## WELCOME TO ARMAGEDDON! Julian Lucas

The beauty of sand, in other words, belonged to death.

— Kobo Abe, The Woman in the Dunes

When we say, "It's just a game," what we mean is that there are no consequences. Everything can be erased and done over, the pieces swept off the board and reset. Repetition invites impunity, and so players murder bystanders in Grand Theft Auto, crash airplanes in Flight Simulator, or make suicidal charges on the beaches of Normandy in Call of Duty. "We who are about to die reboot you," is the battle cry of the armchair gladiator. There is no reason to act with character in a world of experiment.

How far this seems from the truth of play, the pull of Thanatos expressed, for example, in the phrase "roll them bones." Or the underworld gravity of senet, one of the earliest recorded board games, often placed as a funerary talisman in ancient Egyptian tombs. Senet was not only about death but intended for the dead, who played against invisible opponents for the stake of their souls. Winning conferred a chance for eternal life in Aaru, the heavenly reed fields; the punishment for losing was oblivion.<sup>1</sup>

There are no resurrections in Armageddon MUD, a text-based role-playing game (RPG) set on the harsh desert planet Zalanthas. One of the Internet's oldest extant virtual worlds, it is an amoral fairytale about dune traders and bandits, assassins and sorcerer-kings, collaboratively written by thousands of players over a period of twenty-six years.<sup>2</sup> Created in 1991 by a thirteen-year-old coder named Dan Brumleve, the kernel of the story was cribbed from a Dungeons and Dragons campaign setting called "Dark Sun," source of the game's fantasy races (elves, dwarves, muls, halflings, half-giants), its *kaiju*-sized insects, and the foundational conceit of a once-verdant world desiccated by "defiling" magic.<sup>3</sup>

From there, the staff of "immortals" invented, raising from the wastes two autocratic city-states (blunt Allanak and subtle Tuluk, ruled by the Highlord Tektolnes and the Sun King Muk Utep, respectively); four great merchant clans (Stone Age multinationals with huge reptile-drawn caravans); dozens of noble houses, mercenary companies, gangs, and tribes; languages and accents; weapons, recipes, spells;

cultivars of imaginary fruit, each tagged with a taste and smell; and, at the very bottom of the world, a windtossed sea of silt upon which one might float, or drown.

The exact scope of the game is unknowable. Even if the notoriously secretive immortals were to release the map of "rooms" (delimited areas of play including everything from wind-swept ergs to cramped wagon cockpits, and numbering over thirty-thousand), the catalogue of items, and the roster of characters (still growing at a Malthusian clip), decades of events, residing only in the memories of players, would remain undisclosed. Because Armageddon MUD is not a static or deterministic fiction but a book written in sand—a constantly moving, sentient flux of story in silicate. If Percy Shelley had built an RPG, he might have come up with something like this singular game, a vast, unmerciful "Ozymandias Online."

• • •

In the phylogeny of gaming, the multiuser dungeon (MUD) is the gingko tree, the fern, the horseshoe crab an unlikely survivor that despite the Oculus Rifts and the Pokémon Gos still holds fast to its evolutionary niche. Ancestor of all online virtual worlds, MUDS are real-time interactive realities, entirely textual and accessible from the command-line via "telnet." <sup>4</sup> Their forms differ widely from game to game, but all share a general frame of organization—an ontology, epistemology, and ethics. "Being" in the MUD is divided into rooms, items, and mobiles, which are further divided into player characters (PCs) and non-player characters (NPCs). Knowledge is narrowly perspectival—look east, sniff shirt, taste ginka—and there are no walkthroughs, mini-maps, or god's-eye views. Action follows a grammar of possible commands (eat tuber but not eat sword) and a complex etiquette of playing conventions. All three come together in a representation that looks something like this:

> look

Amid the Dunes [NESW]

Smooth, undulating dunes of fine ochre sand extend in all directions, stretching as far as the eye can see. A leather waterskin is here.



