

# Interspecies Communication – Water bodies

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## Abstract

In planet Earth, most processes are based on water. Water regulates climate, morphologically influence a landscape, is a medium of living processes. It is a medium of interaction of organism and mineral parts in microscopic view, between whole organisms and minerals in macroscale on the Earth, and endless interplanetary space. Water topic (more than "parasitically" utilization of water resources (Serres, 2007)), in the ArtSci project is focusing on its communicative possibilities. Equal communicative principal possibilities for all living—human and other than human bodies—is a metaphor of the epistemological problem of water protection as a medium of life, biotopes, and ecosystems. Because we are connected through water, we are all bodies of water. Understanding water through environmental analysis of the territories, philosophy, and fluid mechanics (chaos-based fluid attractors principle) will bring communicative equality for all bodies of water and the inevitability of environmental protection. When communication cannot be fluid, then each of us as bodies of water, will be lost in time-space. The new interdisciplinary methodology of communicative artwork is based on an ArtSci manifestation of messages mediated in water as an asemic writing or the other kind of communicative interrelation between human and more than human. The basis is the phenomenological research of water as a medium of communication which causes a feeling and a togetherness. We and other bodies of water could feel our togetherness through water.

## Keywords

interface, pattern of communication, sympoiesis, structural coupling, water

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## Objectives

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The problem is approached as artsci research using knowledge of biosemiology and philosophy, environmental ecology, and landscape analysis to develop a specific interdisciplinary artwork which will support environmental education.

### Water body figuration is related to possibility mediate

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interspecies communication to better understanding waterbased life on the planet.<sup>1</sup> Water is an essence and principle of form, which is actualized in the water body figuration. According to principle of 'structural coupling' patterned cognition and communication of each communicative actor is related to their environment. If water is essence of inner and outer environment of actors of communication and water body figures, their fluid principle, relates to their agency, then relates to the concept of agential cut, and in differentiation could appear in the meaning which would be presented by the ArtSci work.

In this paper I come out from my last research of transient pattern—visual model of transient patterned of digital work communication which was based on relation of human and machine intelligent agency (Author, 2021). The biosemiotics view of patterned cognition and communication comes from Maturana and Varela's "Structural coupling" theory, in which the recurrent interaction of unit (organism) and medium (environment) causes structural coupling, which is reflected in a patterned cognition and communication of autopoietic complex organization (Maturana and Varela, 1972) and Jakob von Uexküll's umwelt theory. Rereading Darwin's theory of natural selection Elizabeth Grosz describe it as a complex of parallel randomly interfere processes of internal dynamism of living beings and assertion of external forces and influences (Grosz, 2004). Stafford Beer tried to explain Maturana and Varela's autonomy of autopoiesis that "...autopoietic systems are environmentally open to material-energetic fluxes or semiotic mediations" (Beer, 1980) Donna Haraway instead proposes principle of sympoiesis, as enabled to incorporate a complex interrelation of system as such (Haraway, 2016). The decisive principle is to recognize water as a communication medium according to the possibilities of structural coupling, but instead of autopoiesis I related it to the principle to the sympoietic system where the notion of evolutionary changes is crucial hack by symbiotic transfer, lateral mixing,

crossspecies contamination, and viroid life (Neimanis, 2017) Communication of that holobiotic water based systems then depends on intersection of agential cuts of each body of water of their unpredictable transient pattern of communication and cognition; according to Neimanis, in common space of water body (medium) of interconnected 'bodies of water. My questions are:

**Could meanings or feelings emerge in the interrelation of water body figure (water which is an inseparable part of organism) and water as medium?** If yes, then interspecies communication will be interaction of each unpredictable pattern or umwelt through dialogic membrane—"which is water body medium", in the semiosphere.

