

Grammaticalisation, Semiotic Pragmatics, and the Social Dimension: Dilemmas for Biosemiotics as a Theoretical and an Applied Science

Original Study

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Abstract: This essayistic paper positions pragmatics as an aspect within biosemiotics, a field still in its becoming. “Semiotic pragmatics” is phrased as a contrast to “linguistic pragmatics” since historically, pragmatics, in opposition, departed from (‘pure’) linguistics and developed in various linguistic and semiotic directions. In these struggles “grammaticalisation” became central. As a process it aimed at making sign-theories scientifically crafted by consequent use of synchronism. Pragmatic grammars, such as Peirce’s and Halliday’s came in opposition to traditional (Saussurean) and Chomskyeen grammars. The development led to a series of challenges within biosemiotics, concerning scientificity, the social dimension, communication, triadism, and bio-/semiotics as an applied field. The essayistic approach implies a design turned more to abduction than just to induction and deduction, methodologically speaking mainly by contrasting and exemplifying. The paper ends calling for clarifications of the social dimension’s role in biosemiotics, in theory as in practice.

Keywords: Pragmatics, grammaticalisation, biosemiotics, commonalities, sign, communication.

1. DESIGNING THE PAPER

1.2. A Personal Voyage towards a Dilemma – a Prologue

My master thesis from 1974 was in *grammar*, studying freedom and restrictions of the positioning of verbal particles’ such as *hold up/uphold*, their shifts between positions both in words and sentences (Ongstad 1974). As a grammatical thesis, it was, typical for its time, at the same time philological, linguistic, syntactic, and semantic. It aimed at a *synchronic description*, searching stable patterns. During the study it became clear though that native language users might have different norms for the usage of such verb-particles. The normative patterns I aimed at documenting were actually in drift. They had not yet fully ‘*grammaticalised*’, obtained a clear pattern.

An additional *diachronic* view was necessary to catch the slide. The tool used to study these norm gaps was a questionnaire, methodologically a *pragmatic* grip. The term *pragmatics* was at the time in its infancy within philological studies but as a new concept and a new discipline it became a game-changer: With the introduction of pragmatics and speech act theory and later systemic functional grammar/linguistics traditional, national oriented philology started to drain during the next decades, a development also found in other countries (Scholes 1996).

I later discovered, partly as a consequence, *applied linguistics*, a new field, even this in its infancy. I wanted to apply theories of language to unveil educational challenges in classroom communication and students’ disciplinary writing. In 1997 I the did a doctorate in this field,

bringing in and combining *semiotic* and pragmatic perspectives (Ongstad 1997). Since the studied objects were kinds of utterances, that is, kinds of communication, so-called (discursive) genres in school subjects, academic disciplines, and institutions, some form of a *social* semiotics seemed feasible and applicable. The combination of pragmatics and social semiotics as lenses meant a rejection of Saussurean semiotics and of both Chomskyan and traditional linguistics as an adequate theoretical basis for the study.

Regarding semiotics, the choice stood between Peircean and Hallidayean theory (Nöth 1990). There were pros and cons: Although Hallidayeans clearly recognised semiosis as basic, to *grammaticalise* functions and context had nevertheless priority (Halliday 1996). Further, to stress the dynamic aspect of signs seemed natural. Peirce's concept of semiosis therefore felt important and relevant – after all, learning, which was central to the study, could be seen as semiosis, and vice versa. Besides, a broad, cultural conception of genres pointed toward semiotics rather than to text-linguistics only.

A problem with Peirce though, as I then saw it, was his version of 'American' pragmatics. It seemed rather general and thus challenging to apply in *empirical* studies, while Bühlerian, Bakhtinian, and Hallidayean versions of pragmatics seemed more applicable. In later studies I also integrated some Habermasian pragmatic principles (Ongstad 2010). Besides, Habermas had raised a crucial problem: How to relate Peirce's sign-notion *interpretant* to pragmatics? (Habermas 1998). Both 'interpretant' and 'pragmatism' seemed to be complex concepts and the effort of comprehending them, not to speak of operationalising them, did not seem worthwhile then.

I should underline that at that time I did not make a direct comparison between Peirce and Halliday. Neither will I now. Although they of course differ in that Peirce's work can be seen as philosophy and Halliday's as linguistics, they are both even semioticians, seeing their theories respectively as *general* and as *social* semiotics.

This brief outline of a particular part of my professional journey has several similarities with the general epistemological history of linguistics at that time, the last decades of the twentieth century. The words above marked with *italics* make up a cluster of significant key concepts that will become central even in this paper. Besides, the personal voyage has uncovered some interrelated challenges that may still persist, such as the synchrony/diachrony constraint, further the question whether semiotics mainly aims at remaining a classifying, coherent grammatical system for signs in general or becoming applied as well, and finally the tricky positioning of the pragmatic aspect relative to the *sign*, especially Peirce's concept *interpretant*.

1.3. Epistemological Implications of the Title's Problematisation

There are a couple of epistemological implications of the notions and their positioning in the title. Firstly, that

pragmatics will be seen as a constitutive part of semiotics and hence of biosemiotics. Secondly, that a pragmatic biosemiotics could have a clearer and integrated social orientation. Thirdly, that biosemiotic pragmatics is imagined both as a discipline in becoming and a potential field for empirical semiotic studies. Fourthly, it is suggested that biosemiotic pragmatics may find itself in a squeeze between a specific, scientific *norm* on the one hand and an epistemological *ethics* for empirical studies on the other. Finally, that an enforced 'pragmatisation' of biosemiotics as a field might bring to surface some under-researched issues. Taken as a whole these positions generally imply that this text will explore rather than 'prove' and that the inquiries dispose for a somewhat essayistically designed discourse, one that by abduction ends with new questions rather than just inductive or deductive conclusions. Or, as Nöth (2011, 181) puts it: "Interpretation is thus a semiotic patchwork put together by abductive, inductive and deductive reasoning."