42 JULIAN LUCAS

The corpse of the tall, muscular man is here.
> get waterskin
You pick up a leather waterskin. It is empty.

Armageddon MUD—a great-grandchild of the original MUD1 created by Roy Trubshaw in 1978—belongs to one of the first great waves of virtual-world proliferation. It began as a variant of Dikumud, a codebase created in 1990 at the University of Copenhagen that gave rise to the genre called "hack and slash." The main trunk of this genre's legacy is represented by graphical Massively Multiplayer Online Roleplaying Games (MMORPGS) like EverQuest and World of Warcraft, where the "H&S" ethos of slaying beasts, leveling up, and collecting cool equipment still thrives. But Armageddon MUD evolved in a different direction—not beyond words, but deeper within them.

Two years after it was founded, it became "roleplay intensive" (RPI), the first MUD to declare itself so, and that meant narrative rather than hack-and-slash competition was the central component of the experience.6 Characters required approval by application, with short biographies befitting the larger story, and all play was mandated to be "in-character," without reference to the out-of-character world. The Dikumud code was modified to facilitate complexity of expression; a system of negotiation and staff governance was created to ensure a coherent, immersive story; and a stark condition was imposed to solder the players to their new universe—"permanent death." It was a successful formula for a persistent virtual reality: more than forty thousand player-characters have lived and died since Armageddon launched, with a sum in-game time of over eight hundred and thirty-eight years.7

• • •

Armageddon Mud's Cartesian credo is, "I play, therefore I do not know"—which is to say that its vision of role-playing requires the suppression of knowledge and intention beyond one's character's ken. Player-characters, like jurors, are expected to act only on the basis of admissible evidence—that which comes directly from playing the game as that character. If you know, for example, that a conspiracy is underway in the city of Tuluk (whether from previous play as an involved character or an illicit tip from another player), your character must remain unaware. This form of sequestration is one facet of the in-character (IC) /

out-of-character (OOC) divide, a handy binary that is nothing less than the prime directive of Armageddon's immersive virtual world. Like the curtain in *The Wizard of Oz*, it separates the story's participants from its architects, even when these turn out to be the same people in different roles.

The MUD is structured as a simultaneous multi-dimensional novel, a feat enabled by a powerful and highly nuanced vocabulary of expressive tools. While the most essential command in a hack-and-slash MUD is *kill*; in Armageddon, it is *emote*, an action that exists in most MUDs but which on Zalanthas approaches Jamesian levels of syntactic sophistication. Simply put, it is a command that allows characters to describe an expressive action, which is then "echoed" to every other player in the room. *emote smiles, emote scoffs, emote draws a line in the sand*. But also, *emote Turning a page of ~cabinet*, @ furrows ^me brows and mumbles to &me., which would echo, "Turning a page of his issue of Cabinet magazine, the tall, muscular man furrows his brow and mumbles to himself."

The intricately punctuated syntax makes sure that every player-character sees the action in question from the proper perspective. &me will echo "yourself" to the character emoting, but "herself" to everyone else in the room. Other commands, like whisper or hemote ("hidden emote"—only someone watch-ing carefully will see), are only perceptible to certain individuals, while other commands, like think and feel, only echo to the player who enters them, staff observers, and the rare clair-voyant "mindbender." Each character has distinct vantage point, perceives a different set of details, and moves less according to any narrative planning than by their individualized relationship to an incompletely visible board.

