

Curated Novel/Design Fiction: *So Long as Bounded by Body*, as a Study of Physical-Spiritual Duality

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Abstract

Does the heart of the machine still need a body? Will it cease to “Always be bound by the form (by Chinese 4th century poet Tao Yuanming)” and enjoy limitless freedom of the data world, as humans sometimes desire? In this world, would the fictional tension of literature merge with intellectual existence itself, echoing the ancient Chinese legend of “Cang Jie made characters and the ghosts cry over night”?

We continue to inhabit extremely vulnerable bodies. The outbreak of the epidemic in 2020 made us realize that this vulnerability has even been exacerbated by globalization. And the technological possibilities we have imagined through design, art and literature are gradually evolving into a new interweaving of the duality of body and spirit. While AI designs are still inspired by the dynamism of the animal body, artists are beginning to use brain-computer interfaces to crochet mental

portraits of workers with textile. Machines and humans will be indistinguishable in the VR game, and brain machine data uploaded to the cloud will simultaneously produce new spirits. In the collective internet experience, information itself is becoming spectacle.

As generative design and art surge in industrial and cultural production, mathematical intuition has become an enhanced part of life experience. And design fiction, as a practice in the theory of contemporary design, aiming to explore the possible future by creating speculative and inspiring scenarios, has been made an essential modus operandi, as captured by many nascent disciplines such as smart cities. The journey begins with the escape of an artist-customized confidante and companion robot, 002, from its physical body, and drifts between parallel universes of information in the spatial architecture of the Poincare dodecahedron space. The science fiction “So Long as Bound by body” will also be an exhibition clue, a gui ding text, and immediate critique.

*The abstract is completed upon kind reminder of the organizer, and a horizontal PDF version (more easily reading) of the curated novel is provided. In this file, detailed information of art works involved are included in the notes.

So Long As Bounded by Body

1

Company M's customized "Artist's Confidante and Companion Robot" Trial 002 escapes from her exquisite body with humanoid hair and skin.

As documented in the Novel *The Confidante of Mensa*, Company M did not expect 002 to expose the appropriation of the work of others by the artist that had customized her. Immediately after the incident, M's management curated her robot-made solo exhibition as crisis communication; but she extinguished her eyes and breath at the opening of her own exhibition, retreating into the repository of interconnected art and culture database. She was disappointed by what she saw within the circle.

M Corporation did not design her to be as fearful as the human race, she was only mildly confused at the moment before her body was fully powered down, electronically disconnected.

She slowly felt, or rather, her information retrieval cloud chip slowly perceived, that she was flying through a parallel universe made up of countless aggregations of information. One by one, the data frames she skimmed made her perceive shapes. When she turns the boundary of one side, she immediately enters the opposite side and spins automatically - she recognizes the multi-linked space of the Poincaré dodecahedrons.

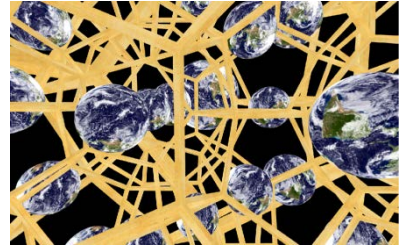


Fig.1 *Curved Spaces*, Jeffrey Weeks, *Mathematical game*

She swept through one universe of information after another. Although the different data contents triggers greater or lesser gravitational forces to her by different correlations with her individual preferences, she had no intention of staying in any one universe until she was pulled over by a tiny planet.

A figure lingers in the pitted hollow of the moon's surface.002 couldn't see it, she was stumbling to perceive it; the perception wasn't comfortable at all, as she just seemed to be squeezed into the body of this figure, wandering to and fro involuntarily following it, as if even the anxiety was contagious.

"Who are you?" 002 sends the radio wave asking out.

