. market. And thus would gold farming, of a sort, find its way at last into the end game.

When Brother Bao and Little Bai put their team together in April of last year, Min Qinghai, a veteran Donghua employee at the time, was among the first to make the roster.

“Before I joined the raiding team, I’d never worked together with so many people,” Min told me. They were 40 young men in three adjoining office spaces, and it was chaotic at first. Two or three supervisors moved among them, calling out orders like generals. A dungeon raid is always a puzzle: figuring out which
tactics to use to kill each boss is the main challenge; doing so while coordinating 40 players can be dizzying. But members of the team raided just as diligently as they had power-leveled: 12 hours a day, 7 days a week, making their way through the complexities of a different dungeon every day.

There was a lot of shouting involved, at least in the beginning. Besides the orders called out by the supervisors, there were loud attempts at coordination among the team members themselves. “But then we developed a sense of cooperation, and the shouting grew rarer,” Min said. “By the end, nothing needed to be said.” They moved through the dungeons in silent harmony, 40 intricately interdependent players, each the master of his part. For every fight in every dungeon, the hunters knew without asking exactly when to shoot and at what range; the priests had their healing spells down to a rhythm; wizards knew just how much damage to put in their combat spells.

And Min’s role? The translator struggled for a moment to find the word in English, and when I hazarded a guess, Min turned directly to me and repeated it, the only English I ever heard him speak. “Tank,” he said, breaking into a rare, slow smile, and why wouldn’t he? The tank — the heavily armored warrior character who holds the attention of the most powerful enemy in the fight, taking all its blows — is the linchpin of any raid. If the tank dies, everybody else will soon die too, as a rule.

“Working together, playing together, it felt nice,” Min said. “Very . . . shuang.” The word means “open, clear, exhilarating.” “You would go in, knowing that you were fighting the bosses that all the guilds in the world dream of fighting; there was a sense of achievement.”

The end arrived without warning. One day word came down from the bosses that the 40-man raids were suspended indefinitely for lack of customers. In the meantime, team members would go back to gold farming, gathering loot in five-man dungeons that once might have thrilled Min but now presented no challenge whatsoever. “We no longer went to fight the big boss monsters,” Min said. “We were ordered to stay in one place doing the same thing again and again. Everyday I was looking at the same thing. I could not stand it.”

Min quit and took the farming job he works at still. The new job, with its rote Timbermaw whacking, could hardly be less exciting. But it is more relaxed than Donghua was, less wearying — “Working 12 hours there was like working 24 here” — and he couldn’t have stayed on in any case, surrounded by reminders of the broken promise of tanking for what might have been the greatest guild on Earth.

In the meantime, Min is doing his best to forget that his work has anything at all to do with play or that he ever let himself believe otherwise. But even with a job as monotonous as this one, it isn’t easy. On his usual hunt one day, he accidentally backed into combat with a higher-level monster. Losing life fast, he grabbed his mouse and started to flee. He hunched over his keyboard, leaning into his flight, flushed now by the chase. His boss, 26-year-old Liu Haibin, an inveterate gamer himself, wandered by and began to cheer him on: “Yeah, yeah, yeah . . . go!”

Finally the monster quit the chase, and Min got away with no consequence more untoward than having to explain himself. “It’s instinctual — you can’t help it,” he said. “You want to play.”

*Julian Dibbell is the author, most recently, of “Play Money: Or How I Quit My Day Job and Made*
Millions Trading Virtual Loot." This is his first article for the magazine.

Correction: July 1, 2007

An article on June 17 about Chinese “gold farmers,” who play online computer games and accumulate so-called virtual wealth for themselves or others, misstated the educational affiliation of an economist who published a paper in 2001 on virtual economies. Edward Castronova is at Indiana University. There is no University of Indiana.