Zalanthas, the "board" of Armageddon MUD, is defined by one major characteristic—it is a desert. This is not just a backdrop but the terrain of story, no more separable from the form of the game than is the drawing room from *Pride and Prejudice*. The hard-coded dangers of the Zalanthan wastes—sandstorms, giant insects, orc-like "gith" wielding obsidian swords—shape the narratives that characters end up living. Game mechanics (thought by some purists to interfere with the freedom of the imagination) encourage narratives with a material basis in the facts of the world, infusing role-play with a concreteness it would otherwise lack.9

Take water, a scarce resource in Zalanthas. On the level of code, it is represented by thirst. *You are thirsty*. You are very thirsty. You are parched. This companionable echo isn't simply inconvenient; without water, your character—no matter how well-written, no matter how integral—will die. So player-characters are forced to adopt one of a number of strategies: risk everything to seek water (or money for water) in the wilderness, deceive or steal from other characters, or align themselves with powerful clans that can provide, in exchange for obedience, an unlimited supply. These behaviors happen to be the very ones prescribed by the documentation describing Zalanthas, marked by autocratic monopoly, nomadic survivalism, and manipulative opportunism. Beginning with a superstructure, the game implements a (code)base to organically reproduce it.

The ideal behind this structure is a fully emergent narrative—a single, seamless world, internally coherent and without limits, shaped from player-character decisions and carefully concealed mechanics by an invisible hand. To some extent, this world already exists. Most of the stories that unfold every day in Zalanthas require nothing beyond the imaginative cooperation of two players—or even just one player, their own mind, and the code. If you want to mine obsidian in the quarry west of Allanak, all you have to do is buy a pickaxe from an NPC shopkeeper and go. Find a playercharacter companion for some extra narrative interest; emote setting up camp together; start a romantic relationship or develop a murderous grudge. No special assistance required. But there are positive and negative limits to what the code enables—actions that should be possible, but are not, as well as actions that should not be possible, but are. In either case, the gap is closed by "immortal intervention."

• • •

If the dungeon master of a traditional dice game is a monarch, the immortals of Armageddon are the government of a liberal state. <sup>10</sup> Responsible for guiding a large narrative economy, their mission is to promote the growth and stability of story, which they prefer to encourage through indirect means. These include shaping the code and culture of the Zalanthan environment, regulating the terms of role-play, "animating" NPCs ordinarily controlled by simple scripts, and overseeing the progress of plotlines on a global scale.

Immortals guide history by choosing players for "special roles"—nobles, templar-priests, powerful merchants, military personnel, and the like, who are loosely overseen by immortal-"animated" NPC superiors—and by moderating HRPTs (highly recommended role-playing times), large-scale events, including festivals, battles, catastrophes, and riots, that make a sizable impact on the game-world.<sup>11</sup> They also act for the silent majority of "virtual" Zalanthans, who are represented neither by players nor by scripted NPCs.<sup>12</sup> In a war, staff might be called upon to rewrite the rooms of a city after a general sets fire to its market quarter, or to rule on what portion of the virtual populace expires from hunger in a siege. At a bardic competition, immortals might act as the audience, improvising cheers and jeers from bystanders. No situation is too large or too small for their intercession.

Games are infamous for their invisible walls, boundaries where movement stops and a distant landscape reveals itself to be nothing more than wall-paper. These obstacles are a synecdoche for the larger limitations of the genre, which thrives on creating an illusory sense of completeness. 13 The immortals lift Zalanthas above this condition by acting (in a way that is only truly possible for text-based games) as "gods of the gaps," improvising the *terra incognita* beyond the world's edge.

No player-characters live in the remote village of Cenyr, thinly glossed by Armageddon's publicly available documentation. But when one of my characters arrived there after a risky journey through the Red Desert, the NPCs in the marketplace began to speak. I asked questions and learned an incredible wealth of information: the date of the town's foundation, the rituals of the local wind cult, and the qualities of Cenyri music—free use of syncopation, rudimentary phrasing, a diatonic scale with blue fourth and fifth notes. What I had thought to be a small collection of rooms, fewer than a dozen among more than thirty thousand, turned out to contain an encyclopedic wealth of background—secret lore that might have

Overleaf:

(~) Welcome to Armageddon! (~) (~) You may: (N) Create a new account (C) Connect to your account (V) Toggle ANSI/VT100 mode (B) Toggle 'brief' menus (D) Documentation menu (X) Exit Armageddon (?) Read menu options Read the documentation { | \ menu before creating your character, please.

