

ATTENTION: Currents



Ingrid Halland

Metode



Left: The transmitter mast at Sørvågen radiotelegrafstasjon in 1906. Right: The transmitter mast at Røst radiotelegrafstasjon in 1906. Photos from Thorolf Rafto, *Telegrafverkets historie 1855 – 1955* (Bergen: AS John Griegs Boktrykkeri, 1955): 360-361.

In 1909, the Norwegian local newspaper *Namdalens Blad* published an enthusiastic article about the future of telecommunication. The journalist awaited the arrival of Nicola Tesla's "wonderful new wireless telegraph system." Wireless technology, the journalist explained, uses the air itself to allow the flow of electric currents in one or more directions. "With this new system," the journalist predicted, "time and space will practically be overcome."¹

Perhaps the journalist was unaware that the future had already arrived in Norway. Three years prior, a wireless telegraph system was installed in Sørvågen in the Lofoten archipelago—the second public radio telegraphy system in the world—as a part of a state-funded initiative for making the Lofoten fishery a safer, and more efficient industry. The first wireless message was sent through the air from the newly built wooden transmitter mast at Sørvågen to the radio mast at the neighbor island Røst.

The name 'telegraph' is constructed from Ancient Greek meaning 'writing at a distance.' As the Norwegian journalist rightly observed, the wireless telegraph system eliminated space as a communication constraint. The electrical currents caused an expanded conception of the current; instead of one-to-one communication through wires, the signals through air allowed distant places, like the

¹ *Namdalens Blad*, 9. December 1909.

Lofoten archipelago, to communicate concurrently—in one or more directions—with a global network. But the journalist’s future speculations have not yet been entirely fulfilled: How can signals be transmitted ‘from a far’ in a way that overcome not only space but also time?

Environmental feedback

The field of biology known as *epigenetics* studies the transformative mechanisms that layer over or upon our human genome and determine which genes in the sequence become active. The concept and theory of epigenetics were first developed by British biologist Conrad Hal Waddington (1905–1975) in the 1930s, and he formalized its theory in the book *Organisers and Genes*, published in 1940. Waddington was a pioneer in the field of systems biology, studying the development and changes in organisms over long time spans, such as the connection between the development of embryonic cells and the plasticity of the adult brain.² The prefix ‘epi-’ is Greek and means ‘over’ or ‘upon something.’ The prefix accentuated Waddington’s theory: there were additional features *above* or *outside of* our genome, a kind of strange doubling, that had a significant effect on the DNA.

The notion of “feedback” was a key concept when Waddington developed his biological theories. Feedback could occur in two ways: first, as *homeostatic feedback*, which Waddington often demonstrated by the metaphor of self-regulating blood: if there is too much oxygen in the blood or the acidity is abnormal, the body will respond in ways which result in bringing the concentrations of these substances back to normal. However, Waddington added that the idea of homeostasis and feedback “are only the very first stage in arriving at a decent understanding of biological organisation.”³ In the 1930s, Waddington proposed that biological feedback had another fundamental quality, “that of changing in time.”⁴ Organisms could adapt to their environment based on a feedback process of interaction between the organism and its environment, but Waddington proposed—quite radically diverging from established scientific theories of his own time—that this loop of feedback could have permanent effects on the very essence of the organism. Based on observations, experiments, and theoretical hypotheses, Waddington suggested that the *genome itself* could change

2 Waddington’s biology is further discussed in Ingrid Halland, “The Delos Mutation: Interdisciplinary Entanglements between Biology and Architecture 1963–1975” in *Architectural Histories*, 12(1)(2024): 1–23. DOI: <https://doi.org/10.16995/ah.10487> (forthcoming September 2024).

3 Waddington’s chair address at day 5 of the 1966 International Seminar on Ekistics, “Progressive Self-Stabilization Systems in Biology and Social Affairs,” p. 3. Constantinos A. Doxiadis Archives.

4 Ibid.

according to environmental feedback.⁵ Consequently, genes are not fixed at birth through genetic inheritance; rather, environmental feedback can alter their expression, activating certain genes while silencing others. In this way, epigenetics challenged genetic determinism, questioning the essentialist idea that one is “born that way.” Today, Waddington’s epigenetic theory is scientifically validated.

