Review of: "On the ongoing need for naturalistic philosophy to interpret what occupational science is doing"

Thomas Fröhlich[1]

1 European Society for Person Centered Healthcare (ESPCH)

Potential competing interests: No potential competing interests to declare.

Dear authors,

My review is more a commentary on your intriguing and well-based work, since I cannot suggest improvements, but only contribute a perspective on naturalism and ontology which may be compatible with your approach.

I want to start with a citation from your article, which I like very much:

> *4 If this formula is supposed to be algebra, it makes no mathematical sense. It fails because a correct translation of her words to algebra would be d + b' + b" + b"' = s+h. But as we shall explain, it isn't simply additive on either side of the equation and too much is lost in this artifice.*

In terms of an ontologically pluralistic approach, as suggested in your article, dynamic coherences, such as atoms, as mentioned by Feynman, do not behave in a simple additive manner, but in the form of conjoining convergence. In their agency, they realise their source-bound perspective and mutually or unidirectionally "implement" perceived characteristics of the other dynamic coherence's processing. Eventually, they may combine, but, as stated by you, in a not simply additive manner, but via adaptive interaction.

The agency enacted by dynamic coherences consists of their sourced being, their doing emerging from the sources of their individual existential being, their sequentially coherent becoming and their also coherent, and coherence-generating belonging. The confluence of these mentally discerned aspects is the synthesis, as described by Ann Wilcock.

Applying a concept of dynamic coherence as the prerequisite to be detectable and identifiable at all, subjects of scientific and humanity approaches may be categorised in the form of words, and symbolised, such as in the form of algebra. Quantitative aspects may be measured from an outside, detached position, which comes into play mandatorily because quantification applies transindividual, and scales individuality-detached scales and metrics. Iterated observation accounts for the fact or hypothesis of sequential coherence, and contextual features – the belonging in Wilcock's approach – are either considered in an explicit manner, or tacitly implied and not extensively addressed in experimental approaches. In them, they are addressed via detailing the experimental setting, but this setting aims to exclude as much of contextual, volatile, dynamic contextual agency as possible – it is a decontextualising procedure.

Via excluding genuine temporality and spatiality, in the sense of a real interaction's moment and place, the experimental

results lack genuine individuality in favour of their categorizable aspects. Individuality, be it on whatever level of complexion cannot be restored from the purely categorical level, then. So, focusing on the specifics of belonging, including the individual timing and spacing in interactions, as well as the individual energisation allows for creation of a dynamic coherence-based understanding also of occupation, as the work done, emerging from contextual, situational and individual capacities.

As obvious, the opposition of an absolute inside and its outside is suspended in favour of a multiplicity of agency, which, on the other hand, does not annihilate each agent's individuality in terms of individual existence. So, the perspectivity is preserved in this approach, and theoretically installed right at the bottom, applying for the smallest identifiable elements, which are coherent, and coherence-generating interactions, and not atoms, by the way.

To conclude, I would suggest an approach to the topics of science and humanities that refers on what their supposed elements have in common: a parallel, contextual, and temporal, situationally, contextual coherence that makes them identifiable, allowing for creation of trans-individual generalisations, categories, (algebraic) symbolisations, and measurements. The trans-momentary stability of characteristics of interactions allows to isolate them to some degree from further contributing contextual agencies, this way opening the chance to an experimental, symbolising and quantifying approach, as typical for science.

We developed the above concept starting by meetings in the philosophical seminary at Heidelberg University, with the Heidegger-scholar Gadamer attending in short antecedent meetings. Hannah Arendt wrote her thesis in Heidelberg, and the office we met was the one of Karl Jaspers, and then Ans Georg Gadamer, before. These anecdotical circumstances don't tell anything about the validity of our approach, but I personally love sequential coherence also on the level of philosophical traditions. Our approach also refers on the work of an Australian philosopher, Marilyn Stendera. The corresponding paper has recently been published as

- Fröhlich T. The clinical paradox: acting in two worlds in parallel. J Eval Clin Pract. 2022;1-8. doi:10.1111/jep.13802 (Available via www.researchgate.net)

Concerning the will to understand, as expressed in your 2006 publication (… are**a willingness to learn** from the best tested postulates of science and **a willingness** to deliberate forward to the kind of society that is aspired to from within the best articulated anddefended frameworks of ethics and justice available…), we mentioned the same in our first paper issuing our approach in 2016.