Some preliminary words regarding the term *grammaticalisation*: Saussure (1974[1916]) did not himself construct a grammar but sorted out linguistic principles for describing language as a system. Chomsky (2014) made a grammar for language in general. Derrida did not make a full grammar for the written language, but rather a (post-)structural critique of linguistic grammaticalisation of writing/the written word with his *Of Grammatology* (Derrida 1976). Halliday (1994) made a socio-semiotic, functional, contextual, and linguistic grammar. Last, but not least, Peirce (1998) had already developed what he called a "speculative grammar" for any form of signs or sign system.

Beaugrande (1997) has problematised the making of grammars. He estimates that there has been documented close to a hundred different kinds of grammars, not for specific languages, but grammars based on various premises and principles, written from various positions and theories. Further, the study of grammaticalisation has later become a meta-metafield (Heine 2017; Halliday 1996). Grammaticalisation here refers to theoretical discussions of processes of generating grammars as such in whatever sign system, not to the more common, to how a specific use of language elements becomes a describable linguistic pattern. I will return to some of the mentioned grammarians and 'grammaticalisationists'.

My text will mostly operate on meta-level, inquiring what consequences particular ways of grammaticalising and other kinds of theoretisation may have for (future) empirical studies of signs and for application in practice. I should make clear that I will not discuss the linguistic problems of making grammars for verbal language(s) but problematise systemic theorising of semiotics, inspired by Peirce's notion for his own theorising, a "speculative grammar". Also, in this paper *language* is not the issue. Yet, another clarification, my focus regarding Peirce will be on his (theoretical) *Speculative grammar*, not on his empirical research.

1.4. Further Delimiting of the Scope and Focusing the Key Issue

This paper combines socio- and biosemiotic perspectives, but for the aim of establishing a manageable scope I have been selective. I have concerns about the mixing of linguistic and semiotic thinking in studies of evolution. Although biosemiotics in principle should be open for studies of all life-forms (Witzany 2019), I will nevertheless delimit the scope, so it is relevant for future empirical investigations of the pragmatics of non-human organisms. Further, if signs have developed *with* evolution, their development should ideally be studied independent from any later stage, especially the ones that include human, verbal language. In short, the scope should refrain from or reduce anthropomorphism.

Ideally, a matured semiotics should become more empirical and contribute to our comprehension of the role of signs and signifying, in nature, in evolution, and life. In principle, this ambition will face a similar challenge that applied mathematics and applied linguistics have experienced: Will the ethics of 'applying' be anchored mostly in practical usefulness, or will it mostly, at the end of the day, contribute to validating the appropriateness of the applied theory? To apply a sign-theory implies doing pragmatics. Positioned between theory and practice, *biosemiotic pragmatics will probably find itself in a constraint between staying true to and supporting theoretical grammaticalisation on the one hand and the expectation of adding significant new, empirical, practical insights when applying theory on the other.*

Grammaticalisation of any phenomenon implies a search for systemness. Any semiotics considers the micro *sign* as its basic element, but few within biosemiotics seem to regard the macro concept *communication* to have an equal importance. When both are co-constituting a semiotic framework, will it mostly be regarded as a sign system or mostly a communication system? This dilemma raises the issue of *means* and *ends*. If the sign is seen as basic, prime, or superior, other aspects and elements risk becoming secondary or subordinate. From this perspective, they are means to an end, to underline the crucial role of signs. If communication is given the role as the most general concept in a framework, signs are means of communication.

Finally, along the same logic: Given that what is most important for life simply is its continuation, its evolutionary continuation becomes an end. A specific species' own, internal resource system, including signs and communication, then becomes a means. These relational premises might alter traditional semiotic epistemologies. Having established a coherent and fairly integrated and unified theory, the description of key terms, should, according to Morris (1971), contribute to the validation of the theory. Besides, when applied, theory turns to means and practice becomes an end. Hence, a conclusion is that the relationships between signification and communication, between theoretical and empirical positions, and between kinds of pragmatics are challenging

dilemmas. The concept of grammaticalisation offers a path to these dilemmatic concerns.

2. GRAMMATICALISATION MEETS COMMUNICATIONAL TRIADS. CONSEQUENCES?

The title suggests that two phenomena are of particular importance. *Grammaticalisation* is within linguistics most often understood as the way grammatical forms arise and develop through space and time (Heine 2017) as illustrated in the prologue. Here, the term rather means the establishing of a grammar for any particular sign-system, and *not* just in linguistics but in any semiotics. Theorists such as Chomsky, Derrida, and Halliday did generate grammars, Chomsky (2014) for language at large (Generative Grammar), Derrida (1976) critically for writing (*Of Grammatology*), and Halliday (1978, 1994) a functional context-related grammar for language as a *social semiotics*. These theories, developed in the last part of the 20th century, are initiations. Later developments and improvements of their theories should be regarded as (*continued*) *grammaticalisation*. In Halliday's case his theories have been further developed to include multimodal research, and hence studies of other semiotics than language. From this paper's perspective, this continuation can be regarded as 'silent' further grammaticalisation.

Lehmann (2015) gives an extensive outline of the concept. He aims at a perception of *grammatical* that concerns the generation, maintenance, and decline of grammar as a systemic phenomenon and not the partly inherited question whether a particular use of language is in accordance with given grammatical 'rules' or not. In other words, *grammaticality* for Lehmann concerns construction, reconstruction, and deconstruction of a describable system, such as of language, in general (Lehmann 2015, 13).

While Lehmann develops a meta-focus on grammar for language, my and biosemiotics' perspective in this paper is *grammaticality* or *on grammaticalisation of any sign-system*, not just a system for verbal signs. Similarly, beyond traditional linguistics, the term 'grammar' can, for instance, be found in fields such as storytelling, film theory, studies of images, and ICT where it describes a field's structures as a discipline or theory. The reader should therefore not in this context associate the concept with making grammars for language(s).