Moreover, Waddington’s conceptualization of the environment was groundbreaking. He envisioned it not just as a three-dimensional space ecologically linked to the organism, but as a four-dimensional entity. For Waddington, a human environment comprised not only spatial elements like islands, towns, air, streets, and homes but also temporal elements including memories, ephemeral moments, gradual changes, past disappointments, and future projections. Together, these elements formed a four-dimensional feedback environment that Waddington termed an “epigenetic landscape.” The term landscape was crucial to his biological theory, though not a landscape in the traditional sense. The epigenetic landscape encompassed a dramatically expanded realm in both time and space, where elements such as birdsong, conversations, aesthetic experiences, lost loves, wires, childhood memories, television programs, oil refineries, the wind, and hopes for the future all converged to influence the genes of an individual, resulting in permanent genetic changes that could be passed on to future generations.

Alongside advancements in biology, technological progress during the 20th century also sparked a reconceptualization of the relationship between humans, nature, and technology. As technological innovations grew increasingly complex, they necessitated the development of new theoretical frameworks to grasp their implications. Interestingly, it was within the realm of nature and *biological life* that mathematicians and early computer theorists discovered a model of complex processual thinking relevant to emerging technologies. Waddington’s biological theories, particularly the feedback interactions between an organism and its environment, became a pivotal source of inspiration for a broad

⁵ According to Waddington, Alfred North Whitehead’s *Process and Reality* published in 1929 had laid the foundation for his thinking. Six years after first encountering Whitehead’s philosophy, Waddington had begun to reconceive the field of biology in terms of organizational processes.

spectrum of computer scientists and systems thinkers.⁶ As Mark Wigley describes in his renowned essay “Network Fever”: Buckminster Fuller, the renowned inventor, designer, and futurist, “had followed [Waddington’s books] closely since the late forties.”⁷

Waddington’s biological thinking is deeply intertwined with local context, memories, and potential futures. However, his theory was controversial: if the environment, landscape, and living conditions shape our genes—and these genetic features can be transmitted to the next generation—we encounter a highly difficult, ideological terrain of determinism, where the climate, physical surroundings, and social environments determines behavior. How can change be possible if our genetics are always determined by the current status quo?⁸

Writing from a far

In *Metode* volume 3 ‘Currents,’ writers and artists explore how signals can be transmitted “from afar” through space and through time, in a manner which can offer new ideas for alternative futures. The volume is introduced by three essays written by Alison Burstein (US), You Nakai (Japan), and Sigbjørn Skåden (Sápmi and Norway), in which the authors situate themselves in close proximity to local contexts in order to explore the wide-reaching spatial and temporal implications.

Alison Burstein situate herself in her own institution, the avant-garde art institution The Kitchen in New York City, in which Burstein works as a curator. Through a close-reading of a television artwork, *Two Moon July*, she examines The Kitchen’s never-studied archive material in order to offer a critical analysis

6 The most influential works in early cybernetics are Norbert Wiener, *Cybernetics: Or Control and Communication in the Animal and the Machine* (Cambridge, Mass.: Technology Press, 1948) and W. Ross Ashby, *An Introduction to Cybernetics* (London: Chapman & Hall, 1956). Wiener famously defined cybernetics in 1948 as: “the control and communication in the animal and machine.” In the 1950s and 1960s cybernetics became connected to more general and diverse currents of research. As discussed for instance by N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999) and Bruce Clarke, *Neocybernetics and Narrative* (Minneapolis: University of Minnesota Press, 2014).

7 Mark Wigley, “Network Fever,” *Grey Room* (2001): 100.

8 Catherine Malabou examines this question in her book *What Should We Do with Our Brain?* translated by Sebastian Rand (New York: Fordham University Press, 2008), where she addresses the philosophical consequences of the brain’s neuroplasticity. Central to her analysis is the theory of epigenetics, which serves as a pivotal historical and conceptual influence. Malabou expands on Waddington’s theory in particular in her book *Before Tomorrow: Epigenesis and Rationality*, translated by Carolyn Shread (Cambridge: Polity Press, 2016).

of the interdependencies between artistic practice, institutional support, and mass media platforms. As a regenerative feedback loop, Burstein transmits signals between 1980s New York City and Lofoten islands in Norway, in which the curatorial concept of LIAF 2024 'SPARKS' is a strange doubling of The Kitchen's curatorial concepts and institutional practice in the 1970s and 80s. With SPARKS, curator Kjersti Solbakken investigates, critiques, and rethinks the interdependencies of artistic practice, institutional support, and mass media platforms.