Armageddon is OPEN. Choose thy fate:

You think:

"She's going to kill me."

A Small Room [E Quit Save]

This small, square room is constructed from a variety of different types of wood, giving the walls and ceiling a haphazard appearance. The floor is made of crude chunks of sandstone. A solid looking door takes up part of the eastern wall. A window looks out over the street to the south. A red jasper urn sits here.

A small, sun-patterned yellow rug lies here.

A rough hide sleeping mat lies beside the western wall, covered in a ragged blanket.

A simple grill, made of tile and blackened bone, sits here.

A black stone pickaxe sits here.

The sylphlike, streak-shorn woman is standing here.

The sylphlike, streak-shorn woman draws a glossy black bone dragon's pick. The sylphlike, streak-shorn woman draws a translucent, crystalline longknife. The sylphlike, streak-shorn woman says, in sirihish:

"C'mon.... tell me a story."

The sylphlike, streak-shorn woman turns her glossy black bone dragon's pick slowly in her hand.

```
Calmly, you say, in sirihish:
     "A few weeks ago, before I worked for Kurac..."
The sylphlike, streak-shorn woman rolls her eyes.
You say, in sirihish:
     "...I found a pouch of spice in the streets of Tuluk."
The sylphlike, streak-shorn woman says, in sirihish:
     "Ahh Tuluk. How you seem to revel in that shithole."
     "I thought I'd sell it in Luirs, but I forgot I had left it in my backpack.
Foolishly, I entered the city. Got arrested."
Snarling, you say, in sirihish:
     "I hate Tuluk."
The sylphlike, streak-shorn woman says, in sirihish:
     "Right."
     "When I was released, there was still some in my pack. I suppose it fell out or
     something."
The sylphlike, streak-shorn woman says to you, in sirihish:
     "You know, I think this is really an exercise in futility."
You say, in sirihish:
     "Just wait."
You say, in sirihish:
     "So I brought it to my apartment."
The sylphlike, streak-shorn woman says to you, in sirihish:
     "You'll lie whenever it suits you, with no apparent desire to do right by this
     group."
You shout in sirihish:
     "It's the truth!"
You shout in sirihish:
     "I swear, this is the truth!"
The sylphlike, streak-shorn woman says to you, in sirihish:
     "Alright, lay it out there."
The sylphlike, streak-shorn woman flips her glossy black bone dragon's pick in her
```

hand, pointing it down.

46 JULIAN LUCAS

been written by the immortals, lived out by players in prior years and recorded, or written on the spot by a staff member for me. Part of Armageddon's seeming limitlessness is the impossibility of telling the difference between the three.

Armageddon's immortals imbue Zalanthas with a marvelous plasticity, an alternative to "procedural generation" that is creative and human rather than algorithmic. Their primary role, however, is not revealing the world to players, but enabling them to create it, in both its largest and smallest aspects. Of countless objects in the Armageddon universe, some few thousand are "mastercrafts," designed by characters who after attaining a certain level of skill (and, of course, roleplaying that attainment, emoting each painstaking step of whittling, flint knapping, chiseling, or leather-curing) are allowed to make their permanent mark on the game.14 In three years of playing, I created one: a carved ivory pipe. Like most special items, it exists primarily as a simple string, difficult to tell from any other equipment in a busy shop's inventory or the description of a room. But a further command, look pipe, reveals it at a deeper level of granularity:

> A beautifully polished ivory horn has been carved smoothly into a slender pipe with a wide, deep bowl. Just over a cord in length, it is long and thin from the mouthpiece, curving gently downwards and growing thicker towards the base. At bottom, the ivory widens suddenly and curves up into a wide, deep bowl. Etched across the shaft is a rough and impressionistic map of Zalanthas, from Gol Krathu to Vrun Driath, backgrounded by a repeating pattern of dunes. Subtle and detailed carvings of caravans, gith, argosies, and other figures are set against the material, as well as square, fingernail-sized etchings of all the major settlements of the Known World. At the very middle of the pipestem sits a small image of Luir's Outpost, complete with horn-crested walls. A dark, nearly black sapphire, tumbled to a rough polish, is set above the gates. A leather strap allows the pipe to be worn around the neck.