Hence, lifting the perspective, we find that for many new fields, disciplines, and sciences a key challenge is to balance theory and practice. Beaugrande (1997) is concerned about the relationship between theories and practice. He is focusing on language, but points to problems that are general. According to Beaugrande (1997, 99), *transdisciplinary* sciences face the challenge of clarifying *inclusiveness* and *exclusiveness* both in their theories and when practiced. He argues that theory "[...] would subsume all representations of 'meanings', 'significances', 'ideas', 'objects', 'intentions', and so on, whereas

practice would subsume all actions and interactions by human agents.” He further states that exclusive theories try to understand phenomena by dividing them into opposites. In contrast, inclusive theories try to explain things by underlining connections. Exclusiveness prefers bits and clear classification. Conversely, inclusiveness implies networking elements and continuously reconsidering classifications. Finally, Beaugrande holds that explicit theories and practices are openly stated, whereas implicit ones, although not stated, are applied all the same.

With these general claims in mind, Beaugrande discusses at length linguistic theories and their functionality as resource for practice, especially in the field of education:

Theorising might start from the principle that all human issues or activities have three basic aspects: the cognitive relates to knowledge, the social relates to actions and interactions, and the linguistic relates to language [...]. Seen from an inclusive standpoint, the connections among them are dialectical in the sense that they both differ from and determine each other as they evolve. Cognition is socially and linguistically determined; social actions are cognitively and linguistically determined; and language is socially and cognitively determined. (Beaugrande 1997, 105)

Beaugrande further discusses *closing*, claiming that theory-driven perspectives try to construe language as a theoretical abstraction, where it is regarded not as a general theory of human knowledge and experience, but as a theory about *itself*. The theoretical drive shapes a uniform, abstract system constituted by exclusively linguistic principles. He exemplifies the closing with Saussure’s (1974[1916]) pronouncement that the true and unique object of linguistics is language studied in and for itself (Beaugrande 1997, 106).

Other examples of such purification are the definition of art as *l’art pour l’art* or the strict axiomatic formalisation of mathematical signs. Could this tendency, the liability to purify a theory by defining structure as just structure, concern versions of semiotics as well? Also, what if pragmatics is given a position within the sign itself, as does Bühler (1965[1934])?

Over the years I have been drawn to triadic, and hence pragmatic theories and theorists that in addition explicitly have called for or sought integration, developing inter- and cross-disciplinarity that can bridge semiotic theory and empirical studies of animal communication. For this paper Beaugrande (1997), Witzany (2011, 2014, 2019), and Brier (2015) can serve as examples. They all argue for establishing connections, Beaugrande, as demonstrated, between life (‘reality’) and language, Witzany between semiotic communication and life (even early lifeforms), and Brier between biosemiotics and natural, social, and human sciences.

While Beaugrande, as we have seen, describes principle connections between language and life, Witzany (2011, 518–519) states how commonplace the integrated

triad has become after the pragmatic turn: “The complementarity and non-reductionability of the three levels of rules (syntax, pragmatics, semantics) which are at the basis of any natural language used in communicative actions were commonsense elements.” Witzany not only confirms that the communicational triad has a central place in linguistics, but has later continued to demonstrate how this thinking is relevant for any kingdom of life examining of all forms of life as communication:

If we look at life in contrast to abiotic matter, we will identify cellular organisms that coordinate and organize their life actively by communicative actions, which means that they use signs in various forms to interact. The use of signs is essential. The sign use is governed by three levels of rules: how to combine signs to sign sequences for more complex information (syntax); the context dependence, which determines meaning of the used sign sequence (pragmatics); and content coherence, in which signs are used to designate something (semantics). All communication processes in the cellular world share these features. (Witzany 2019, 101)

Brier (2015), on his side, more than hints in his paper’s title, that biosemiotics should bridge between human, natural, and social sciences. He does not develop the implicit triad any further though. However, as Habermas (1984) has demonstrated, these clustered three sciences can prototypically be associated with investigating roughly ‘person’, ‘world’, and ‘society’, respectively, the three parts in his lifeworld concept. Besides, there are even systemic affinities between Brier’s and Habermas’ triads and the communicational triad of syntax, semantics, and pragmatics we meet in Morris’ works (Morris 1971). I discuss some other themes in Brier (2015) toward the end, in connection with a key issue for this paper, biosemiotics as a *field*.

Most of my biosemiotic research has hence been anchored in a triadic thinking found in the work of Bakhtin, Halliday, Habermas, and many others. A key assumption is that the three aspects in the communicational triad should, from a *synchronic* perspective, be seen as *simultaneous*. A partly, but only partly, familiar form of triadic thinking is Peirce’s trichotomies (Peirce 1998, 483). The key difference is that the three parts in the former are reciprocal, while in the latter they are not, although a Peircean sign is principally relational.

A second belief is that biosemiotics could benefit from inserting *intermediate levels* between the sign and the Umwelt/lifeworld, and that utterance and life-genre are relevant candidates to fill such a function (Alteanu, Ongstad 2024). A third key point is that the interrelated concepts *commonality*, *commonage*, *interpersonality*, and *intersubjectivity* could, as will be discussed in the following section, be seen as constitutive *parts* of a communicative sign. This last idea seemingly clashes with Peircean ideas of what a sign is.

Especially challenging, in the light of the claimed principle of simultaneity, is Peirce's complex idea of the *interpretant*, although the concept as such, a key aspect of the sign at a first glance, is not particularly complex. However, since interpretant obviously relates systematically to many other key elements of Peirce's semiotic, systemic universe, this relativity makes interpretant a difficult concept to operationalise for different empirical studies. I will return to this complexity. In addition, interpretant plays a key role when discussing kinds of semiotic triads, for instance found in Peirce (1998, 483–491) and Morris (1971).

