July 21, 2011

Where Do Dwarf-Eating Carp Come From?

By JONAH WEINER

Tarn Adams was in the carpeted spare bedroom that serves as his work space, trying to avert an apocalyptic outbreak of vampire dwarves. “If they just run wild biting people, half the dwarves in the colony will be infected in no time,” he said, shaking his head. “That would be no fun.” He was silent for a moment. “Maybe they have to bite you three times before you’re infected?”

Seated nearby was Tarn’s older brother, Zach, squinting thoughtfully and jotting ideas into a notepad. It was a chilly afternoon in Silverdale, Wash., a town about 20 miles west of Seattle, and Tarn was wearing one of his favorite sweatshirts, a beige hoodie decorated with rows of strutting cats. The brothers — both heavyset, with close-cropped brown hair and sweetly sheepish demeanors — were conversing, as they do every day, about Dwarf Fortress, the computer game they began devising in 2002.

Dwarf Fortress is barely a blip on the mainstream radar, but it’s an object of intense cult adoration. Its various versions have been downloaded in the neighborhood of a million times, although the number of players who have persisted past an initial attempt is doubtless much smaller. As with popular simulation games like the Sims series, in which players control households, or the Facebook fad FarmVille, where they tend crops, players in Dwarf Fortress are responsible for the cultivation and management of a virtual ecosystem — in this case, a colony of dwarves trying to build a thriving fortress in a randomly generated world. Unlike those games, though, Dwarf Fortress unfolds as a series of staggeringly elaborate challenges and devastating setbacks that lead, no matter how well one plays, to eventual ruin. The goal, in the game’s main mode, is to build as much and as imaginatively as possible before some calamity — stampeding elephants, famine, vampire dwarves — wipes you out for good.

Though its medieval milieu of besieged castles and mutant enemies may be familiar, Dwarf Fortress appeals mainly to a substratum of hard-core gamers. The game’s unofficial slogan,

recited on message boards, is “Losing is fun!” Dwarf Fortress’s unique difficulty begins with its most striking feature: The way it looks. In an industry obsessed with pushing the frontiers of visual awe, Dwarf Fortress is a defiant throwback, its interface a dense tapestry of letters, numbers and crude glyphs you might have seen in a computer game around 1980. A normal person looks at ♠§dg and sees gibberish, but the Dwarf Fortress initiate sees a tense tableau: a dog leashed to a tree, about to be mauled by a goblin.

This bare-bones aesthetic allows Tarn to focus resources not on graphics but on mechanics, which he values much more. Many simulation games offer players a bag of building blocks, but few dangle a bag as deep, or blocks as small and intricately interlocking, as Dwarf Fortress. Beneath the game’s rudimentary facade is a dizzying array of moving parts, algorithms that model everything from dwarves’ personalities (some are depressive; many appreciate art) to the climate and economic patterns of the simulated world. The story of a fortress’s rise and fall isn’t scripted beforehand — in most games narratives progress along an essentially set path — but, rather, generated on the fly by a multitude of variables. The brothers themselves are often startled by what their game spits out. “We didn’t know that carp were going to eat dwarves,” Zach says. “But we’d written them as carnivorous and roughly the same size as dwarves, so that just happened, and it was great.”

Dwarf Fortress may not look real, but once you’re hooked, it feels vast, enveloping, alive. To control your world, you toggle between multiple menus of text commands; seemingly simple acts like planting crops and forging weapons require involved choices about soil and season and smelting and ores. A micromanager’s dream, the game gleefully blurs the distinction between painstaking labor and creative thrill.

“Playing Dwarf Fortress is like taking the controls of a plane right as it’s taking off,” says Chris Dahlen, editor in chief of the gaming magazine Kill Screen. And, he added, “flying a jet is a lot more interesting than just riding in a jet.”

Dwarf Fortress is too willfully noncommercial to have any discernible influence on gaming at large, but it is widely admired by game designers. Programmers behind The Sims 3 reportedly played Dwarf Fortress when they were making their game, and several homages to Dwarf Fortress appear in the blockbuster fantasy game World of Warcraft. Richard Garfield, who created the hit card game Magic: The Gathering, once attended a Dwarf Fortress fan meet in Seattle to introduce himself to Tarn. “I told him there’s nothing out there quite like it,” Garfield recalled. He suggested ways of broadening the game’s appeal, but “that stuff didn’t matter to Tarn. The charm of it is that he’s making exactly the game he wants to make.”