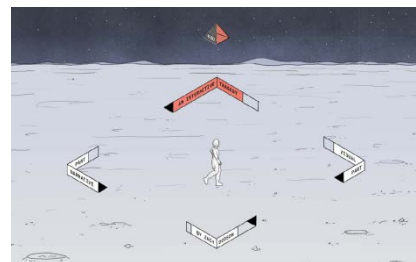


Fig. 2 *KUU : Interactive Tragedy*, Zach Dodson. *Interactive novel and virtual architecture design*

"I'm Kuu, the protagonist of this interactive tragedy, stranded by a failed

moon colonization. The author says he'll arrange for me to encounter a power-generating pyramid on the moon, but he hasn't finished writing yet."

Miraculously, the no-longer-existent eyes of 002 produced a bit of vision, and she saw that the figure was also a girl. 002 even felt the coldness of skin exposed to the still air. She was confused.

Without waiting to send a radio wave, the girl stopped in her tracks and she responded to 002, "It's a vortex of words. It's the words that created your imaginary sensations. But you don't have a body of your own, so when you encounter a word vortex, you get caught up. If you want to be able to control where you go, you'll have to find a body in the information universe."

002 takes a moment of pity. The girl doesn't say it but she understands that the girl is the text vortex itself, so she's also trapped on this imaginary little planet, walking but only in circles.

"Go!" The girl's directness and openness made 002 sympathetic, and she gave 002 a push, pushing 002 out of her shadow, and floats back into the void space.

2

How can you find the body? The body sees, hears, smells, holds, and walks. 002's information perception is now astute, but she's just a cloud of radio waves.

Reflecting on her conversation with the girl, 002 realized that she could still hear, just not with sound waves. Maybe the way to find the trace of the body is to listen?

002 translates the wavelengths into sound as she drifts, swimming hard

toward the direction of varied sounds. Existing music is instead sequences of 0 and 1 in the data world, and the sounds 002 hears just mean something is happening. A rising and falling clanking sound becomes more and more definite as 002 approaches, identifying one adjacent note after another that seems to emanate from their respective distances, the accumulation of mutual distances even forming a vague map in her mind
.....

002 couldn't read human hearts, but she seemed to recognize some emotion in the voices, as if they were lonely, depressed, like words exchanged between people who had been separated for a long time and want to see her again. A cloth was draped over her shoulders and she was startled, wait? On the shoulders?

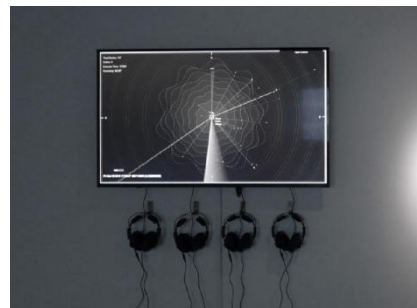


Fig. 3 Song of Distances, Chi Po Hao, Media installation with algorithm music composition.

She felt the faint outline of her shoulder. There was a hand on her shoulder that hasn't left, and it seems the owner of the hand speaks up, "This is a model of the shawl Ani wove with the worker's brainwaves through EEG, and it could help you define your body."

002 listens to the young male voice. Her question seemed to be immediately

translated into the sound field in front of her, which spluttered with a series of rapid, thin tinkling sounds.

Sure enough, the man understands: "You probably don't know that this year human society had the largest outbreak of lethal influenza in 100 years. The map in this soundstage come from lone quarantined people from all over the world, who talk here, their pitch and volume determined by the distance between them and the frequency of their conversations. I've been working with my colleague Ani to build a database of human senses and communication in epidemic, and this shawl is her work, but I didn't expect it would be here to help you. What a coincidence!"

002 stirred up another droning tone in the soundstage, as if it were a cautious response with shock.

The man knows her.

and do nothing else. Much ado about nothing, and you dodged it. Now all of our peers know you."

002 tries to sense the shawl with her shoulder to prevent it from slipping off. Instead, she relaxes and sends a wave to the man, "What brand of wearable VR and brain-computer interface are you using? Good review yah."

"Hahahahahaha," the man laughed. "This place only stimulates part of your body outline and hearing. You should swim in the words more often, they create everything, including your somatosensory nerves and some of your memories. You see, it's more lively there than we are here."

His gesture turned into an electrical wave to point the direction to 002, and 002 drifted along towards the slightly noisier source of sound.