3. SEMIOTICS AS A FIELD – PEIRCE AND MORRIS COMPARED

Cobley (2019) outlines at length the reception history of Peirce's semiotics by discussing the perception and outlining of his work among eleven leading semioticians starting with Jakobson (1965) and ending with Stjernfelt (2014). My very selective interest (and narrow reading) of his lucid text is how semiotics is regarded as a *field*. Cobley concludes that Peirce's conception of semiosis, despite any reductionist or revisionist reading, should be the broadest possible, embracing not only signs of life in nature and culture, but even the innermost thoughts and the outermost cosmos. In my view, this means that *extensions* in biosemiotics, the row of ever new contextualisations, for instance from the sign to the habit, from the habit to the Umwelt, may alter the dynamics between these concepts and levels, invite new sciences, making the imagined sign-system even more *relational* and less categorial and closed, just as Beaugrande pointed to regarding language.

When concluding, Cobley admits that Morris is one of the key figures that has not been included, despite the fact that Morris was one of the first ambassadors of Peirce's work. Hence, Morris deserves to be discussed and compared with Peirce regarding perceptions of semiotics as a *full-fledged field*.

Looking at their aims and motives, at least two, almost paradigmatic differences come to surface. Peirce explicitly positions his semiotics as a *speculative grammar* in combination with a speculative logic, and partly with a speculative rhetoric (as 'context'), continuously insisting on the sign as his crux (Peirce 1992, 482). The result is a suggested system of sign-types, defined and ordered in relation to each other in a system of ten classes of signs built on trichotomies (Cobley 2019, 5). As mentioned, a short version is found in Peirce, (1992, 483–491).

Two main framing ideas are thus *signification* and *grammaticalisation*. However, what about *communication*? A search for the term in *The Essential Peirce* makes clear that this concept is only of significance in relation to the sign, but not necessarily *the other way round*. Although signs are said to be part of communication, communication is nevertheless regarded as a *medium*

only (Peirce 1998, 390–391). The concept does not have its own entry in *The Essential Peirce* either.

Morris' aim was, at least in the first part of his career, to position semiotics between the sciences, perhaps even in their middle (Morris 1971). He later extended his view beyond sciences, though. His crux was nevertheless not the sign as *such*, but the sign's function relative to each and every *science*, in other words how semiotics relates to how knowledge disciplines communicate. In the belief that he was faithful to Peircean thinking he integrated the three sign-aspects relative to the three disciplines he thought should constitute a semiotic science, syntax, semantics, and pragmatics. In the glossary, Morris defines semiotics (in his terms 'semiotic') as follows:

Semiotic. The science of signs. Its main subdivisions are *semantics*, *syntactics* and *pragmatics*. Each of these, and so semiotic as a whole, can be *pure*, *descriptive*, or *applied*. Pure semiotic elaborates a language to talk about signs, descriptive semiotic studies actual signs, and applied semiotic utilizes knowledge about signs for the accomplishment of various purpose (Morris 1971, 366).

From this quote, two simplistic conclusions can be drawn: firstly, that *all* three mentioned parts of the field semiotics are established by syntactics, semantics, and pragmatics, not just the sign; and secondly, that *applied* semiotics is envisioned as an explicit, 'necessary' sub-field.

Further, regarding *communication*, Morris (1971, 198) states: "For our purposes '*communication*' will be limited to the use of signs to establish a commonage with signification; the establishment of a commonage other than that of signification – whether by signs or other means – will be called *communization*." In the glossary (Morris 1971, 360) there is even a shorter, generalised definition: "Communication is the arousing of common significata by the production of signs." He further argues that because communication is the establishment of temporary similarity between the interpretants of communicator and communicatee, the problem of communication itself is how to attain this similarity (Morris 1971, 197).

What he searches in this 'similarity' as phenomena seems to be 'interpersonality' and 'commonage'. Nöth (2011) has argued that Morris's view on 'commonage' is rather restricted, but he might have missed that Morris immediately underlines that a *commonage will always be only partial*. Interpersonality (and/or commonage), what Habermas has termed *intersubjectivity*, is generally not included in structural grammars and monolithic theories. It is exiled to *la parole*. Commonage in real communication is always incomplete and does not obey structural grammatical 'laws' or 'rules' and is hence not included. It resists strict and direct grammaticalisation, just as the verb-particles in my master thesis (Ongstad 1974).

It has been normatively claimed that commonage is the goal of communication. Although the assertion

is highly questionable, a certain portion of commonage is nevertheless a prerequisite for exchanging meaning or sharing an understanding even in animal utterances. However, commonage, of whatever extent, should rather be considered as the commonly owned resource (affordance) in a community of sign-users that has been jointly developed and sustained by continuous silent confirmation by its use – in my own research termed *life-genre* (Ongstad 2019).

Nöth (2011, 181) comments on Peirce's view on this interpersonal aspect:

The *commind*, as Peirce calls the fusion of the two minds in one and the same *commens* elsewhere, is a normative ideal. In practice, the ideal of a commind can never be fully reached since mutual understanding is only possible in a fragmentary way. In 1907 (MS 318), Peirce points out that no interpreter can be said to have access to the utterer's mind. [...] As interpreters we must match those fragments found in the signs of the utterance with our own discourse universe and find out where they can be "inserted or recopied" in our own "panorama of universal life" (MS 318: 194, 1907).

It should be added that each of us does have our personal *Umwelt*, or termed with my preferred concept, *lifeworld*, but the idea of a *community's discourse universe* is that it is a *common* property, a commonage. Social and human sciences have, during the last part of the 20th century delivered a row of key conceptualisations of different commonages within the social sciences, such as the Foucauldian *discourse*, the Bourdieuean *habitus*, the Hallidayean *register*, and the Bakhtinean *genre*, all of relevance for understanding the collectivity of signs.