Seti, my merchant-carver, carried this pipe with

him for months. For a while it was his signature accessory, the peacock feather he used to accentuate his presence and a distillation of the world as he knew it. But ultimately I gave it away, not knowing where it would end up—my errant contribution to the mosaic of Zalanthas.

• • •

With luck, daring, and imagination, characters in Armageddon MUD can redraw the world's map. The building and conquest of cities, the discovery of new regions, the extinction of species and clans: all have been effected by the careful planning and dramatic missteps of players, some of whom stay alive for years. Playing the long game requires fidelity (since only one character is permitted at a time), but also spontaneity, a playful force of intention that never loses its sense of stakes. "Permadeath"—the impossibility of returning to a character once he or she has died—is the center of this narrative gravity, the mechanism that elevates Armageddon MUD from glorified digital Dungeons and Dragons to the level of art.

Imagine the draft of a novella burning up in your hands, a magnet denaturing your hard drive, the sudden and inexplicable end of a friendship. That is how players feel when they lose their characters—a hurt that at its worst spills over into out-of-character resentments but at best is transmuted into grief-stricken sublimity, the samurai's savor for an honorable end.

What it comes down to in the moment of danger is the simultaneous reconciliation of three perspectives. The player is at once a gamer, who must assess probabilities, marshal reflexes, master anxieties, and sift through very swiftly scrolling text; a character, who might be courageous or cowardly, empathic or coldly pragmatic; and a writer, who for roleplaying to succeed must always supersede the other two. Sometimes, this means accepting death, a demise that is more perfect than survival. Playing Armageddon MUD, like studying philosophy, is learning how to die.

A lonesome hunter I played befriended a stranger in the scrublands. We chased game together until we were thirsty, and the man offered to show the way to a secret spring. When we arrived at where it should have been, he improvised a fairytale about searching for water, which developed an edge of menace as it unwound. It was a Cain and Abel parable, and I

realized midway that, as in 1001 Nights, its ending would coincide with my own. It would have been easy to escape, but I stayed put and listened, never quite sure whether it was I or my doomed hunter who was too enamored with the tale to arrest it.

Other deaths were a surprise. The rotund, plump-lipped man, an unsavory spice merchant, was killed for smuggling company goods to a fence in the Labyrinth, an Allanaki slum. His superiors threw a banquet to celebrate the syndicate's profits, and at its conclusion, my character was presented with a key to a lavish new suite of apartments—the reward for his good work. There, his supervisor gutted him with a translucent, crystalline longknife. My body, I discovered months later, was dumped in the Sea of Eternal Dust—Armageddon MUD's answer to the New Jersey Pine Barrens.

No matter how your character expires, whether of thirst in a cave or a spear wound in the arena, the server gives notice with a single sentence: "Welcome to Armageddon!" Immediately the connection is severed. Dominated by the huge ASCII head of a mantis, the main menu descends like a curtain and you are unceremoniously returned to Earth. "Welcome to Armageddon!"—the moment of ejection confirms the game's reality, because it is not the story that has ended but only your participation in it. Back in Zalanthas, another player is already plundering your corpse.

. . .

Computers are often accused of disenchanting reality, of diminishing that salutary darkness necessary to discovery, creativity, even moral courage. Algorithms, according to the common wisdom, prevent us from encountering strangeness; safe within the "walled gardens" of our chosen platforms, guided by software to exhaustively vetted destinations, we achieve a kind of pyrrhic victory over the unknown. Art suffers, its aura diminished by every new mediation: screens that wash out particular hues of ink and paint, social networks that grind our individual preferences into a mulch of profitable groupthink; countless data-driven imagination-inhibiting overlays filming the space between us and messy, mysterious, intuitive "life."

