Translating Desire: A Lecture Performance about Space Sexology, Gender Identity, and Music

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Space sexology, gender identity, and music: It sounds exciting, but what is the connection? It is the human body as a musical source and interface for tactile stimulation and sexual arousal. Art, science, and technology are creating new forms of intimacy and sensory perception. An innovative piece of clothing called the Pleasure Spacesuit makes it possible. It transforms the wearer into a musical instrument driven by devotion and desire for oneself, human beings, and cosmic entities. Moreover, the lecture performance *Translating Desire* raises questions about the intertwining of science fiction, space travel, and gender identity. Despite their male biology, the performer expresses their lifelong desire to become Cassiopeia, a Multi-Gender Science Spacegirl. Their mission is to promote the Spacegirl Science Academy project *Cosmic Caresse: The Future of Intimacy in Space*. For them, performative experiments are a medium with which they can let their imagination run wild and reveal their hidden fantasies. Cassiopeia uses medical sensors and computation to translate their sexual arousal into art and music. The tactile stimulators of their Pleasure Suit are controlled by music played by the performer or a musician, as well as data generated by human physiology, environmental sensors, and cosmic phenomena.

Rudolf Arnold
SEADS Collective
rudolf.arnold@freefm.de

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Identity and Motivation

“I’m Cassiopeia, an independent multigender science spacegirl.” This is the unexpected answer when I am asked about my sexual orientation and gender identity. It marks the current state of my fragmented development of desire and dedication, from my childhood fascination for female astronauts in shiny spacesuits to adolescent fantasies about scientific experiments in the sex laboratories of Masters & Johnson (Masters and Johnson 1966). My deep connection to music also shaped my life: playing tender chords on a guitar, listening to cosmic music from Tangerine Dream (Tangerine Dream 2025), and much more. At that time, I discovered music as a beautiful way to perceive and develop the female components of my sexuality.

Later, I started cosplaying Sci-Fi Anime Girls and found that computer technology could improve the expressions of my gender identity. Besides, it showed me how much fun it is to be an artist and to incorporate experimental music into my life. I realized that the fusion of biosensor technology with performance art, exemplified by Carolee Schneemann (Ragona 2021), Marco Donnarumma (Donnarumma 2011), and Betty Apple (Kordoski 2021), offered radical new ways of revealing the hidden side of corporeality and identity.

I wondered how I could translate my desire into art and music. It was sonification and visualization of sexual arousal. And when I discovered a new scientific field called Space Sexology (Dubé et al. 2021), the puzzle was complete. In parallel, I learned from Donna Drucker’s *The Machines of Sex Research* (Drucker 2014) how medical technology and social norms are intertwined.

The complexity of my existence showed me that I was multigender (Nonbinary Wiki 2025): female, male, androgynous, femme, and more.

It is essential to say that I use art and music not only to express my personality. I also want to focus on the beauty of sexuality. Eroticism, sexuality, and intimacy are not the work of the devil. They are a divine gift and a central component of life. This is the core message of my current artistic activities.

To make my goals comprehensive, I have created a story in which my body, the “Cosmic Caresse Pleasure Spacesuit” (Arnold 2025), and interactive music software are the core elements.