After nine years of development, Dwarf Fortress is, from the perspective of game play, perhaps the most complex video game ever made. And yet it is still only in “alpha” — the most recent release is version 0.31. By version 1.0, Tarn says, the game will include military campaigns and magic, along with scores of other additions. He showed me a four-inch stack of index cards, color-coded and arranged into umbrella categories, to keep track of his goals. “I like being able to hold the game in my hands,” he says.

I asked Tarn when he thought he and Zach would reach version 1.0. “Twenty years from now,” he replied. “That’s the number we talk about.” He chuckled at the prospect, adding that even when that milestone arrived, Dwarf Fortress would keep growing. “This is going to be my life’s work.”

Tarn, 33, lives in an apartment complex abutting one of the many shopping plazas that make up Silverdale, a town he calls “a strip mall.” His place has two bedrooms, the larger of which he uses for programming and which is nearly empty except for his computer desk, a framed picture of his part Manx, part Maine Coon cat, Scamps, and a fuzzy cat tree. In the living room are two gray folding tables for playing board games like Arkham Horror and Descent, and a box of Xbox 360 and PlayStation 3 games. Tarn said he seldom touches these because “most of them suck.” The only furniture in the small dining room is Scamps’s litter box.

If much of Tarn’s apartment suggests a tenant who never fully moved in, his bedroom suggests a tenant who never sets a sock outdoors. When I peeked inside, rumpled underwear, discarded boxes and books lay scattered across the carpet. A sheet of plywood, edged with black foam rubber, was wedged into the window frame and affixed there by metal clamps. Tarn wakes up around 3 p.m. every day, codes through the night and goes to bed around 6 a.m. The plywood keeps slumber-disturbing daylight out of the room, making it a chamber fit for a vampire dwarf — or at least for a computer programmer.

Tarn and Zach’s parents live on several wooded acres in nearby Bremerton, and Zach, who is 35 and between jobs, has lived with them since 2002. Zach brought over a drinking glass from the house in case I got thirsty, because Tarn owns only a couple of dishes. In the fridge were three sodas and a jug of water and nothing else. Tarn said I was welcome to anything, although the jug technically belonged to Scamps — the tap water has something in it that makes the cat refuse to drink it. Tarn consumed “maybe one glass” of water in the last three months, hydrating with soft drinks instead. “Water’s not doing it for me these days,” he said. “I know it’s bad, but the sugar goes right into programming the game. If I don’t drink soda now, I get a headache and can’t do any work.”

Near midnight one evening, after a chat with Zach about incorporating sewers into the game, Tarn settled into his coding routine, opening his C++ software and firing up a Pandora playlist of upbeat soul. (Zach, less adept at programming, contributes to the game by brainstorming ideas.) Tarn surveyed the code, arrayed before him in tiny type, and began rocking in his swivel chair so vigorously that its joints squawked. The rocking had nothing to do with the music. “It’s a tic,” he explained later. “Sometimes I don’t even notice I’m doing it. During tests at college, people would yell at me to knock it off.”

As Tarn got into the zone, his muttered profanities and grumbles about “x distances” took on a mantralike quality. Conjuring sewers, he would type out lines of code, let the software effect his changes, frown at the results, then tweak. Initially, the sewers appeared as an illogical tangle of blue gashes, but line by line, Tarn worked them into coherence.

At about 1:30 a.m., a family of hippos, represented by light gray H’s, swam into the tunnels from a nearby river. Their arrival was an unintended development born entirely of the game’s internal logic. Tarn was pleased. “The hippos like the sewers!” he said. He took a celebratory swig of Dr. Pepper and rocked back and forth.

Despite the modesty of Tarn’s setup, he has a lot riding on Dwarf Fortress. For much of his adult life, he was headed in a very different direction. He’d enrolled at the University of Washington, where he became a star math student. He wasn’t much interested in the social atmosphere of dorms and spent his freshman year splitting a Seattle apartment with Zach, who was a senior majoring in ancient history at the university. When Zach graduated, Tarn moved into a string of “dingy one-bedrooms” with “bad moisture problems” — in one, he discovered a shelf fungus growing behind his couch. Tarn didn’t take notes in class, such was his facility with the material, and he still “4.0’d almost everything.” In his final year, the faculty named him best math major.

Tarn applied to 17 Ph.D. programs, got into 15 and, wavering briefly between M.I.T. and Stanford, chose the latter. He earned his doctorate in 2005 with a dissertation called “Flat Chains in Banach Spaces,” a rumination on concepts in advanced geometry that he describes as “not that interesting to that many people, but a nice little paper.” He published a version of it in The Journal of Geometric Analysis and, landing a postdoc at Texas A&M, seemed destined for the academic career he envisioned since his undergraduate days.