In terms of quantum physics, an interaction-oriented concept of elements has been proposed by:

- Kastner RE (2012). The Transactional Interpretation of Quantum Mechanics: The Reality of Possibility. Cambridge: Cambridge University Press.
- Kastner R. E. (2017). On Quantum Collapse as a Basis for the Second Law of Thermodynamics Entropy, 19, pp. 106–128. https://doi.org/10.1142/9781786346421_0013

In a recent submission, Fröhlich T (2023) Semantic Systems Theory. Research Note, submitted to: Systems Research

and Behavioral Science, we referred also on this model of dynamization. Since the submission is peer reviewed at the moment and not available via www.researchgate.net, I may attach it here:

- Fröhlich T (2023) Semantic Systems Theory. Research Note, submitted to: Systems Research and Behavioral Science.

RESEARCH NOTE

Semantic Systems Theory

Thomas Fröhlich[1,2,*]

[1] *European Society for Person Centered Healthcare, London, UK*

[2] *Heidelberg Metasystems GmbH, Heidelberg, Germany*

[*]Correspondence: *Thomas Fröhlich, Diplom Biologe Dr. rer. nat. Dr. med, Heidelberg Metasystems GmbH, Heidelberg, Germany, Kaiserstrasse 11 A, D-69115 Heidelberg, Germany. Email: drfroehlich@me.com. ORCID: https://orcid.org/0000-0003-0611-3834.*

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Semantic systems theory, as proposed here, is radically different from current theories in that it is role-based and interplay-focused. Semantic system elements are agency-based roles adhering to and jointly producing the momentary system's semantic. For roles to be played in an interplay, the properties ascribed to an element in its de-temporalized, categorized form only serve as a frame, allowing a variety of situationally informed roles to be played. A chemical element like sodium, for example, may play different roles, according the momentary co-players, such as oxygen combined with water, or elementary chloride. The same holds true for these co-players, also seen as roles played in frames defined by conventional element categories. A semantic system is an agency-based combination of individual roles enacted in a context; it consists of a mutually adaptive co-play as a transient convergence of roles, emerging from orchestrated interaction constituting an internally cohering structure open to further interactions. The sequential and momentary coherence of a role is based on and emerges from an underpinned capacity to play the role. Right from scratch, others form part of the role, since the role is oriented to others' play in an inborn, inherent, categorical way. A role and the semantic system in which it is performed form an interactional unit and cannot be fully separated from each other. Hence addressing semantic systems means addressing the system and its elements simultaneously. Text and context, center and periphery, inside and the outside, as co-created by the inside, form interactional pairs that only can be addressed in combination. They do not perform as a thesis and its antithesis, because interpretative processing is at work from all contributing players. The thesis is produced by implementing the outside's contributions. Simultaneously, the outside

consists of further roles, as well formed in interpretative implementation of aspects of participating insides' agency. Therefore, the whole system is interpretatively meshed and interwoven. The elements act on each other, installing their individual perspective on the others, and the transiently resulting whole lives this perspectivity in a non-hierarchical way. Because it contains and enacts the perspectives and their interpretative, partner-oriented adaptation, the system consists both of its elements and their orientation towards each other. It also lives the conclusions done in mutual interpretation, as its elements' ongoing information processing and adaptive information implementation. Therefore, cooperative agency forms the system, and the elements engaged in it live their inside points of view and role-related capacities. Being a genuine something, a perspective-generating inside is bound to doing something specific and specifying. Hence each role as an element is contextually and categorically embedded. It is not an isolated state to be definitively separated from other isolated, monadic states.

In consequence, to apply the semantic systems approach needs a readiness to think in terms of genuine, fundamental complexity. This refers also to the dynamic character of both the elements and their convergence in the form of the semantic system. This is because the consistency and inner consequentiality of an identifiable role resides in the formatted, structured, regulated, consequently iterated change of states, not in the states themselves. Therefore, even in its smallest compounds, change is at work, and time and self-determined timing play a pivotal role. The same holds true for orientation and modification in terms of the semantic space, as co-created by the role play and its formatted and formatting agency. The agency's forward drive is not an unspecific one, but engaged in both being in its own, and differing from others. Furthermore, each inside is established together with its own separation and individuation concerning other insides. Therefore, there are two activities at once, creating a persistent inside in the form of a role's inherent continuity, and keeping other insides apart. This doubled, simultaneously inside and outside-oriented activity enacts a specifying and differentiating potential, which can be referred to as individualized and individualizing semantic energy.

As with the specified timing and spacing, this form of energy too is mandatorily role-bound. Its transmission to other insides is not in the form of batchwise transferred particles, but in the form of a harmonizing, appropriate, fitting answer to another inside's question, to put in in anthropomorphic metaphors. If there is a fit, it comes from, and installs a resonance. It is this self-exerted resonating that inspires individual insides and leads to a transmission and sharing of semantic energy. Note that this holds true for any role played in a system, such as the role played by sodium in coherent co-processing with chloride, both seen as embedded roles played by and emerging from their individualizing potentials.

