



Phoretic Rogues



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This piece embodies an instance in an ongoing series of inter-media entities. Deriving its name perhaps from the French word for fish eggs or from the vintage computer game adventurer, a Rogue denotes a thing that lives with you. It is a multi-sensory and multi-modal object, perhaps sitting somewhere, in an exhibition space, or a private space, or outside waiting for the birds. Rogues may appear in different forms, but it is estimated that their size is somewhat in the magnitude of a human child. Like other creatures, one might be of different dimensions than the other. A Rogue is a thing that emits sound and image, it takes in sensations of its surroundings. It is not a surveillance device, its senses are, for example, touch, proximity, and light. When there are several Rogues in a space, they can make connections between them. A Rogue grows a memory of its place, accumulating sensor data, employing algorithms, adopting fragments of data from other Rogues. In their phoretic configuration — derived from the biological property of organisms to utilise others for spatial movement — humans aid the Rogues with the exchange of information fragments across space.

Keywords: Organism, Phoresis, Intermedia, Multiple.

Motivation

In autumn 2021, we began to imagine a new artistic development that would connect to a set of our prior practices, hybrid between analogue and digital media, without forestalling the emergence of new elements as we experiment. It was an attempt to initiate a process without preempting its own movement across time, in other words to establish an empirical situation that still allows for halting points where we could interrogate and conceptualise what was happening, and then carry on the work from an updated perspective. One could thus argue, whether we were developing “a piece” at all, or implementing an open-ended artistic research process, and our answer is that we attempt to do both of these.¹

There are alternative ways to recount what we did and what we are planning to do. One way would be to chronicle the building process, when and how we picked materials, found shapes and structures, invented sounds and images, to describe the formation of the physical space occupied by Rogues. Another way would be more cloudy, atmospheric, to assemble the immaterial or at best partially materialised and externalised thoughts that make up another kind of space of Rogues. Both ways would complement each other in conveying something about our project, in very much the same way this text and the exhibition of the Rogues should complement each other. Why would anyone want to “read about” a piece rather than experience it? We are going to zig-zag between the two descriptions. As an overall sentiment, we understand the Rogues as a pursuit to build something against the technological determinism that often prevails, when it becomes so much easier describe the mechanical and digital workings, a determinism described by Yuk Hui as “surrendering thinking to a narrow technocracy, limiting the way the world is understood and operated to a particular understanding of technology and its future, while that same technology meanwhile promises that everything is possible” (Hui 2021, 76).

Individual and Species

The title indicates a multiple — not one Rogue, but a set of Rogues. It also indicates different instances. When the Rogues were first exhibited at Neue Galerie Graz (Fig. 1), we decided to build three of them for an ensemble named *Swap Rogues*, as they are imbued with procedures (the way sensors are used) and materials (images) from a collaborative experiment we conducted earlier, *Swap Space*.² What we are working on right now, is a new set of two or three named *Phoretic Rogues*, focusing on the possibility for humans to carry information

1. The research process is documented on <https://www.researchcatalogue.net/view/1437680/1437681> (visited 01-May-2023)

2. <https://www.researchcatalogue.net/view/1562714/1562715> (visited 01-May-2023)

between them, activating their communication through a skip and a displaceable artefact.

Figure 1: *Swap Rogues* at Neue Galerie Graz, December 2022.



This adaptable nature frees us from the constraint of having to show “the same” piece, as much as no real entity is immutable. The name lays out a context. So what is “a Rogue” to begin with? We conceive of a Rogue as a creature, being, or organism. Rather than an object of aesthetic experience — which it nevertheless is — we would like to think of it as something that lives with you; in an imagined scenario for the future, we would like Rogues to be given as companions to people, so they can host them in their homes, for example. For now, our more modest and pragmatic approach is to give them away for a temporary exhibition, even if limited to the three days of xCoAx. The intended gesture is still the one of co-existence and of continuous adaptation to an environment, rather than “display”. As such, a Rogue has a sensory apparatus which allows it to respond to what is happening around it, where response does not imply that it will always be immediately obvious to the audience; the response may be delayed and transposed.