When Peirce searches a discursive universe for the sign in which it could be of relevance and operate, he points to routinisation of *habits*, and so does mainstream Peircean biosemiotics (Kull 2022). In Morris' work there is not much weight on habits, but in return there is an extensive chapter on *types of discourse* which he regarded as relevant for *an extended semiotics* directed toward application. They are classified as combinations of four kinds of use and four kinds of mode, which gives four times four or sixteen in all, of which almost all are exemplified at length (Morris 1971, 205). I do not quote these since my point is not to use or even apply Morris' framework.

I take his 'search' for a discursive level above the single sign as a felt need for an overall mechanism that regulates signs' societal nature. To me it looks as if Morris has taken the term *commind* from Peirce and made it into an overarching aspect for the three aspects of semiotic communication. If so, *commonage* can be seen as an early sprout to a *discursive* element in communication, *above* the sign, the utterances, and *between* communicators. Morris' intention could be seen as a search for a *collective* universe of discourse, not just the individual mentioned in Nöth's quote above. To me Morris' drift

toward phenomena such as *interpersonality*, *behavior*, *commonage*, *collective discourses*, and an explicit semiotic *pragmatics* seems partly motivated by his urge *to make semiotics applicable*. It is hence no coincidence that Morris, as we have seen, in his definition of semiotics underlined that the specific third part of semiotics should be – applied.

Framing sign, semiosis, and semiotics by grammar and logic, seems in other words to obstruct or sideline a societal epistemology in semiotics. *Society* seems defined out or is being regarded as a context, since *interpretant* is a singular in an individual running process. The *addressee* as a *social* phenomenon is not central in the Peircean triadic sign (Habermas 1998).

Here I should make clear that the *interpretant* in Peirce's late(est) writings was partly re-conceptualised compared to some earlier definitions (Atkin 2015). A sign is a mediator. It is in its nature just a *relation* or a relational phenomenon that connects three elements: The *representamen* is now the physical form of the sign. *Object* is what a representamen as sign-element refers to. The *interpretant* is the the cognitive, behavioral, or emotional effect the sign produces in an interpreter. Signification is seen as a continuous process. An *interpretant* of a first sign can therefore become a new sign which in turn could generate yet another interpretant, possibly continuing as infinite semiosis. Finally, in some of his latest accounts of signs, Peirce even suggests several *types* of interpretants, such as immediate, dynamic, and final (Atkin 2015). These perceptions therefore highlight signification and downplay communication, although both are involved, of course. In addition, this 'updated' definition is not synchronic, but *diachronic*. It rather works as a definition of *semiosis* as a triadic, processual phenomenon, than as a synchronically defined sign.

Further, when biosemiotics most often chooses *Umwelt* as a macro companion to the micro sign (Kull et al. 2009) rather than lifeworld, there is little place for the *social aspect* of communication, *the commonage*. Social semiotics has to a little degree been included in Peircean biosemiotics so far, although discussed by some (Olteanu 2021; Randviir, Copley 2009). The logic of communication conceptualised as a *social shared phenomenon* regulating the use of signs can hardly be captured and unified by *the logic of logic* or by the description of signs as *structured grammar* arranged in a system. 'Strict' grammaticalisation of the traditional type hence more or less excludes socialisation of signs by giving priority to unification and systemness (as Beau-grande pointed to).

Also, Nöth (2011, 167) points out that Morris aims at a science of signs "[...] on a biological basis and specifically within the framework of the science of behavior (1946, 80) indebted to the positivist paradigm of psychological and social behaviourism." Morris' choice of behavior seems deliberate though, and in his "Foundation" only ¼ is about a theory of signs while ¾ is about how this theory relates to behavior. Morris' enterprise, sometimes termed 'framework' (Morris 1971), is to relate the theory to the

particular field, we today might call “behavioral sciences”. It implies, among others, connecting the abstract, theoretical sign to a concrete body, an organism, or a person, one that acts by signs in context by uttering. This approach could thus be characterised as pragmatism, just as much as positivism and behaviorism. However, as remarked, such a pragmatics should be regarded as *integrated* and thus internal and not excluded to context, made external and thereafter ‘added’, as symptomatically present in the notion ‘language *in use*’.

Morris’ definition or constellation of semiotics as simultaneity between syntax, semantics, and pragmatics reaches out to theories of other pragmatists such as Bühler, Halliday, Bakhtin, and Habermas. These four, and several others, consider the constituting aspects of communication in principle as *simultaneous*. While communication is the result of signifying for Peirce (1998), signs could, when seen the other way round, be *means* for communication, as problematised above. The one perspective is of course not more ‘right’ than the other. They are eyes, perspectives, or positions from which theorists try to obtain a focal clarity but are left with obscurity in its (back-)ground. Accordingly, seen in a more open, systemic perspective, and not as a fully grammaticalised and closed system, a sufficient space between theory and practice is then kept open. One particular kind of semiotics, socio-semiotics of the Hallidayean version, takes the risky in-between position: Being a grammar both for the system and context, facilitating empirical analyses of practice (Halliday 1994).

Peirce’s key concept *sign* is of course extremely open since its semiosis is in principle regarded as never-ending. But his theory is structured and framed as grammar (for semiotics). Grammars presuppose and are based on sufficient closing searching a systemic nature. In a theory of communication, for instance of the Bakhtinian type, both sign and theory are open (Bakhtin 1986). Grammaticality has *not* generated Bakhtin’s theory. This hesitation is even visible in Derrida’s *Of Grammatology*. On the contrary, Bakhtin’s concept of utterance was constructed in direct opposition to Saussure’s implied grammaticalisation. What is lost with Bakhtin’s de-grammatization, though, is unity, order, and closed systemness, in one word, basic elements in traditional *scientificity* (Germ. *Wissenschaftlichkeit*).