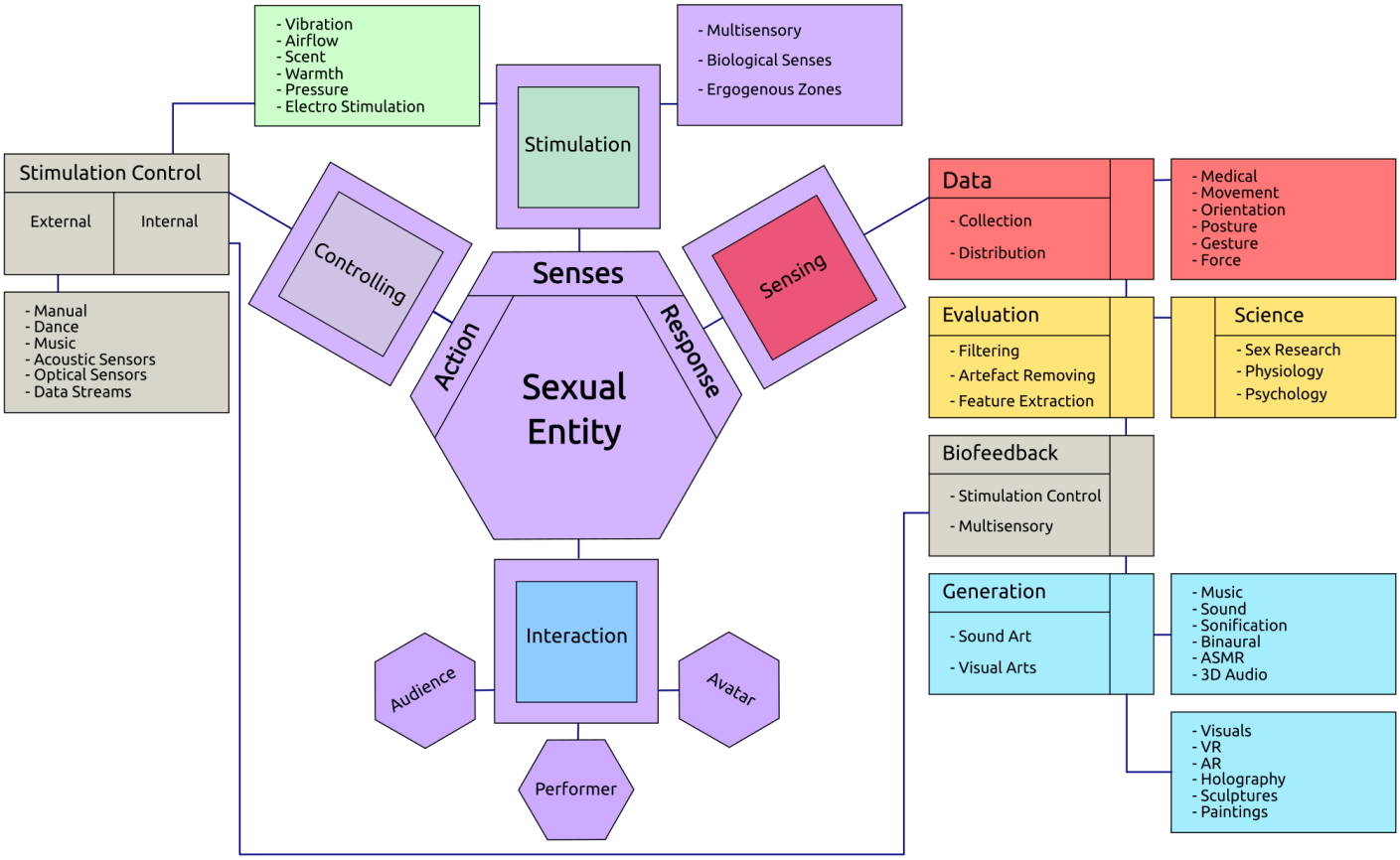

Fig. 1. Possibilities for the performance of sexual arousal.

Structures

My primary interest as an experimental musician is integrating sensors to create and manipulate soundscapes. This was done with electronics and computer technology so that I could include performative elements such as gesture, attitude, and movement in the performance. In this context, the proceedings of xCoAx (xCoAx 2024) and NIME (NIME 2024) proved to be a real treasure chest of innovative ideas. Later, I started using biosensors, which brought me closer to my intention of expressing my gender identity and the associated sexual sensations through art and music. Figure 1 shows my attempt to obtain an overarching structural approach.

In the middle, I use the term “Sexual Entity” because it does not necessarily have to be me, but it can be an artificial intelligence or a robot. In its complexity, the diagram shows many possibilities for designing the performance and explains that this can only be done by extensive computation. The performance requires, inter alia, consideration of the scientific basis of the subject – in this case, the psychophysiological aspects of human sexuality. By structuring these elements so openly, I want to encourage viewers to challenge the social taboos surrounding sexual data, technology, and identity.

Science and Technology

The concept of a Pleasure Spacesuit (Arnold 2025) was inspired by essential themes in space sexology (Dubé et al. 2021). The suit aims to enable sexual relaxation and research in space while maintaining privacy in a confined environment. It is based on vibrotactile stimulation of erogenous zones and uses integrated medical sensors to assess sexual response for scientific experiments.