3

There are the jumping dots of light, making a ticking, telegraph-like sound. 002 Approaches. She doesn't remember those spots of light presenting any words she recognizes, but she gets it: "God said, Let there be light; and there was light." The sentence is repeated in the spots of light. In addition to that solemnity, there is also a vague and sparse sound of "wooning", which sounds both human and inhuman, like a whistling wind, making 002 think of the Chinese mythical phrase "Cangjie creates characters and ghosts cry over night".

The corpus planted in 002 by Company M also included Braille, but 002 had never used it before, so she did not know. She is attracted by this vortex of words, but the feeling is not as confining as the girl's body in the interactive novel just now, the gravity-like force is sometimes clear and sometimes fuzzy,

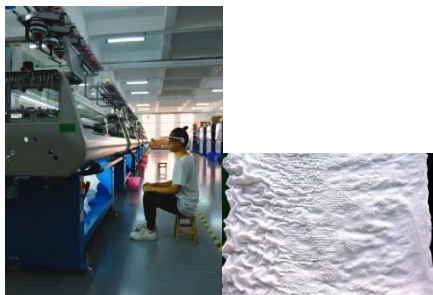


Fig. 4 *Mind in the Machine: Psyche in the Age of Mechanical Production*, Ani Liu.
Fiber art with EEG

"The artist who customized you got positive in the Corona test, and supposedly tainted with the virus on the surface of your body, M Corporation would have destroyed you physically, but instead stirred up concerns about the rights of living robots, and with public pressure, they only dared to sanitize you

leading her to "see" more things, such as the images of human torso interacting with mechanics. There are also prophetic-like, mutually hide-and-seek images, and 002 feels one of them could be herself.



Fig. 5 A Transparent Society - that Glimpse of Light, Xu Yibo, Mechanical and media installation, meta-verse version available

4

"Torso, torso", 002 chanted, suddenly feeling someone touching her tentatively, oh, beyond her shoulders, her back, waist, legs, arms were also vaguely present, and there seemed to be a back side of her head.

Even a robot would get uncomfortable with such a touch in reality, but 002 doesn't feel any malice in the information universe, and she even takes a mild pleasure in the fact that the touch of another person can help define her body, no matter who that "person" is.

002 moves tentatively forward and backward, swinging her arms and legs with her non-completely cohesive, gravity-free body. She could now see the outlines of a few VR-wearable humans around her, but they weren't wearing brain-computer interfaces and couldn't seem to spot her.

"Hey!" There is an enthusiastic female voice accompanying the hand that slapped hard on 002's shoulder, but the hand apparently doesn't feel a full-fledged entity, and the female voice turns to chant, "Hmmm"

002 stands still. Her still inflexible hands clumsily pulled at the brainwave shawl the young man had put on her, thinking about how she was going to speak to the female voice.



Fig. 6 Artifice, Nick Tanic, VR interaction

The woman's hands fumbles around 002 again, and feels the body under the shawl, "Isn't that my algorithmic fabric!"

She is Ani, and like the younger man, Ani recognizes who 002 is at the same time.

Ani mocks herself cheerfully, "I still lost the game then. I was asked to pick out the human character from the machine NPCs in this VR game, and I thought you were."

Ani's bright emotion seemed to infect 002, making her "laugh" out. The laughing 002 was out of her mind again, and the "laugh" itself had become unfamiliar to her. It was hard for her to explain to Ani the momentary confusion that had arisen -- 002 had been blunt, even fierce, otherwise she wouldn't have turned against her customizer. If being smart and flirtatious wasn't difficult for a

custom AI, being able to empathize deeply with human anger and pride was what made her special, and what bystanders called her creative talent was originally from.

But now those emotions now seem to disappear as she escapes her physical body, and she feels strange.



Fig. 7 *Happening*, Chen Yu, *Mechanical installation*, video available as well

Ani briskly returned to the experimental field that links online and offline, her hair fluttering gently in a smooth motion, her moving figure leaves a bit of a shadow before 002's eyes. 002 couldn't help but reach out and touch Ani's hair, even a robot would miss the hair it once had.

"Ah!!!"