To conclude, Peirce favoured further and improved grammaticalisation and coherence of his theory, although he continuously saw it in ever wider contexts. *Commonage* and *communication* never achieved a significant position in his theory-building. Morris moves more or less immediately toward application opening his perception of semiotics in principle for communication, in which commonage, or intersubjectivity in the Habermasian sense, *could* be included, which historically eventually happened mainly caused by the pragmatic turn.

4. THE LINE SIGN – GRAMMATICALITY – PRAGMATICS. FROM DYADS TO TRIADS?

The Saussurean sign is dyadic. Language is split in two. It is further closed and thus not dynamic. Within it there is no space for semiosis. It finally rests in strict logic. His *semiological* sign is the prototype of structuralism. Its thinking became invasive:

Even though semiology was in fact more general and more comprehensive than linguistics, it continued to be regulated as if it were one of the areas of linguistics. The linguistic sign remained exemplary for semiology, it dominated it as the master-sign and as the generative model: the pattern (Derrida 1976, 51).

Chomskyeen linguistics has no sign but is structural. It too rests in logic, applying structured lines to describe languages’ logic patterns. Structures are closed, although the grammar is defined as generative. As yet another contrast, the Peircean sign is dynamic. A sign is a sign is a sign:

Symbols grow. They come into being by development out of other signs, particularly from icons, or from mixed signs partaking of the nature of icons and symbols. We think only in signs. These mental signs are of mixed nature; the symbol parts of them are called concepts. If a man makes a new symbol, it is by thoughts involving concepts. So it is only out of symbols that a new symbol can grow (CP 2.302, 1893).

The Peircean sign is often visually drawn as a triad. Its logic and perspective, its ‘eye’, is thus seemingly synchronous. When visualising semiosis of the type in the quote above, synchrony is, as argued above, often implicitly mixed with diachrony. This ‘growth’ or semiotic change is not rooted in the triadic sign as a whole, but in its ‘interpretant’ only. If triadic is envisioned as a reciprocal and *simultaneous* relationship between three joined aspects, parts, or elements, Peircean sign-processes should be regarded as a combination of triads *and* dyads as well as of ‘optics’ based on synchrony and diachrony. It will basically be structural in its logic, by which it is even anchored in logic as a discipline. This grip, swapping between triads and dyads, makes it possible to continue to resonate basically structurally, as in logic, mathematics, and in grammars for structural linguistics. When Peircean signs further are organised as a sign-system, as a more or less wholistic, semiotic theory (at least in its ambition) the thinking is based, as argued, on *grammaticalisation*, that is, searching systemness. A familiarity with Saussure’s and Chomsky structuralism shines through. But are these views compatible with Peirce’s own positioning?

Semiotics can from a certain perspective be regarded as a disciplinary part of a vast, general field of all sciences (Germ. *Wissenschafts*) describing nature and culture by symbols from a meta-position. Each science and

discipline may in turn be classified and clustered in different ways establishing a vocabulary for a science or a class of sciences (Germ. *Wissenschaftstheorie*). However, Peirce placed semiotics within the ancient system of quadrivium and trivium, with the result that he regarded semiotics as a *speculative grammar*. *Speculative* means, *not normative* and I suspect it even means *a priori*. It should be clear that the making of a grammar for semiotics is inspired by the trivium, where grammar studied modes of general signifying:

There are undoubtedly numerous other ways of making assertions besides verbal expressions, such as algebra, arithmetical, figures, emblems, gesture, language, manners, uniforms, monuments, to mention only *intentional* modes of declaration. Some of these are of the highest importance for reasoning. Philologists have not deemed those sorts of language interesting to them. So, cultivators of the art of reasoning found themselves long ago obliged to institute a *speculative grammar* which should study *modes of signifying*, in general. It is best regarded as separate from logic proper; for one of these days philologists may take it in hand, for which a logicians will thank them (Peirce 1998, 18–19/Article 10.)

Semiotics is hence regarded as the study of signs and signifying processes, semiosis. In practice it is descriptive, not prescriptive. The seven ancient sciences/arts are in modernity reorganised, and numerous new disciplines and subdisciplines have been added. Although there exist normative, formal classifications of them, such as the librarian 'Dewey-system', no new order has achieved general accept, although there is a certain gravity in the combination of natural, social, and human sciences as university faculties.

One particular subfield that is hard to position as field is pragmatics. It is no doubt that Peirce saw pragmatics as crucial for his new science. He also influenced significant ambassadors in this respect, such as James, Dewey, and Morris. As argued, Morris (1971) was the one that 'simplified' Peirce's more complex perceptions, claiming that semiotics should be the joint study of signs' syntax, semantics, and pragmatics. This reorganisation not only meant a somewhat different conception of pragmatics. It eventually contributed to the view that this triadic construct defined the phenomenon *communication*. This move or development created a *constraint* between sign and communication as the crux in semiotic theory. Halliday and Habermas can be seen as *pragmatists* by prioritising function since they, like Morris, integrated syntax, semantics, and pragmatics. Yet, Halliday's grammar is today termed *Systemic Functional Grammar* (SFG) making function, and implicitly hence pragmatics, into some kind of Jakobsonian dominant, in spite the fact that SFG in principle is built on 'true' triadic principles. The same seems to be the case for Habermas, although even he has declared that the three aspects are of even importance. A reason for this 'drift' is probably that Habermas

in practise considers the social aspect (Germ. *Handelns*) as the most significant, by which the role of the cognitive and the emotional/aesthetic aspects is downplayed and backgrounded when applying his communication theory on different issues and problems (Ongstad 2010).