The name, *Rogue*, serves as a stable handle, as a denominator of the species, despite the ability to build different rogues. It brings together multiple aspects that were moving in our heads. One is the use of glass hemispheres that reminded us of fish eggs, or rather, in their connectivity, of *Roe*, in German *Rogen*, in French *Rogue*, all very similar words. Of course, the English word also denotes the odd character that is moving at the margin of a system, or against the system. It is most likely this meaning which gave name to the 1980 computer game of the same title (cf. Barton and Stacks 2019, 49–52). The Rogues were imagined as organisms that learn, adapt and explore, creating perhaps an inner map of their perceived surroundings, like

the computer game's character unfolds a procedurally generated labyrinth of connected spaces via movement. Remaining with the playful associations, we also imagine that if the Rogues are given to people for use in their private spaces, there is something *Tamagochi* like about them, another type of egg that shares the irreversible "permadeath" with the adventure game. The inner structure of the organisms would perhaps resemble the map making that happens in the game, translating the outside sensory input into a structure that initially lies in the dark and grows over time. Rogues will always occur in multiples, and it is perhaps map fragments that are shared between entities.

Building a Group of Rogues

Let us look at and listen to an actual Rogue. Between autumn 2021 and spring 2022, we sketched out and prototyped the "organs". The sensorial input was initially light and proximity/touch, each carried out as a variable number of tentacles connected to a micro controller and from there sent to a Raspberry Pi 4 as the main machine. The initial actuators were a small round TFT screen, receiving plasticity through aforementioned glass hemispheres, and sound transducers mounted on ceramic plates. Everything was to be housed in a hull placed under skin, which at the early stage remained mostly drawings on paper, to be later implemented in ceramics. With an estimated size of 40 by 40 by 40 cm, we wanted to give it a certain relatable body, in many ways taking inspiration from the objects *Körper α* and *Körper β* (Rutz and Pirrò 2018). We always intended to create more instances in the *Körper* series, and there are some materials (containers, wires, rods) here in the studio that were meant for *Körper γ*, but it never materialised. Already back then, we had thought about exploring conductive sensing, and we made some preliminary tests; but we never followed up on it.

In contrast to the *Körper* project, for the *Rogues*, the plural is important, and also the more open-ended (and slower) process. They are somehow a physical answer to the uniqueness hype around non-fungible tokens, where each Rogue exhibits individual traits, but more importantly we do not intend to create a collectible, but allow the Rogues to communicate to one another in a basic form of sociality. In this way, the piece picks up ideas developed earlier for *Enantiomorph Study* (2019),³ in which two humans become entangled in a proprioceptive experiment, exchanging one eye and one ear, thereby allowing them to asymmetrically sense the environment.

In the triologue *Swap Rogues* at Neue Galerie Graz, the sound composition entirely relies on acoustical signals and sensor data picked up *in situ*, and in their proximity a subtle recursive situation is estab-



Figure 2: Extremity.

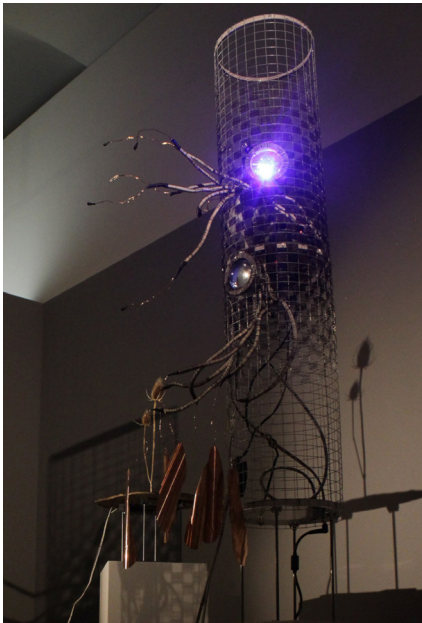


Figure 3: Tentacles and light eye.

lished among the Rogues, besides picking up the sounds and movements produced by the human visitors. While all Rogues share a lot of common features, such as the same custom printed circuit board layout, the set of sensors and actuators, there are indeed many individualising elements, ranging from the spatial-acoustic positioning, to the sound articulation that is formed by ceramic extremities of different shapes and textures (Fig. 2), giving distinct voices to each Rogue. Likewise, each set of sensors is individually spread out, reinforced with the motivic wire-wrapping technique, and has to be individually calibrated. Although the digital code is shared, it contains many parametrisations and conditional branching depending on the individual Rogue. The physical build is further distinguished by different techniques of creating the wire body, each based on a Brownian motion to determine the particular gradient, questioning the extent of the bodies. Are we not always fading continuously into our environment? The video “eyes” have been complemented by a second light activated (LED) “eye” (Fig. 3), and the capacitive copper tentacles are set into slight vibration by means of a controlled ventilator.