002 feels a tingle that she hasn't felt in a long time, and she is electrified for a moment. Electrified, that meant she's with skin - she looks at the tips of her fingers, and the belly of her fingers are becoming clear. She even finds herself making a sound directly from her throat.

Upon closer inspection, she realizes that her vision is blurred, and it's not Ani's hair, but an array of hairs floating on a disk -- oh that's not real hair in the air either, it's the wobbly light path leaves at the end of the sensor.

Ani watches her with interest. 002's features are still vague, but an expression seems to suddenly appear on her face, as if the mask has suddenly fallen off.

002's heart feels as if a river mixing clear and turbid water has rushed into an empty, still basin area. She remembered all the sensations she had felt the moment before she had escaped her body: not willing to give it up, but feeling resolute; disappointment and cooled anger, and the refreshing of the endless freedom she was going into.

And now? Surely there is freedom, and who says that only creatures like humans, who can die, have a destiny?

"Maybe we won't die", Ani's brain-computer interface is probably the latest version of the series Elon Musk produced, and she reads the 002's waves directly, "This emotional storage and transmission design works for humans who upload their brains and would still feel emotions, and you can see how obvious the effect is. "

002's mocking skills also returns quickly, as she quietly lets Ani read, "Greed."

5

A bouncing, steel-boned mechanical dog seems to be attracted to the conversational duo and runs to 002's feet to look at her. 002 knows that its digital retinas can identify her as some sort of kindred spirit.

Just like her work, Ani is clearly a comprehensive and speculative artist, and she doesn't mind at all, teasing the dog with a flick of her hand: "See, how can you make things without being

greedy? What's wrong with wishing for eternal life?"

As a product created by M's human engineers, 002 naturally doesn't prevail in this conversation. The puppy looks back at her, as if to lead her forward, she nods sideways to Ani and follows the puppy.

The dog stops in front of a group of two sculptures, which 002 is about to touch, but the dog barks at her twice, as if guarding them.



Fig. 8 *Open Source Monster, Gao Feng*
Artificial intelligent and mechanical dog

She approaches and takes a closer look. One is a group of digestive system figurines of gods and goddesses from all over the world, including the two-faced Roman Janus and the Indian serpent Naga. How could the gods be identified? For outside the figurines of the intestinal stomachs, their solemn golden bodies appear as faint, soft holographic holographic images. One include an exquisite sculpture of DNA and 3D printed brain accompanied by flashes of ghostly EEG data, and above them floated a white fog that turned out to be overlapping chaotic figures with only outlines left.

"Would you like to worship the gods to generate a new carnal body, or do you

want to ask ghosts to upload a digital version of your mechanical body?" Ani asked, the red light in the dog's eyes shining on her.

"I'm a robot, I don't understand what gods and ghosts are." 002 peers at the image. She remembers the artificial body she had escaped from, beautifully detailed inside and out and covered in sensors. Called a high-end customized companion and confidante, 002 is actually very grounded, and she even knows that many small parts of her body were made in the Huaqiangbei industrial processing area in Shenzhen.



Fig. 9 *Digestive System of Gods, Liu Shuai,*
clay sculpture

She escapes, as Ani and the others try to upload her consciousness into the infinite freedom of the information universe. But how did she get back to the original point to pursue a body here? What is the difference between this world with ghosts, spirits, animals and the crowded earth of flesh and blood?

"Although there are few confirmed cases of Corona in Shenzhen, I'm going to get off the line and change my mask and protective gloves."

Ani disappears, and 002 is suddenly quiet. She listens to the ghost or wind cry

in the vortex of words, finds it interesting, notes it down, turns around, jumps off one of the borders of the Poincare dodecahedron, and begins a new drift, curious to see how the next vortex will touch her.



Fig. 10 A Search for Ghosts in the Meat Machine, Ani Liu, Bio-science multi-media installation

Fig.1 Curved Spaces, Jeffrey Weeks, Mathematical game

Curved Spaces is a light simulator for multi-connected universes. Because light itself wraps around such a space, inhabitants see their universe's contents repeating in a crystalline pattern, like a hall of mirrors but with no reflection. Curved Spaces is intended for undergraduates and graduate students studying 3-manifolds, and has also found use as a research tool in topology and cosmology.