To conclude, a semantic system is more than the sum of its inert elements. Its elements are more than monadic, disoriented, de-temporalized objects. Instead, the semantic system is composed of mutually interpreting roles, played in enacting an individual, perspectival agency. In this way also the specific of interaction-based times, places, and energizing interpretative resonances are generated. Corresponding to an individually orchestrated, specifically future-oriented timing and positioning, it enacts its own, individually resonating form of energy. In living beings, its elements' role of implicitly distinguishing themselves from others is enhanced by additional separating agencies, exerting the separation task as a separate instance, explicitly, as an identity-enforcing project, further contributing to the system's creation of an individual meaning. The quality of being a semantic inside is additionally enforced and adds to the basic inside generation, as implied in every role's play. This allows for inside interpretative interactions becoming even more focused, since other

players and their perspectives are kept out of the system. The chance of delineating an existing semantic system from further players and other systems is increased, and the individualized shaping of a system to become an orchestrated whole, a symphony is perfected.

To apply this novel theory, a post-Kantian shift is needed to redefine the elementary ground of the systems approach, an option not available in times of affirmative acceptance of physicists' decontextualized and mostly quantitatively defined element concept. In former times, the interpretative work done by each role taking part in coherent convergence has not been described systematically. At least, there are applications of a hermeneutical approach limited to different fields of thinking and research, such as in Heideggerian hermeneutical phenomenology, also applying the Aristotelian concept of potentiality; von Uexküll's Biosemiotics, which issues an explicit inside-in-outside concept; and recent enactivist theroes proposed for neuroscience which combine von Uexküll's and Heidegger's approach (Stendera, 2015, 2016). In Kastner's relativistic transactional interpretation of quantum mechanics, interactions in the form of emitted and absorbed photons are considered, which may be seen to relate to a primordial form of communication (Kastner, 2012, 2017). In all these instances, semantic system orchestration needs neither a mind nor an explicit will to be achieved. It either happens, or not, and if it happens, this is no proof of tacit or explicit intentional processing.

Some notes concerning the source and realization differentiation valid in the semantic systems theory: Realization differentiation is based on a concept of reality which differentiates between realized roles and their underlying, coherence-providing potential. In semantic systems, resonant adaptation of a momentary role feeds back into its underpinned time-shaping potency, allowing for a new, communicatively adapted role to emerge. As outlined above, the overall frame of role-creating capacities is set by some aspects of this potential, but our element definition is not about this frame, but based on the actual role played in a play. The static frame corresponds to current category- and object-based definitions, whereas the role, as a dynamic, is at the center of the communicative semantic systems approach. Hence the approach suggested here might also be called interpretative, communicative, information-based, or hermeneutic.

In fact, its development started in transdisciplinary meetings at the Heidelberg University's philosophical seminary, hosted by philosopher Reiner Wiehl, the Gadamer-trained hermeneutics and Whitehead expert (Wiehl et al. 1990, 2016). Based on a systematized understanding of empirically proven psyche-body interactions in children with asthma, we implemented physicist F.F. Bevier's information theory (2017), and the philologist A. Schmitt's interpretation of the Aristotelian concepts of *dynamis* and *energeia*, corresponding to Latin *potentia* and *actus* (2011). These combined efforts were incorporated into an advanced model of biopsychosocial interaction, and then generalized to allow for a distinct concept of meaningful reality (Froehlich et al., 2016, 2018, Fröhlich 2019). Suggesting a non-reductionist concept of elements to be applied in a general system theory (GST), the principal meaning of the terms "center" and "inside" was discussed (Fröhlich, 2018, 2019). The latter is contrasted with the indispensable categorizing, measuring, comparative approach, pivotal also for care and healthcare. In a detailed discussion, the relevance of a hermeneutical approach to person-centered healthcare has recently been outlined by the British philosophers Derek Mitchell and Michael Loughlin (2023). The resulting simultaneity of the semantic and metric approaches makes anyone engaged in the care and healthcare system live in two distinct worlds simultaneously, as outlined in recent publications (Fröhlich, 2022a, 2022b). Becoming aware of the duality

of the approaches helps to consciously shape and adapt health professionals' roles in avoiding exhaustion and resignation. This is the most recent practical application of the semantic systems approach, as outlined in a series of forthcoming articles (Froehlich et al., 2023). To conclude, the semantic systems theory both widens the interpretative horizon in systems thinking and offers the chance to better cope with systemic challenges.

Conflict of Interest

The author declares no conflict of interest.

Data Availability Statement

Data sharing not applicable—no new data generated.

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With kind regards, hope to have been helpful in some respect,

Thomas