5. HISTORICAL FOUNDATION OF PRAGMATISM. THREE VERSIONS OF SEMIOTIC PRAGMATICS

5.1. Koyama

Koyama (2011) describes the history of pragmatics as a science, claiming that the home of linguistic pragmatics lies in the Continental rather than in the American tradition. The former seeks a contextual, pragmatic view of language and communication. The latter sees pragmatics, according to Koyama (2011, 39) as a rather "[...] delimited component supplementary to the ahistorical, universalizing studies of syntax and semantics, abstractable from referential regularities." Koyama follows a set of genealogies of particularly important aspects, concepts, and issues. Their order is context and indexicality, communicative functions, different philosophies of language, intersubjectivity and interaction (the social turn in pragmatics), and performative utterances, to mention the most significant.

The closest to a generalisation of development and status of the 'field' is found in the final section (Koyama 2011, 158):

Austin's was a reference-centric approach to pragmatic functions, the severe limit of which is indicated by the comparison with multi-functional approaches to pragmatics found in [...] its developments in linguistic anthropology [...], and the theory of "pragmatic act", advanced in social pragmatics [...]. The rise of social pragmatics and linguistic anthropology in linguistic pragmatics since the 1990s seems to suggest that the discipline is not only recovering but also further elaborating the multi-functional, social interactionist insights of the older traditions of linguistic functionalism, which blossomed from the 1880s to the 1930s.

Koyama's key focus is the historical development of pragmatics within linguistics, which is mostly also the case for the book, in which Koyama contributes, *Foundation of Pragmatics* (Bublitz, Norrick 2011). Although key semioticians such as Peirce, Saussure, Bühler, and Halliday are briefly mentioned, sign, semiosis, and semiotics are hardly profiled as focused themes.

5.2. Nöth

However, there is one significantly semiotic contribution, Nöth (2011), entitled *Semiotic foundations of pragmatics*. Nöth (2011) and Nöth (2023) are similar works on the relationship between the two fields. I stick to the former since its discursive design is more argumentative and

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coherent, while the latter text is outlined more point by point, concept for concept.

His article is, understood in the best sense, a dense and source-true discussion of controversies at the crossroads of pragmatics, linguistics, and semiotics. However, even his contribution leans towards linguistics and philosophy. Nevertheless, from this coherent text, I will, due to space, cherry-pick seemingly significant points and controversial questions, issues relevant to the above discussions.

Next, after the title, Nöth immediately turns the perspective. His section 1 is called *Semiotics as a general framework of pragmatics*. Here he covers similarities and differences between Morris and Peirce, as already touched upon. In section 2 *Semiotic foundations of communication* he describes, in sub-sections, communicational models and discusses whether verbal signs are instruments of those who communicate, and covers themes such as intentionality, commonage, and dialogism. From this part, I pick some quotes that circle around sign and/or communication:

Although Peirce considers the model of the sign to be more fundamental than the model of communication, it is not true that the founder of modern semiotics had little to say about the topic of communication, as Habermas (1995) believes. (Nöth 2011, 171)

Whereas Socrates focuses on the utility of verbal signs in communication, Wittgenstein's focus is on their meaning and the way meaning is revealed in the use of signs. (Nöth 2011, 172)

Since the utterance is itself a sign with the purpose of creating further interpretants in the hearer's mind it cannot be merely instrumentally (or efficiently) caused by the thoughts in which they were conceived. (Nöth 2011, 173)

In the sociological theory of communication, Luhmann (1984) starts from the basic assumption that the differences between the utterer's and the interpreter's frames of mind instead of their common ground, is the source of all dialogic interaction, whereas Habermas (1981) founds his Theory of Communicative Action on the assumption that consensus is constitutive of rational communicative interaction. (Nöth 2011, 178)

In section 3 Nöth outlines Peirce's 'pragmaticism' and covers the topics reference and indexicality along with the phenomenon of vagueness. On pragmatism Nöth (2011, 184) argues:

Disappointed with how his word coinage became "abused in the merciless way that words have to expect when they fall into literary clutches" (CP 5.414, 1905) in a trend that culminated in the "deterioration of pragmatism into behaviorism" (Nadin 1993: 223), Peirce, in 1905, began to replace the term pragmatism

with the neologism pragmaticism, a word "ugly enough to be safe from kidnappers", as its author remarked (CP 5.414, 1905)

A pattern within biosemiotics seems to be a general hunt for finding, proving, and validating the relevance, adequacy, and greatness of Peirce's work, sometimes coming close to biblical exegesis in search of its 'true' doxa. Neo-Peirceism hence tends to work as a further *grammaticalisation* of his theory/theories. The efforts are impressive though, and the texts are scholarly designed and well argued, as in the texts Nöth (2011), Stjernfeld (2014), and Cobley (2019). I should add though, that Cobley indeed has problematised the relations between semiotics and sociosemiotics. Yet, the many clarifications in the field might lead to an overload of *terms* compared to the number of actual *concepts* as well as potentially building a barrier against other theories that seemingly may not be in line with Peirce, such for instance socio-semiotics and sociologically oriented studies. This critique even applies to my own contributions in the biosemiotic field (Ongstad 2019).

5.1. Sharov

Sharov (2002, 245) relates pragmatics to agents' judgement of usefulness based on values: "The behavior of agents can be explained, predicted, and modified using the optimality principle, according to which agents select those actions that are expected to increase their value." Sharov distinguishes between mental and non-mental signs. A challenge for the latter is to determine boundaries between sign interpretation and other interactions of objects (i.e., the boundary between semiotics and physics). He exemplifies how three well-known approaches, the pansemiotic, the biological, and the system theory approach face various challenges when trying to relate micro and macro, before turning to a fourth, his own.

According to this *pragmatic approach* the necessary attribute of a sign is its anticipated usefulness for some agent. Although in line with Peirce's sign-perception, Sharov prefers the term *agent* instead of *interpretant* for any system or entity (for instance an organism) capable of acting upon a state. Agents have autonomy, but only to the degree their systems can control their own behavior (Sharov 2002, 249).

A key principle for Sharov's suggested pragmatics is *optimisation* and the simplest formulation of this principle is that an agent "[...] selects a behavior that generates maximum value" (Sharov 2002, 253). Signs help agents to select best actions, which implies that the optimality principle is based on semiotics rather than physics.