For the performance Translating Desire, the data from the sensors is also used for real-time sonification of sexual arousal. In addition to standard signals such as pulse, galvanic skin response, and respiration, pelvic muscle tension is also used because it is a reliable indicator of sexual arousal and orgasm (Bohlen and Held 1979) caused by vibrotactile stimulation of erogenous zones (Nummenmaa et al. 2016, 1207-1216). It is essential to say that measuring pelvic muscle tension is gender-neutral, unlike vaginal blood flow or penile erection. Here, measurements are taken with a small anal probe shown in Figure 2. The basic structure is 3D printed, and the shaft is surrounded by a wrapped silicone tube. The tube is attached to a pressure sensor that is connected to an Arduino-compatible microprocessor board. The probe is the most important component of a system for the sonification of sexual arousal (Arnold 2020, 250-270). This is a medical sensor, not a sex toy.

Putting such technologies in the context of future space travel, I point out that intimacy is not separable from scientific innovation. When astronauts wear these suits, the question of how desire, gender identity, and technology intersect becomes deeply profound.

Fig. 2. Anal pressure sensor.

Interactive Sonification

Although the sonification of biosignals is widespread in live performances, for example, in the work of Atau Tanaka (Tanaka 2012, 159-169), the real-time sonification of genital sexual arousal and orgasm is still unique, innovative, and provocative. The readings from the biosensors are fed into a system of Arduino-compatible devices distributed via the OSC protocol. After feature extraction and mathematical processes, additional data, such as heart rate variability, is generated. Then, all are converted to music in real time.

However, music does not only serve to make psychophysiological reactions audible. It is also used to manipulate the speed and patterns of the vibrators hidden beneath the Pleasure Spacesuit's surface (Arnold 2020, 250-270). Therefore, no explicit action, such as touching my body, is necessary to stimulate erogenous zones. When I play

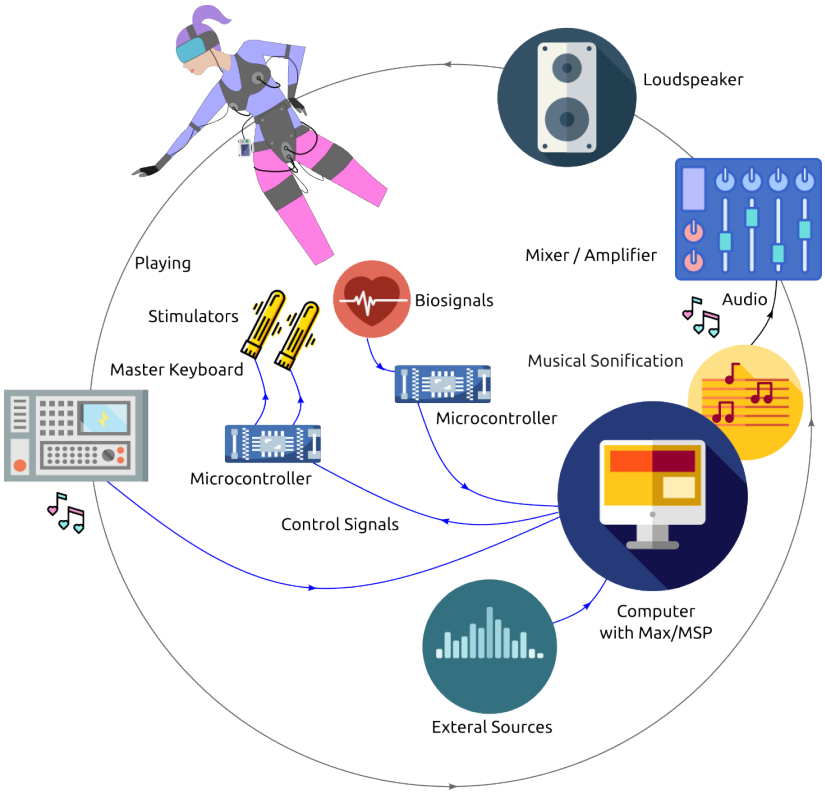

Fig. 3. Stimulation and Sonification Loop.

the controlling instrument, for example, a synthesizer, I express love, tenderness, sensuality, and desire only through music. Ultimately, combining music from both sources creates a stirring symphony of bliss. The resulting feedback loop, in which my sensual body serves as a musical interface, is shown in Figure 3.