Compositional Notes

The sound of the first triologue is composed of several independent layers which alternate or overlap at a given moment in time. Two longer term memories are created by massively accelerating the surrounding sounds, resulting in sometimes bird-like chirps and crispy tactile sensations, and an iterative rewriting process that inserts small fragments of ambient sound in a repeated phrase, thinning out its current information over time. The Rogues maintain a basic economy of being awake and asleep, usually woken up by visitors approaching them, but sometimes resting nevertheless from too much activity. A layer of “crypsis” produces breathing rhythms in which the ambient background sound is imitated in its resonant properties, challenging the attentiveness of the listener. From time to time, sweeps are sent out to obtain a spatial image of a Rogue’s surroundings from the estimated reflections, translating this imagined space into timbres. For all layers, we took care not to create a surveillance situation, especially considering the future “adoption” of Rogues by people. No sounds are permanently stored, they will fade out of memory over time, and the touch and light sensitivity remain more basal, akin to plants or insects.

Visually, the video eye opens and closes depending on the entity’s state, and different close-up materials obtained in a collaborative phase of our project are used (Fig. 4). The light emitting diode translates a part of the sensor perception of the Rogue. In the proposed new instance, the Rogues reveal new materials obtained from sitting in an environment full of spider webs, and they may enter an intermediate stage between sleep and waking.

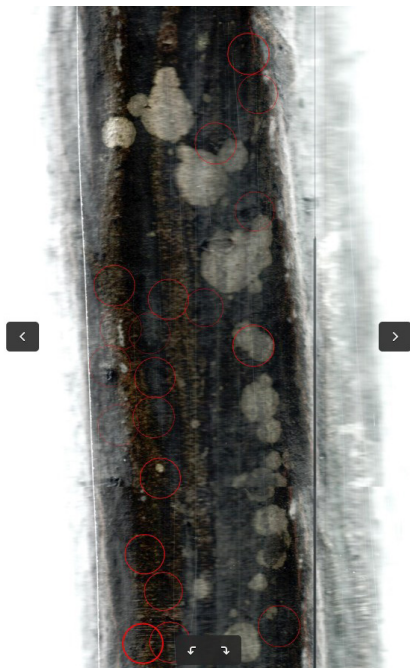


Figure 4: Visual source material obtained with handheld scanner in nature, red markers indicating Hough circle detection algorithm used to obtain rotational centres.

Phoresis

For the exhibition proposed here of the new set of *Phoretic Rogues*, we include in the Rogues' extremities a joint which holds a ceramic object that the visitors can carry between the different entities. This is implemented by embedding near-field communication (NFC) pods and tags in the joint and mobile object. Phoresis (or phoresy) is a mechanism by which an organism attaches itself to another for the purpose of travel and dispersal (White, Morran and Roode 2017). The phoront overcomes its inability of movement on its own means by making use of a mobile host. We were thinking a lot about what constitutes a living being or an organism, and usually one connects this with movement, as is apparent in the word 'animal'. Today we know that many organisms use sophisticated mechanisms to communicate across space despite an apparent inability to move, for instances when neighbouring trees communicate via mycelium, or when barnacles deploy their telescopic penises.⁴ The best example may be the one of pollination, say of a bumblebee that touches a flower, keeping the pollen attached to its extremities and taking it to another, remote flower. For *Phoretic Rogues*, we put the human visitors in the role of the moving hosts that have the task to help the Rogues exchanges fragments of information, by carrying dedicated objects between them. Perhaps for the humans it is a helpful exercise in interspecies communication. The humans become travellers and thereby rogue-like.

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4. These completely immobile hermaphrodite crustaceans possess extendable structures that approach other equally sedentary individuals.