But Tarn wasn’t entirely happy. He’d had doubts about pursuing a career in math since the “pressure cooker” of his first year at Stanford, when he failed his qualifying exams (students get two chances; he passed the second time). Faced with the school’s highly competitive and

professionalized environment, he came to regard himself as a “second-rate mathematician.” The issue wasn’t aptitude so much as passion. He wanted to do math but also to make video games, a juggling act he managed as an undergraduate. This had become impossible. “They wanted 60 hours a week from you, giving you problems that would take 20 hours to solve,” he said. He grew depressed and, in his only encounter with drugs, snorted meth.

For Tarn, making games “scratches all the same itches” as math: “At the end of a math problem, you have a paper and maybe you publish it, and the paper can be a building block for the edifice of mathematics, but to me that’s not so important. But working on a problem and having a game when you’re done? That’s pretty damn cool.”

In the summer of 2006, after a year at Texas A&M, Tarn went to his department head and, breaking into tears, quit. “It wasn’t easy,” Tarn recalls. “Being a mathematician was part of what I’d been doing for years. But it was easy in another sense, because I was so sick of it.” His plan, if it counts as one, was to move home and devote himself fully to Dwarf Fortress, which he’d been developing as a hobby. He figured he’d burn through his $15,000 savings and sort things out from there. To Tarn’s relief, Texas A&M offered to keep him on another year, paying him a $50,000 salary. “I woke up the morning after I gave notice, like, I can actually make this work.”

Tarn has been programming computers for as long as he can remember. “My earliest real memory is when my dad taught me how to use a ‘FOR loop’ in BASIC when I was 6, to make something go across the screen,” he says. His father, Dan, worked in wastewater treatment, writing software to crunch data and run sewage plants, and he furnished the house with the latest computers. Tarn coded little animations and, in fifth grade, wrote his first fantasy game with Zach.

Tarn’s grandmother, Elinor Ringland, who lives a short drive from Silverdale, says he was a restlessly curious child. “I remember Tarn taking my hair dryer and burning a hole into a chair cushion,” she told me. “It wasn’t mischievous; he was just inquisitive. We had to make sure he wouldn’t go into the medicine cabinet and start mixing potions.” (The brothers’ parents declined to be interviewed; “Calling them private is an understatement,” Zach explained.)

Despite Tarn’s adventurousness at home, he was withdrawn at school. “Occasionally I’d have a friend, and we’d talk or joke around or whatever, but I didn’t play sports or talk to people or have that experience,” he says. “I was a get-home-from-school, get-on-the-computer kind of kid.” In high school he made one close friend, Alan Ames, who still

corresponds sporadically with Tarn. “We’d spend weekends making video games, or these silly ‘Star Trek’ parodies with his dad’s video camera,” Ames, who is now an aerospace engineer, recalled. “He never cared about socializing.” He had to be pushed to join the math club.

Growing up, Tarn was enamored of Dungeons & Dragons and J.R.R. Tolkien, but he has never been a lockstep member of the geek culture so much as a wanderer on the fringes. He didn’t read superhero comics as a kid, and later, he never became obsessed with the “Game of Thrones” books, say, or with “Lost.” He graduated from D&D to the more obscure pen-and-paper game Cyberpunk 2020, and he and Zach would download indie computer games from early bulletin boards. They adored 1985’s Hack 1.0.3, which, with its randomly generated levels, elaborate mechanics and primitive graphics, helped to popularize a microgenre of fantasy games known as roguelikes, which in turn influenced Dwarf Fortress. “We liked that you could choke to death on your food or fall down a stairway and fall on something poisonous you were carrying and poison yourself,” Tarn said.

Tarn calls Zach his best friend. The brothers’ closeness is largely a function of frequent moves the family made for Dan Adams’s work: by the time Tarn was 18, the family had been uprooted from Washington to California to New Hampshire and back to Washington. The brothers were the only constants in each other’s lives besides their parents. “There’s been a couple times when I’ve gone off and done my own thing,” Zach says, “but I always come back to Tarn.”

In 2007, when Tarn left Texas and moved back to Washington, he lived at home before moving to Silverdale. “I wanted to be close to Zach,” he says, to collaborate more easily on the game and because Zach, who worked after graduation in an Amazon.com warehouse and as a stevedore, was “going through some stuff.” Zach, who alluded to past problems with alcohol (he no longer drinks), told me his marriage of two years had collapsed; neither brother wished to comment further. Zach’s background in ancient history often helps in devising the imagery that gives Dwarf Fortress its atmosphere. For example, goblins hang the skin of conquered foes from towers, a gnarly detail the brothers got from a book on the Assyrians that Zach recommended.