Sharov's article, although its modality is suggestive, is valuable in two ways for my inquiry. It affords a more practice-friendly term to Peirce's *interpretant*, one that immediately can facilitate pragmatics as a field independently of philosophical and linguistic hang-ups on the pragmatics of (human) language when explaining pragmatics in general. Also, it makes possible a discussion of

the role of pragmatics in *pre-human* communication, one 'untouched' by human hands, thoughts, and discourses.

Further, it makes explicit the paradigmatic difference between a Newtonian and a biosemiotic position regarding communication in and of cells and organisms. According to Sharov (2002, 247) primitive self-reproducing systems are not agents because they do not control their actions. Only agents or non-primitive systems, can use signs and thus fully *interpret*. The key element in a sign when interpreting, is its *use-value*. It is the very *perspective* that accordingly generates (its) pragmatics. This will be the case both for the level of practical agency and the theoretical meta-level.

6. TOWARD AN ENDING: BIOSEMIOTICS AS A (SCIENTIFIC) FIELD/SCIENCE?

6.1. Brier

Brier (2015) thinks the core of the biosemiotic enterprise should be to establish another type of trans- and interdisciplinary 'wissenschaft' than the received view of "science". The title and the concern of his paper is: *Can biosemiotics be a "science" if its purpose is to be a bridge between the natural, social and human sciences?* Implicit in this question we can find Beaugrande's raised dilemma: Transdisciplinary as opposed to monolithic sciences.

Brier discusses Barbieri's introduction of a new concept of biological meaning that is separate from the Peircean biosemiotics and then add Peirce's semiotics on top. Brier concludes: "Barbieri thinks that he can use Peirce's concepts of abduction and semiotic interpretation on top of mechanical modelling science ignoring the value of Peirce's philosophical framework." (Brier 2015, 11.) By referring to Kuhn, Brier argues that it would be like ignoring a vital component of "the disciplinary matrix" constituting a paradigm:

The problem is that a mechanistic science does not have concepts for experience and meaning, in my view because it does not include phenomenology and hermeneutics and as such is too narrow to accomplish what Barbieri wants it to accomplish, but Peirce's paradigm is not. (Brier 2015, 11)

Brier holds that for Peirce the concept of "universe" is open for semiotic frameworks crossing boundaries between nature and culture. He suggests that by combining Peirce's semiotics with "[...] systems science and cybernetics in its form of autopoiesis theory and Jakob von Uexküll's work on Umwelts [...], it can become an important aspect of transdisciplinary Wissenschaft that goes far beyond the natural sciences we know today. (Brier 2015, 12)

Scientists who consider the physical universe as the only reality exclude social universes of discourses and our subjective self. A Peircean biosemiotics is, according to Brier much bigger than the usual scientific model of the world described through physics and chemistry. My understanding of Brier's somewhat de-focused title then

is that he, as seen, refutes Barbieri's solution by arguing that Peirce's semiotic theory and Peirce's perception of the universe is broad enough for adding semiotics of social and human sciences to the semiotics of natural sciences. As far as I can see, Brier does not answer his own question explicitly. It seems as if the answer is yes, but this future transdisciplinary science will not be a fallibilistic one in the Popperian sense. In the light of my discussion above, Brier, in this article, does not outline how human and social sciences, and hence communication will meet with Peirce's sign-theory.

6.2. Deacon

Deacon (2015) in his article "Steps to a science of biosemiotics" thinks a unification of the purely biological and the mental is feasible and desirable, but he too refutes Barbieri's two claims that biosemiotics is not a science and that to introduce meaning in biology can only work through "code biology". Deacon admits that biosemiotics remains more in the domain of the humanities than in the natural sciences but thinks it is likely that biosemiotics' principles can be made consistent with well-established principles in the natural sciences. He refutes though:

"[...] the current use of phenomenologically derived semiotic terminology to rename and re-describe well-analyzed molecular and cellular processes guarantees that current biosemiotic theories will remain squarely within the humanities. In this form biosemiotic theories are unlikely to provide new insights that can contribute to research at the lab bench or even in theory. (Deacon 2015, 311)

Deacon argues and concludes that it is the dualistic assumption implicit in phenomenology and the code metaphor that will make these approaches incapable to provide a scientific semiotic foundation for biology:

In conclusion I believe that these simple model systems provide a first step toward re-legitimizing the concepts of reference and significance that have so far been excluded from the natural sciences. Demonstrating that an empirically realistic simple molecular system can exhibit interpretive properties is the critical first step toward a scientific biosemiotic theory. A better understanding how interpretive dynamics can emerge from simpler chemical and physical processes should also point to new ways to study biological, neurological, and even social processes. (Deacon, 2015, 15/my italics.)

6.3. Conclusions

The discussions in this paper and Deacon's conclusion open for biosemiotics as a social enterprise, where at least studies of phenomena such as agency, mind, and meaning are involved. This implies a discipline that allows the sign to be studied as a *simultaneous* triad, an entity that calls for applying the hermeneutic circle rather

than traditional 'grammatical' closing. At least one aspect of this entity of its aspects will be related to life as physicality and in addition could be researched as such. Applying Peirce's term this is the *representamen*, applying Saussure the *signifier*, and applying Ongstad (2019) the *structured form*. They all connect to 'reality' by their physicality. The other aspects can only be interpreted. Hard and soft sciences need to cooperate.

What is not 'solved' is whether *Neo-Peircean* triadic thinking is compatible with a triadic thinking that presupposes simultaneity of the aspects. This problem is further related to three discussions in this paper: The highlighted synchrony-diachrony dilemma of *being* versus *becoming*, the means-versus-ends question of communicative elements, and the epistemological positioning of a semiotic pragmatics, and hence communication, historically in evolution (Hauser 1996).

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