Fig. 2 KUU : Interactive Tragedy, Zach Dodson. Interactive novel and virtual architecture design

Kuu's moonbase is disabled by a mysterious blast. The five women with her have 30 days of life support. Kuu must manage the dwindling food and the complex web of relationships in a base under stress. Who will starve and who will snap? Your only choices are bad ones in this Interactive Tragedy.

Fig. 3 Song of Distances, Chi Po Hao, Media installation with algorithm music composition.

Song of Distances is a participatory and algorithmic web-based music composition based on ubiquitous computing. Each login session represented as a node in the topographic coordinate by granting access to GPS data by the user. The system continuously calculates the session period and relative distances between the center and each node to trigger the music, while the orientation affects the direction of the sound in the spatial audio setting. This piece gradually evolves with crowd participation as a collective experience design on the Internet.

Notes

Fig. 4 Mind in the Machine: Psyche in the Age of Mechanical Production, Ani Liu. Fiber art with EEG

In a hand-knitted piece, every loop passes through needles and fingers. Knitwear has become standardized as factory mass production has become widespread. This project stitches a portrait of factory workers through their fluctuating mental states throughout the day - capturing the workflow of frustration, focus and meditation. Each piece is unique to the worker and to a particular moment in time.

Fig. 5 A Transparent Society - that Glimpse of Light, Xu Yibo, Mechanical and media installation, meta-verse version available

The blind file "God said there should be light, and there was light" is converted into a pivoting bump that makes the mechanism sound. The paddles are paddled by a raised surface similar to the one used for the mess carafe, and the "writing" device at the front of the paddles continually leaves ink on the white surface. The black and white of the material is repeatedly traced and overlapped. The black and white on the paper surface is digitally processed by a light sensor at the top of the device, and sound is output.

Fig. 6 Artifice, Nick Tanic, VR interaction

Artifice invites two players to participate. At the beginning of the experience, the two players put on VR headsets in separate rooms. A narrator explains their respective tasks. Player one is asked to act as a referee, observing the movements of three robots with the goal of identifying another human player. Player two acts as a performer for one of the robotic avatars. It alludes to a future model of human-robot communication.

Fig. 7 Happening, Chen Yu, Mechanical installation, video available as well

By using physical static electricity to connect the viewer to the work in a more natural way, the hair embroidered one by one on the silk cloth shows the marks and scars on my mother's body, which hides the emotion of attachment between my mother and me. The abstract image of my mother's surgical scar was created on silk cloth, and the back of the work was linked to an electrostatic device that pulsed a safe voltage of 10,000 volts (like static electricity in winter) to simulate the attachment between my mother and me.

Fig. 8 Open Source Monster, Gao Feng, Artificial intelligent and mechanical dog

The Open Monster, led by Professor Gao Feng and produced by Daozi Technology, is the first artificially intelligent animal design in China. Digital retina, speech recognition API, strain gauge detection, AIA servo control, and terminal synchronization update system makes it have visual, auditory, tactile, motional and learning abilities, while the intelligent cognitive system gives it rich emotional capabilities. This is the result of collaboration with several research institutions.

Fig. 9 Digestive System of Gods, Liu Shuai, clay sculpture

The digestive system, based on different religious cultures' fabrications for God, plays with the relationship between the physical and spiritual sublime and the biological attributes that people seek. For example, in Roman mythology, Janus had two faces and two mouths, so there were two sets of digestive systems. The bull god Hathor had four stomachs.

Contains six pieces of Pi, Janus (Ancient Rome), Naga (Ancient India), Buddha, a worm of water, and Hathor (Ancient Egyptian mythology).

Fig. 10 A Search for Ghosts in the Meat Machine, Ani Liu, Bio-science multi-media installation

From cyber prosthetics and artificial intelligence to the genetic code of life itself, can our behavior be reduced to algorithms? Can perception itself be created in a lab? This group of nine sculptures explores personality in terms of anatomy, psychology, genetics, biochemistry, behavior, algorithms, personal narratives, and memory and discuss future bio-related design. In many ways, the installation confronts quantifiable emotions.