You Nakai's essay presents a series of in-depth sequences of serendipities linked to the never-realized, large-scale environmental concert *Island Eye Island Ear*, conceived by American sound pioneer David Tudor in 1974. Tudor's work engaged in dialogue with the ecological-cybernetic avant-garde art practices of the 1970s, which focused on concepts like mimetic immersion, *stimmung*, feedback, and atmospheres, all striving to redefine or even erase the boundary between an organism (including humans) and its environment. Situating himself in the present, Nakai analyzes his own long-term endeavor to realize an interpretation of Tudor's concert. In a curious act of doubling, the unrealized 1974 environmental concert is translated into the local landscape of Svinøya Island in Svolvær and will be performed as a part of the opening weekend of LIAF 2024.

Sigbjørn Skåden closely aligns with his own 2016 text, "Human Evolution," which utilizes Madame Helena Blavatsky's (1831–1891) theosophy and root race theory as its thematic and structural foundation. For *Metode*, Skåden revisits this work through new translations and a newly written appendix. "Human Evolution" has been transformed through translations; to North Sámi by Kari Utsi and to English by Stig Oppedal, resulting in a series of textual doublings that are at the same time identical and dissimilar. Throughout the process of being translated and adapted, the text has mutated; shifting and developing new nuances and meanings as it is transmitted across different languages and contexts. Skåden's appendix examines the relevance of Blavatsky's speculative ideas for contemporary and future ethics. Skåden ponders on a peculiar duality within his own text, an outmost proximity between absurdity and essential truth. In his words, "something that allows both the completely absurd and the acutely essential to rub shoulders with each other through the texts, as something at once very untrue and very true."⁹

The three opening essays of *Currents* explore three different manifestations of a unique feedback loop between time, space, and scale. Burstein, Nakai, and Skåden contribute with close readings of local situatedness by applying a multi-scalar approach. This methodology entails a simultaneous dual focus: By intensely examining what is most near, that what is remote is echoed. By engaging in a zoom-in on localized details, the scale concurrently zooms-out on

9 Sigbjørn Skåden, "menneskEvolusjon," translated by Stig Oppedal, *Metode* (2024), Vol.3 'Currents'

worldwide consequences.¹⁰ By writing in proximity, Burstein, Nakai, and Skåden concurrently write from afar. Furthermore, the three opening essays propose an intriguing concept of temporal doubling. By meticulously exploring specific historical events and contexts—and, in Skåden’s instance, a historical worldview that verges on the absurd—the essays create temporal feedback loops that echoes into our current times.

Importantly, however, if drawing on Waddington’s epigenetic theory of feedback, this concept of doubling—with its ability to seamlessly transmit echoes across different scales of time and space—harbors the potential to revolutionize traditional cyclical feedback loops, offering alternatives for what has yet to come.

Regenerative feedback

In Waddington’s epigenetic theory, open-ended feedback between an organism and an extended environment in time and space can cause adaptations which could transmit genetic features to the next generation. However, in biological systems, accidents or catastrophes can disrupt the status quo and allow mutations. In 1966, Waddington explained: “Animals change by a mutation of their heredity factors, but they don’t know whether the world is going to slip in an ice-age on them, or some horrible new virus is going to come along and either kill them or kill off their food supply. They are playing a game of chance and any sort of system has to take this feature into account.”¹¹ A biological system, Waddington clarified, needs to be “sufficiently flexible and resistant to change and catastrophe to be able to make a quite a good job of it, even if the world does not turn out as you thought it was going to.”¹²

In 1968, Waddington wrote the book *Behind Appearance* about the relationship between the natural sciences and the development of Western avant-garde art. In the conclusion, he presented a new turn of his biological theory of epigenetics; he proposed transforming the theory into an *epigenetic art theory*. In the conclusion of *Behind Appearance*, titled “The Profits of Plurality,” Waddington wrote that such an epigenetic art theory entailed that:

10 This approach of connecting detailed observation with a broad perspective is a well-established method in the humanities. It finds its most emblematic expression in microhistory, which employs a dynamic interplay between micro and macro viewpoints, allowing us to appreciate the complexity of relationships between the seemingly insignificant and the obvious immense. See for instance Carlo Ginzburg, *The Cheese and the Worms: The Cosmos of a Sixteenth Century Miller* (Baltimore: John Hopkins University Press, 2013). Originally published as *Il formaggio e i vermi. Il cosmo di un mugnaio del '500*. Torino: Einaudi, 1976. The first English edition was published in 1980.