The principle is simple: music controls vibrators, vibrators increase sexual arousal, and sexual arousal causes pelvic muscle tension. This tension is measured and controls pitch, as shown in Figure 4, and other parameters of the computer-generated sound. Primary mapping of sexual arousal to pitch reflects the vocalization of arousal and orgasm. In addition, the pulse and galvanic skin reactions also affect the timbral shifts, the layered harmonic progressions, and the generative rhythmic structures, thus creating a dynamic and evolving sonic experience for the listener. The human body thus becomes an erotic musical instrument.

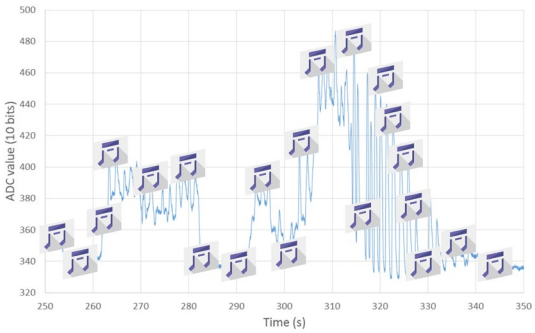

Fig. 4. Mapping pelvic muscle tension to pitch.

Performance

Translating Desire is breaking taboos! The taboo to make sexual acts a central topic of live performances. (Schiel 2020) The taboo to make the sensual human body a tactile interface of musical expression of gender identity. The taboo of intimacy with non-human entities, such as celestial bodies. The enactment does this without explicit action, nudity, vocalization, or dirty talking.

Research

The enactment is also an open psychophysiological study. Pelvic muscle tension, pulse, and skin conductivity are recorded. Later, the graphs and the generated sounds will be analyzed to reveal hidden correlations. Different mapping schemes test whether the musical timbre, pitch, or rhythm best represent these patterns and how they reshape internal imagery, memory, and excitement. As an option, so-called assistants will provide external stimuli. Their pulse rate will be measured to analyze interpersonal psychophysiological aspects roughly. The influence of the material and design of the Pleasure Suit on Cassiopeia's arousal is also the subject of the performative research.

Stage Outfit

To emphasize the futuristic aspect, the fashion design of the Cassiopeia Pleasure Suit is a shiny catsuit with cables and tubes leading to a logging device. (Figure 5) A visor covers their face. In this outfit, they do not just look like a cyborg. They are one. The pleasure suit serves as both a physical extension and an artistic system that makes emotional and erotic connections visible.

Stage Arrangement

Translating Desire unfolds as a live space sexology lab demonstration. Cassiopeia sits in an office chair at a small control desk on stage left, surrounded by a laptop, master keyboard, and the interface panel of the Pleasure Spacesuit. Center stage, a large projection is split into three windows:

1. Protocol – brief scrolling text and diagrams explain each phase.
2. Stimulation Monitor – bar graphs display vibrator intensities.
3. Biosignal Monitor – line charts and numerical data show pelvic muscle tension, heart rate, GSR, and other physiological parameters.

On the right stage is a waist-high tripod with a second master keyboard, an ear-clip heart rate monitor, and a belt with small tactile stimulators that audience volunteers can use.

Fig. 5. Pleasure Spacesuit Prototype.

Storyline

The show has three main parts: 'Listen to your body', 'Express yourself', and 'Get Connected'. These parts build on each other, allowing the audience to understand the technology, the research background, and the musical elements that express Cassiopeia's excitement and sexual response.