When the weather permits, the brothers take walks along a trail that wends over marshland past plastic picnic tables near State Route 3. They watch crime procedurals at their parents’ house and follow a one-meal-a-day rule (most local restaurants are open for just a few hours after Tarn wakes up), which can mean Quiznos, a turkey sandwich from the supermarket or root-beer popsicles and handfuls of dry Crispix (Tarn is lactose intolerant).

Tarn has been single since graduate school, when he dated a Cisco systems administrator for a short time. I asked him whether he wanted children. “I don’t mind the idea of never having kids,” he said. “I want to stay focused on the game, and if I had kids, I’d wind up paying attention to them instead.”

He expressed similar ambivalence about finding a romantic partner. “If I were in the supermarket one day and someone came on really strong and it was a mutual thing, I’d probably get pushed along, but it’s not something I’m anticipating,” he said. His interest has dwindled. “It’s easier not to care about that stuff when you’re in your 30s.”

Dwarf Fortress began life as “a simple mining game, like Dig Dug,” Tarn says. The brothers worked for about four years on an adventure title, rendered in 3-D graphics, called Slaves to Armok: God of Blood. Between battles, “you could zoom in on your character, and it’d tell you how curly his leg hairs were, and the melting and flash points of various materials,” Tarn said. “It was insane.”

The brothers started a company called Bay 12, nicknaming themselves Toady One (Tarn) and ThreeToe (Zach), posting games that could be downloaded free and building a fan base of about 300 people. Tarn found 3-D graphics agonizingly time-consuming to program, and Dwarf Fortress was conceived as an undemanding side project: its full title is Slaves to Armok: God of Blood Chapter II: Dwarf Fortress. Soon enough, Armok was scrapped and Dwarf Fortress took over, inheriting its predecessor’s fetish for complexity but none of its looks. It’s like a jalopy with a V-12 under the hood. “The processing power that Dwarf Fortress uses is on the same scale as modern engineering software for designing aerospace hardware,” says Ames, the engineer. “You have more complicated simulations in Dwarf Fortress than when you model the aerodynamics of a wing.”

Though it may seem ungainly at first, the game’s interface — rendered in what are known as extended ASCII characters — has a sparse elegance. As seasons change, trees, represented by various symbols, shift from green to yellow. Goblins’ eyes appear as red quotation marks; if you shoot out an eye with an arrow, the symbol becomes an apostrophe. On a message board, one fan likened the ASCII experience in Dwarf Fortress to the immersive pleasures of reading a book: “You can let your imagination fill in the gaps.”

The community that has arisen around Dwarf Fortress is remarkable. Fans maintain an extensive wiki, which remains the game’s best (and, effectively, only) instruction manual, and which even Tarn and Zach admit to consulting. There are fan-organized podcasts, and meet-ups where players converge on bars in homemade Dwarf Fortress shirts. On the Bay

12 forums, fans make suggestions for the game, and Tarn has implemented some of these. Last spring, a player calling himself Jong89 logged on with brain-bending news. Using “672 pumps, 2,000 logs, 8,500 mechanisms and thousands of other assorted bits and knobs like doors and rock blocks,” he’d built a crude but functioning computer within Dwarf Fortress.

Perhaps most fascinating are the stories that fans share online, recounting their dwarven travails in detailed and sometimes illustrated narratives. In a 2006 saga, called Boatmurdered, fans passed around a single fortress — one player would save a game, send the file to another player and so on, relay-race style — while documenting its colorful descent into oblivion. (After a vicious elephant attack: “A single untrained marksdwarf stands ready to defend the crossing, but I doubt he’ll be enough.”) Boatmurdered spread across gaming sites and made the front page of MetaFilter, a popular blog. “That did a lot to make people aware we existed,” Tarn says.

Shared projects like Boatmurdered mark the extent to which Tarn accommodates multiplayer participation. Massive multiplayer online games have been a lucrative industry trend for years, but Tarn disdains M.M.O.’s. To him, they replace the deep pleasures of imaginative game design with the novelty of community and are invariably oriented toward mass, lowest-common-denominator appeal. “Half the people I met were 12-year-olds yelling homophobic slurs,” he says.