11 Waddington, “Biology and Human Environment.” *Ekistics*, 21(123)(1966): 94.

12 Ibid.

(a) The observer does not wholly make what he observes There is no strict objective-subjective dichotomy. The painter is *in* his painting. The scientist is *in* his science.

(b) Change plays a role amongst the fundamental mechanisms.

(c) Everything ‘has a feeling for’ (prehends) everything else; things have fuzzy edges.

(d) On a more down-to-earth-level: we live in surroundings and conditions that we ourselves make, not in any state of nature that we have to accept in its entirety.¹³

Waddington’s epigenetic art theory elegantly encapsulates the essence of LIAF 2024 ‘SPARKS’ and this volume of *Metode*. In a curious reflection of feedback doubling, the art biennial is *in* the art biennale, the authors are intricately woven *into* their texts, and change is a core fundament. Yet, to entirely grasp what we observe can be challenging due to blurry boundaries. Both SPARKS and Currents indeed have fuzzy edges.

The eco-feminist philosopher Donna Haraway (b. 1944) is today perhaps the most celebrated theorist within contemporary humanities who advocates conceptual notions such as pluralism (which she calls “tentacular thinking”) and objective-subjective fluidity. When Haraway completed her PhD in the department of biology at Yale University in 1972 on the topic of organicist paradigms in biology, focusing on the so-called “Theoretical Biology Club,” of which Waddington was a central member, Waddington functioned as a key source for her argument.¹⁴ Haraway’s thesis was published in 1976 as the book *Crystals, Fabrics, and Fields: Metaphors that Shape Embryos*, and insights from Waddington’s systems biology has followed Haraway’s thinking ever since. Thus, the contemporary epistemological landscape pioneered by Haraway—of situatedness and pluralism—is undoubtedly tied to, and to some degree fuelled by, biological theories about environmental feedback developed in the 1930s. Yet, in contrast to Haraway, Waddington’s biological theory did not encourage us to “stay with the trouble,”¹⁵ but rather to question, negate, and transcend the given state of nature.

13 Waddington, *Behind Appearance: A Study of the Relations between Painting and the Natural Sciences in This Century* (Edinburgh: Edinburgh University Press, 1969), 240.

14 Waddington is thanked in the acknowledgments of the published version of Haraway’s PhD thesis *Crystals, Fabrics, and Fields: Metaphors that Shape Embryos*. Berkeley: North Atlantic Books, 1976).

15 Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene*. Durham, NC: Duke University Press, 2016.



Contributors to *Metode* Vol. 3: 'Currents' include Sigbjørn Skåden, Kameelah Janan Rasheed, Alison Burstein, You Nakai, Miriam Sentler, Martin White, and Sol Archer, along with four collaborative writing groups: 1) Nodes Collective (Elisabeth Brun, Katja Pratschke, and Gusztáv Hámos), 2) Åsne Kummeneje Mellem, Tarja Tuulia Salmela, and Gyrid Øyen, 3) Alena Rieger, Jumana Manna, and Drew Snyder, and 4) Ian Callender, Yueyang Luo, and Ann Wang.

Throughout the fall of 2024, the group will meet in three intensive workshops to collectively investigate how the contemporary art field engages with local history, regional situatedness, peripheral areas, remote figures and events, and local material histories. This investigation aims to explore the interdependency between local contexts and global entanglements, underpinned by a renewed interest in the relationship between ethics and aesthetics. The key research questions are: How have artists, curators, philosophers, and art theorists utilized local heritage for current critiques? How can this tendency be historicized and theorized? How do contemporary art practices negotiate between art, cultural and/or natural heritage to provide ethical remedies for the challenges that lie ahead?

The contributors explore these questions through the act of various modes of translation, including the nuanced interplay between words and works, the transmission of cultural concepts through time and space, and the regeneration of ideas across different languages; Japanese, English, wool, North Sámi, Elixir, Norwegian, Kven, wires, and Javascript.

Part I of Currents consists of three keynote essays by Skåden, Burstein, and Nakai, launched during LIAF's opening weekend, September 20-22, 2024. Part II will be launched on February 13, 2025, at ROM for kunst og arkitektur in Oslo.

The editors of Currents are Kjersti Solbakken (curator of LIAF 24) and Ingrid Halland (editor-in-chief of *Metode*)

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