But there are mysteries that properly belong to digital art, among them the special blend of choice and chance, compulsory ignorance and providential discovery, that is only possible in games. No medium is better suited to marking the limits of our knowledge, the contingent nature of events, the artifice and fragility of creation—because they are not texts but living environments, landscapes across which entities migrate and transform. Which is perhaps why so many iconic representatives of the genre take place on war-torn frontiers, deep in abandoned space stations, just after the apocalypse—in short, everywhere that new worlds rise from catastrophe's detritus. Playing becomes a matter of deciphering remains, a poetics and hermeneutics of the artifact.

My last real character in Zalanthas was a traveling bard named Adjo Irofel. The virtual expression (and testing ground) of my desire to become a writer, I pieced him together from the personae of my adolescent reading. He was a Malian griot from the Epic of Sundiata, a poète maudit like Baudelaire or Rimbaud, a Renaissance courtier in the mold of Baltasar Graciàn's The Art of Worldly Wisdom. And, of course, he was me as I dreamed on the cusp of adulthood of becoming: erudite, well-traveled, wise, eccentric, loved. He played the mandolin and sang or recited lyrics, which I composed in Notepad with the assistance of my English teacher's handouts on prosody and www. rhymezone.com. The songs were about Zalanthas, its hidden histories and secret lore—and, toward the end, its nature: a metaphysical inquiry for Adjo, but an aesthetic one for me. More than anything, I was interested in the emergence and ephemerality of Armageddon's narrative, the way characters' actions persisted in the world even when unseen.

One afternoon, Adjo's noble benefactor Lord Raleris sat down beside him at a tavern and began smoking *a carved ivory pipe*. It had been more than two years since I'd seen it: the one object in the game's inventory of more than twenty-five thousand that I had designed. Raleris said that he had found it among the trophies of a wild mantis, slain after a killing spree near the city that had lasted for days. He speculated that the pipe must have belonged to one of the beast's victims, and Adjo, ignorant of this brush with a previous incarnation, joined him in wondering about its origin and make.<sup>16</sup>

A garden of forking paths connected Adjo to the object's creation—an untraceable sequence of human and algorithmic decisions that extended over two years. And, though I no longer play Armageddon, it comforts me to think that *a carved ivory pipe* is still

at large. Figuring, somehow, in the grand story of Zalanthas, of whose many authors I only ever spoke ("out of character") to a few. A married couple from Virginia, who played Bonnie and Clyde–style roles; a teenage Christian rocker from Ohio, whose characters were tormented by the temptation of evil; a graduate student whose personae were adapted from Balzac's *Comèdie humaine*. The rest remain behind the masks of their characters, innominate ghosts in the server's folkloric machine, giving life to those corners of the internet where the MUD—long thought to be permanently defunct—enjoys a flourishing obsolescence.

- 1 See Alex De Voogt, Walter Crist, and Anne-Elizabeth Dunn-Vaturi, eds., Ancient Egyptians at Play: Board Games Across Borders (London: Bloomsbury UK, 2016), p. 55.
- 2 Top Mud Sites lists 1,929 MUDs as of June 2017, several dozen of which predate Armageddon by one, two, or three years. But with a few exceptions, most of them are small and nearly defunct. Armageddon is the oldest role-playing intensive MUD in existence.
- 3 No single person "created" Armageddon MUD. Brumleve was the original coder, but generations of builders and players are responsible for the game's present shape. One of the more famous among them is the writer Cat Rambo, known to Armageddon MUD as Sanvean. She is now president of Science Fiction and Fantasy Writers of America (SFWA), a writers' guild that also gives out the annual Nebula Award.
- 4 You can play Armageddon MUD by clicking "Play!" at <armageddonmud.org> or by typing "telnet ginka.armageddon.org 4050" into the command line of any Internet-connected computer. Ginka, the sweet and spiky Zalanthan fruit for which the server is named, recalls the apple of Edenbeginning to play is a kind of Fall.
- 5 Armageddon MUD is based on the code of DikuMUD, which was derived from AberMUD, which was inspired by MUD1. See Richard A. Bartle's Designing Virtual Worlds (Indianapolis, IN: New Riders, 2004) for a detailed