## The state of art

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Several authors proposed the importance of water as a medium of interconnectivity between organisms (or minerals) together (as physiological and biochemical processes). Some botanical research describes the potentiality of mutual interspecies communication mediated by water. For example, the hydraulically lifted transfer of mycorrhizal network provides a potential pathway between plants based on water (Egerton-Warburton, Querejeta, Allen, 2007). Water was always a part of the formation of Earth's mantle, but also originated from comets and asteroids, that break up into meteorites which fall on the Earth (Crockett, 2015; Hartloch, 2011). The fact can push the possibility of interspecies communication to the interplanetary space. Water as physical matter is shaped form the solid, liquid and gas materiality. Fluidity is not only one state of water matter, but mechanical, formal aesthetical principal of artistic, designer, and architectural practises. The fluidity is recognised in the relation to Gilles Deleuze and Bernard Cache theory of Objectile<sup>1</sup>, which based a theoretical background to digital artistic form or artwork body figuration. Then water body figures appear in the differentiations in the repetition processes of multiplicity of water cycles and niches, similarly, as appears meaning of sign (Derrida, 1967—différance; Deleuze, 1994; Neimanis, 2017). According to Astrida Neimanis (2017) in differentiation are continuously unfolding embodiments as an expression of eternal return of the self-same. Water engendering difference "was" an expression of water that "is", and its potential "yet-to-come". Bodies of water as figuration was already describe within ecofeminism and anticolonial thinking (Neimanis, 2017, Gaard, 2003, Armstrong, 2006). Lucy Irigaray (1992) related fluidity to the feminine body as "fluid and ever mobile", and "secreting a flow." Fluidity is

diffuse and multiple, overlapping, and interconnected, is repetition in hydro/bio cycles and water figures acknowledged in differentiation. The dynamic fluid principle relates to the chaos theory, where changes are based on small intrusion of triggering power, which are resulted in the system changes. The process is based on perpetual intra-action, entanglement, diffraction, and agential cuts which was described by Karen Barad "matters agential realism" (Barad, 2007). Then in differentiation is appearing meaning, also any act of observation is differencing agency and makes a "cut" between what is included and excluded. Every species has specific, but transient "pattern" of differencing agencies. **From the position of a posthuman approach, then it is possible to see water as a common equal medium of communication between all bodies of water (human, more-than-human, extra-terrestrial), which can bring water based informational agency.**

## Interspecies communication as ArtSci project

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The most art research which relates to interspecies communication was based on translation or transcription of many levels mediated communication principle. Eduardo Kac in his bio art transgenic artwork "Genesis" (2000) resolves the problem of interspecies communication according to speculative transcription to human language of Morse code (see <https://www.ekac.org/geninfo2.html>). The other bio artist Špela Petrič in her work 'Institute for Inconspicuous Languages: Reading Lips'(Petrič, 2018) relates the transcription of water-based physiological interaction of plant to visual transcript of human sign language (See <https://www.spelapetric.org/#/institute-for-inconspicuous-languages/>).... etc., Both of work was related to a human existing language. Instead of relate communication to human language I propose water body as a common and direct medium of emotional, also interspecies communication of water body figures. Then understanding appearing in the differential intersection of agency of each communicative body of water and through a repetition will come to common emotional "hydro language".

In the research I focus on water in the role of the medium of emotional communication between all bodies of water human/more/than human, (extra-terrestrial), both in micro and macro scale. Then cognitive pattern of each communicative bodies of water relates to its specific agency. The agency relates to agency of water body figures which are constituting new and

reconfiguring systems in the concept of "matters agential realism" (Barad, 2007), to agents of water-based communication. This principle of shaping the matter is the process of performative bodymaterial practice which would configure figures and its transient patterns of communication to generate the vision of the artwork.

## Procedural model in relation to interspecies water-based communication

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Because water in bodies is flowing in perpetual cycles of water niches, it is related to the procedural model of communication which was described by Philippe Bootz<sup>2</sup>, but also water is an essence of the artwork. **The essence is related to the water body essence.** Then the artwork water body is defined as an individual water body. The figure of the individual water body relates to agency of interaction (communication). According to Philippe Bootz`s model of visualization of procedural digital works is work individual body defined by essence, extensive parts and relations linked essence and extensive parts. Extensive parts are composed by physical real parts linked with essence, which are managed by agency. Extensive parts compose wider vision of artwork body<sup>3</sup>. The essence of artwork is recognized as individual agent which is related to the soul and the mind (Bootz; Laitano, 2013), they are embodied in sensitive bodies. My body (and the other bodies biological and technological bodies of water) is a sensitive apparatus putting me in principles of global intuition of creating transcorporeal matter in the life of "water body languages." **The performative-material practice is based on the gathering and applying data of extensive parts of artwork in the context of emotionally build interactive intermedia artwork. Fluid mechanics agents, as AI models, are a managing agency that introduce characteristics of the water-based world of artwork.** The process relates to extensive parts of all bodies of water which relates to the manifestation and generate emotional actualization of artwork water body. The reading artwork essence will be put in the middle of analytical—informative and intuitive feeling. Although flow dynamics modelling—are used to predict hydrological behaviour, it is not possible to see what will be if human destroys a tiny balance of water flow.

Through the project they are emotionally indrawn in the artistic message: 'We, as bodies of water, can interact in the water body holobion, we are all equal in the

emotional based communication possibility and feeling our common human and more than human water-based life.