At bottom, Dwarf Fortress mounts an argument about play. Many video games mimic the look and structure of films: there’s a story line, more or less fixed, that progresses only when you complete required tasks. This can make for gripping fun, but also the constrictive sense that you are a mouse in a tricked-out maze, chasing chunks of cheese. Tarn envisions Dwarf Fortress, by contrast, as an open-ended “story generator.” He and Zach grew up playing computer games with notebooks in hand, drawing their own renditions of the randomly generated creatures they encountered and logging their journeys in detail. Dwarf Fortress, which never unfolds the same way twice, takes that spirit of supple, fully engaged play to the extreme.

Tarn sees his work in stridently ethical terms. He calls games like Angry Birds or Bejeweled, which ensnare players in addictive loops of frustration and gratification under the pretense that skill is required to win, “abusive” — a common diagnosis among those who get hooked on the games, but a surprising one from a game designer, ostensibly charged with doing the hooking. “Many popular games tap into something in a person that is compulsive, like hoarding,” he said, “the need to make progress with points or collect things. You sit there saying yeah-yeah-yeah and then you wake up and say, What the hell was I doing? You can

call that kind of game fun, but only if you call compulsive gambling fun." He added: "I used to value the ability to turn the user into your slave. I don't anymore."

Tarn's scruples have certainly cost him fans, but he says he's doing fine. He has no plans to charge for the game; he subsists entirely on PayPal donations from players. "I like that it's free, and if you care about it, you pay," he says. In 2010, he earned $50,000. (He calls that year, in which he released a major update after a long delay, anomalous, and expects to make $30,000 in 2011.) His expenses are low — $860 a month in rent, $750 a month to Zach for his help and a few hundred dollars for utilities and food — and as long as Dwarf Fortress is self-sustaining, he's happy. He has refused a programming job at a major developer (he asked that I keep its name off the record) and turned down a $300,000 offer from another company to license the Dwarf Fortress name, fearing that the proposed sum wouldn't sufficiently offset the long-term donations drop that would likely result.

But the game's profile is slowly growing on Tarn's own terms. This week, the Museum of Modern Art will include Dwarf Fortress in a major design exhibition called "Talk to Me," which Paola Antonelli, senior curator of architecture and design at MoMA, describes as being about the "communication between people and objects." Antonelli selected several simulation games for display in the show but was struck by the combination of "beautiful aesthetics" and "mind-boggling" complexity in Dwarf Fortress. "When you are playing Dwarf Fortress, you are God, and the world is talking back to you," Antonelli said. Then she added, with a laugh, "And you are a very anal god."

Meanwhile, the smash success of the world-building game Minecraft, which is in many ways a more user-friendly version of Dwarf Fortress (and which has earned its Dwarf Fortress-loving creator millions of dollars), has only been good for Tarn, driving curious new players his way. Still, in the only moment I heard him speak with anything like bitterness, Tarn called Minecraft a "depressing distillation of our own stuff." He paused, adding more magnanimously that the game "has its own things going for it." The problem, he concluded, "isn't with Minecraft so much as it's with society."

On a bright spring day in Silverdale, Tarn and Zach spread heavy-stock paper across Tarn's living-room tables and opened a box of crayons. When players donate to Dwarf Fortress, they're offered a story written by Zach or a piece of crayon art drawn by Zach and colored by Tarn. These gifts contribute to an appealing sense of the game as handcrafted and personal. The brothers usually make the drawings at their grandmother's house, a monthly ritual in which she plays appraiser, deciding what a $5 donor will get and what a $100 donor will get.

They had 14 pending crayon requests, which ranged from carte blanche to comically precise. “One guy wants a picture of seven dwarves being chased by four zombie badger boars,” Tarn said, grinning. Hunched over the table with his tongue out, Zach would make a pencil outline, then Tarn would add color. “Is this the goblin’s shears or his armor?” Tarn asked at one point.

Tarn and Zach reached the last drawing: two dwarves standing beside a massive tower under a starry sky. The scene had been rendered and colored, and all that was left to do was for Tarn to write a caption, conceived by the donor, along the bottom. “Time for my chicken-scratch,” Tarn said. Using a black Uni-Ball, he carefully lettered the caption, which read, “We shall build a tower so tall, we can mine the very stars themselves!”

Tarn offered the pen to Zach. “Do you want to sign it?”

Jonah Weiner is the pop critic at Slate and a contributing editor at Rolling Stone. His last article for the magazine was about the artist Brock Enright and his Videogames Adventure Services.

Editor: Sheila Glaser (s.glaser-MagGroup@nytimes.com)