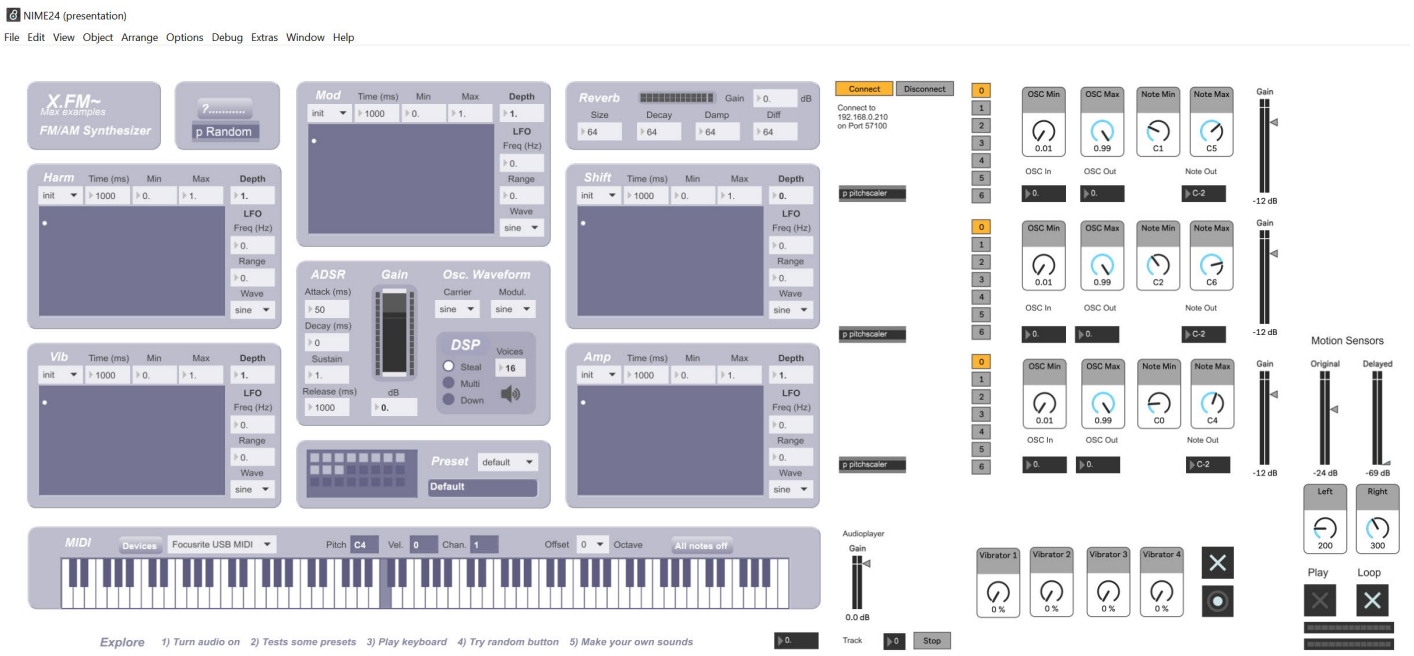

Fig. 6. Max/MSP patch in presentation mode.

Listen to Your Body

The first part is called Listen to Your Body. Cassiopeia activates the vibrators in their suit and listens to the sonification of their sexual arousal. The vibrators are controlled using buttons on a MIDI keyboard. The sound parameters can be influenced via Max/MSP (Figure 6), OSC, MIDI, a master keyboard, and a separate MIDI controller. The intensity of the vibrators is displayed on the projection screen and made audible by low-frequency oscillation. In addition to sonification, the biosignals of Cassiopeia are projected in the style of a patient monitor.

Express Yourself

"Express Yourself" is the title of the next part. Cassiopeia plays music on a synthesizer to express their feelings and connect with the audience. The synthesizer also generates control signals for the suit's tactile stimulators. Their music and the sounds of their sexual arousal combine, creating a feedback loop that results in a strange sonic construct. This interaction shows how the performer's inner desires are externalized by sound and visual signals, bridging the gap between personal fantasy and the collective experience.

Get Connected

In the third part, "Get Connected," Cassiopeia's stimulation is influenced by external signals. These signals can be generated by previously recruited volunteers from the audience as Assistants. To hide their identities, they wear lab coats and medical masks. They use a master keyboard and have some options to control the intensity of the vibrators:

- Directly using knobs and sliders.
- Play music, referring to “Barbarella’s Excessive Machine”. (Lesage and Flinn 2022)
- Manipulate previously sonified satellite data from supernova Cassiopeia A. (NASA Chandra X-ray Center 2021)

In addition, the Assistants can decide whether to use a pulse sensor to incorporate their reactions into the performance. They are also free to use belts with small tactile stimulators, manipulated by signals from the Pleasure Suit.

This underlines the idea that, in the name of science, a shared experience of dominance, devotion, and empathy is emerging. It envisions a future of intimacy in space through the interaction of bodies, technology, and space.

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