The experimental theoretical and practical transdisciplinary ArtSci research will be build according to the proposal of **Manifesto of Artistic Research<sup>4</sup>** (Henke, Merch, and col, 2020) (farther "Manifesto") The goal of the project is to introduce the audience to data-manifestation through artistic emotional imagination, away from pure data vizualization, to take audience closer to feel water-based life of equal interaction-communication with other bodies of water. The emotion relates to water-medium communication of interrelated water bodies. Applying a more intuitive concept could bring emotional understanding to each body of water and to engage audience to the environmental action.

The problem water crisis is often resolved from an anthropogenic point of view which leads to the other complex of global environmental problems. By implementation of symbioses, neutral or parasitical relations of sympoietic system only we will be able understand how systems communicate in the water body medium interface. Using the analytical natural sciences approaches and human intuition and sensitive feeling will lead to the critical posthuman ArtSci overview, where chosen agencies could metaphorically relate to cognition and behaviour of possible communicative process.

The generative artistic approach based on data and performative emotional interaction lead to specific experimental aesthetical artsci solution and its realization in the artwork. Only clear, unpolluted water is a medium of understanding water based live. The approach based on the relation of water body figuration to the agency of unstable patterned interspecies (also interplanetary) communication. According to Deleuze, Haraway, Neimanis, and other authors the water body figuration is fluid and actual as a characterization of a real; fluidity, both virtual and actual, can be real aspect of water-based communication. I can see Water as a medium for bearing the information of life also interspecies communication. Water is matter which enables information flow from each water-based body to others alongside the common water network. Water is "informable interactive matter".

## Conclusion

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Water is an essence and by water figures relates to the individual water body agency. The interrelation of water body agency and agency of patterned cognition and communication is possible to find "languages" of water-based communication. The essence of water based interspecies communication artwork relates to the water`s essence by its extensive parts and by relations are linked to the agency of water body figuration. Agency of figures of the water body are related to the agency of interspecies interaction/communication. The agency comes from the principle of "structural coupling", the principle of the sympoietic system and the notion of water. Interspecies communication was related to the water interface as a common medium for all living beings. Water is recognized as an interface, a part of bodies and as an organising agency of communicative form. Then water is the essence of the interface of communication and figuration of the water body, and its action is related to the pattern of waterbased communication. The approach leads to manifestation of possible interspecies communication recorded by the ArtSci project. The understanding of artwork is related to the audience reading and will move from an analytical to emotional approach. The goal is to lead the audience closer to an emotional level of water-based communication and go away from the informational position of data.

The project is tracing possibility how we can understand to water related life on the planet and possible interspecies communication. To take audience interest of water problems, I tried to ideologically connect them to the communication with other water bodies. In this context it means more understand, more connected, care, and to have better environmental justice to all water bodies. The research leads to the importance of intuition and serendipity in ArtSci's holistic approach to communicating water-based equanimity. This approach would instill in the audience (professional and general) a better understanding of water not only as a resource, but also as the inevitability of interconnected life and the necessity of equal access to unpolluted water, to quality habitats, to a quality and healthy environment for all.

## References

- <sup>1</sup> *The first essay presented in this chapter, by Stephen Perrella, is a précis of end-of-millennium design theory: the Objectile is an open-ended notation which allows for infinite parametric variations; these can be directly fabricated using file-to-factory technologies, thus enabling the serial reproduction of non-identical parts, where ranges of limited variations can be mass produced at no extra cost* (Mario Carpo, Stephen Perrella, Bernard Cache 27 March 2013 <https://doi.org/10.1002/9781118795811.ch10> in Topological Architecture (1998–2003) ). "Objectile is an object which is not

yet defined by its essential form, but becomes the pure functionality "... (Deleuze, 1988). and open it to artistic research of digital form. Fluidity as a principle of shaping architectural form was followed in nonrational geometries of interrelated architectural space and environment and the other circumstances or parameters (Last,2015).

2 See procedural model of communication for example online <https://mediarep.org/handle/doc/18625>

3 Understanding to essence is put by Bootz somewhere in the middle of intuition affected by the reading body of work and analytical approach to body of work. If the audience is closer to the analytical reading of work they are farther away from emotional feeling and vice versa (Bootz, 2010)

4 As was declare in Manifesro of artistic research Artistic research is based on more intuitive and interactive approaches —'in the form of leaps, digressions, and detours which continually generate new and unexpected counter/expressions'; ...and trigger irritations and daring revelations. (Henke, Mersch, and col., 2020)

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