- history of the genre.
- 6 Dan Brumleve credits "brutal enforcement of the role-playing standards," as well as the concealment of the game's coded mechanics, for Armageddon MUD's effective evolution into a world of story.
- **7** Statistics provided by staff administrator Nathvaan, forum message to author, 18 February 2017.
- 8 The think command, introduced in 1999, is one of Armageddon MUD's most distinctive features. See Cat Rambo, "I Think, Therefore I Role-play," Imaginary Realities, vol. 3, no. 1 (January 2000); available at <imaginary-realities.disinterest.org/volume3/issue1/i\_think.
- 9 "D&D is a fantasy world governed by numbers. Numbers add the flavor of reality to fantasy," writes Michael Clune in his memoir Gamelife (New York: Farrar, Straus & Giroux, 2015), p. 30. Armageddon MUD heightens this reality effect by concealing its mechanics—the server quietly handles the character-sheets and dice.
- 10 The immortals are volunteers, selected from among players who submit applications. They are divided into builders, who design objects and regions; storytellers, who facilitate narratives; highlords and overlords, who oversee Zalanthas at the global scale; and coders.
- 11 As with any government, the immortals have their critics. Narrative libertarians object to their behind-the-scenes orchestration

- of the game, and resent their exclusive right to violate the OOC/IC divide-an exception quite like the state's monopoly on violence in political theory. Staff members know who plays whom, the hidden mechanics of the code, the secrets of various plots-and yet still keep mortal avatars of their own. Responding to the perceived unfairness of this, dissident Armageddon players have set up online forums where maps, craft recipes, spell formulae, plot secrets, and other "sensitive IC information" is freely shared. In turn, the staff persecutes these leakers, banning their accounts when they can be identified and urging players to stay away from their websites. Acting, one might say, in the interest of "narrative security," their goal is to preserve the mystery-and the reality-of Zalanthas.
- 12 The vast majority of Zalanthans are neither player-characters nor coded non-player-characters but rather virtual non-player-characters (VNPCs)—an implied population that has no coded existence (beyond the description-paragraphs of some rooms) but must be taken into account.
- 13 There are workarounds, like the procedural scenery generation that powers the infinite universe of No Man's Sky, or the widespread practice of facilitating player modifications, but both of these diminish the sense of reality. The former is inevitably repetitive (the diversity of features in automatically generated scenery is algorithmic and superficial),

- while the latter destroys the sense of exploration (it isn't quite another world if you've created it yourself).
- 14 Armageddon players have been known to study real jewelers, leatherworkers, and carvers on YouTube in order to approximate their processes in-game. When this artisanal roleplaying is done well enough, admiring staff members, grateful for the accentuated realism, will sometimes give the character in question a skill bump, bringing them closer to the coveted opportunity to mastercraft
- 15 The mantis, a humansized insect, is one of the leading causes of death in Zalanthas—and, in the game's out-of-character community, a synecdoche for it. Death is referred to as "the mantis-head" in the game's official forums, and is also the de facto logo of Armageddon MUD.
- 16 The fourth rule of Armageddon MUD is as follows: "Your living character may not have any connection to your dead or stored characters. This includes relationships, looting your dead character's corpse, or possessing intimate knowledge that your past character had. We will reject an application that attempts to establish a link between the applying character and a dead character. We will store your character if we find, after approval, that you are establishing a connection to your dead characters."