ON THE NATURE OF LANGUAGE:
FORMAL WRITTEN-LANGUAGE-BIASED
LINGUISTICS VS. DIALOGICAL LANGUAGE
SCIENCES

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1. Introduction

Linguistics as a separate discipline was initially developed primarily for such practical purposes as those of standardising, teaching and translating written or literate language(s). Although seldom admitted by present-day linguists, the same written-language-biased approach was later adopted in mainstream so-called theoretical (and allegedly non-normative) linguistics (Linell 2005). This formal approach still dominates the language sciences, and has also influenced other monologist (individually based, non-contextualist) theories of cognition and the mind. A counter-theory to this, as a metatheoretical framework, is dialogical (dialogist) theory, which takes sociocultural contexts and the interactions with others as basic preconditions of language, communication and the mind (Linell 2009b).

This paper will contrast formal linguistics with dialogical approaches, with special regard to their views on the nature of language. First, however, I will provide some background by briefly reviewing some established conceptions of cognition and language. After that I shall start out from the official description of the conference to which this paper was invited, which speaks about "the lack of [an] adequate, holistic understanding of the nature and function of natural language viewed as a special dimension of the cognitive domain of dynamically complex interactions of humans". In connection with this, I shall assume that "the cognitive domain" can be taken to be partially integrated with sociocultural, communicative, emotive and volitional aspects.
2. Cognition and cognitive science: Three generations

I will begin by turning to theories of cognition, more specifically to three generations in cognitive science. Here, I will draw heavily on the work of Sune Vork Steffensen (2009).

Steffensen distinguishes three generations in cognitive science from about 1950 and onwards. These are:

(I) First generation (Turing, von Neumann, and – in linguistics – the early Chomsky): Cognition consists in computations in an inner realm of formal symbols and mental representations.

(II) Second generation (cognitive linguistics, cognitive psychology, Langacker, Lakoff etc.): Cognition is embodied (or at least enbrained). Language is an aspect of cognitive (intra-individual, brain-based) processes, in a specific module of the mind, as sometimes assumed also in (I). Central assumptions are related to connectionism, parallel processing, prototype categorisation (Rosch 1977), among other things. These are assumed to be putatively universal, and therefore more basic and more important than language-specific structures.

(III) Third generation: Cognition takes place in the interaction between the individual’s embodied mind and the world: cognition is distributed (Hutchins 1995), extended (A. Clark 1997), enactive, embodied, situated and socially embedded (neo-vygotskianism), and ecological (neogibsonianism). These processes are assumed to operate under “real-time constraints, real-world opportunities and the peculiarities of living bodies” (Freeman & Núñez 1999: ix). However, this “extended mind hypothesis” seems to exist in two versions: one is Andy Clark’s (2008) own “organism-centred” version, claiming that cognition in the world is driven by the individual’s mind (brain, organism).2 The other one would be the “organism-environment system” (Järvelähto 1998; Steffensen 2009), a kind of “individual-and-artefacts-in-symbiosis” theory.

To some extent, these three generations are still around, simultaneously. It seems to me that most third-generation cognitivists continue to speak about cognising individuals, adopting a first-person (and/or third-person) perspective on cognition and the mind. Clark’s organism- or brain-centred theory is an illustration of this. This seems to amount to an underestimation of the importance of others (“second persons”) – other individuals and collectives – for selves’ cognitions.

By contrast, the dialogical approach, which I will nominate as a potential fourth generation of cognitive science, while incorporating most of the tenets of the third wave, such as the crucial engagement of the body and the world in sense-making activities, will stress the ubiquitous importance of interactions and contexts (of different kinds, many of them involving artefacts). But above all, it stresses the role of others, that is, other human beings who directly or indirectly influence the individual’s sense-making. Furthermore, human subjects have agency; actions are both individual and collective (co-action).1 Sense-making is “environmentally coupled” (Goodwin 2007), but it also transforms environments as understood by humans. Dialogical theories have emerged in many versions (Linell 2009b), but the points raised here are largely shared. They are by no means specific to the work of the Russian language and literature theorist Mikhail Bakhtin, whom many scholars have nominated as the dialogist thinker.

According to dialogism, cognition is brought forward through the direct or indirect co-action with others, each of whom has a mind, i.e. a sense-making ability. There is therefore a crucial difference between another human being and any (non-living) epistemic/cognitive artefact, such as a book or even a personal computer. Despite the emphasis on enaction, embodiment and distribution, there is still, as de Jaegher and Di Paolo (2007) have pointed out, a methodological individualism prevalent in today’s cognitive science.

Biocognitive theory (Maturana, Imoto, Cowley, Kravechenko), as I understand it,4 claims that cognitive processes are embodied (and environmentally coupled), but within an impersonal organism-system framework. In my view, this cannot account for meaning and content, which are absolutely crucial for a phenomenological-dialogist understanding of cognition and communication. Biocognitive theory is more about living organisms (which of course are important), than about meaning-making persons.

By conclusion, with this fourth generation of cognitive science, some of the excessive interest in single individuals (of the Western world and its human sciences) is finally downplayed to a more reasonable version: cognition involves neural, bodily and worldly activities by self and others, in interaction with artefacts and other external objects. Admittedly, there are features of this in Steffensen’s (2009) discussion.3 Nonetheless, there seems to be a “dialogical deficit” in both the above-mentioned interpretations of the “third generation”. Clark’s variant is still too individualistic, and the “organism-environment system” underrates the role of others, and the distinction between these other meaning-making agents and artefacts (and other external objects) that cannot make meaning on their own. These are, in my view, important reasons for adding dialogical theory to biocognitive theory.
3. Language and languaging (language use)

Let me now turn more specifically to language. In the history of linguistics and language sciences, we can, more broadly speaking, discern three basic approaches to issues related to the nature of language (note that these points are not quite the same as (I-III) above):

(1) **Formalism:** The strong interpretation of this stance assumes not only that languages can be formalised, but that a language is, by its very nature, a system of immaterial formal objects, or formal symbols (although some would talk about physical symbol systems) (cf. (I) above); linguistic utterances are constituted, at an abstract level, by strings of such symbols, for example, phonemes, words and phrases.

(2) **Internalism-cum-individualism:** According to this view, language consists in the individual’s knowledge and abilities that enable him or her to participate in activities like speaking, listening-and-understanding, writing and reading; only individuals can use language, and therefore language is a possession of the individual mind.

(3) **Social structuralism:** Opposing the individualism of (2), adherents of this view insist that languages are supraindividual structures, which are irreducibly social facts; languages are publicly available systems of social norms.

The first approach (1) dominates generativism in linguistics, and is also associated with what has been called “the first generation of cognitive science” (see section 2 above). Generativism conceives of the grammar as a generative mechanism defining sentences by means of formal derivations. As Steffensen (2009: 1) observes, “such computations could in principle function [or at least be describable - PL] irrespective of their physical realizations, because they are purely formal or mathematical procedures.”

A formalist approach still dominates the language sciences, and has also influenced other monologist (individual-based, non-contextualist) theories of cognition and the mind, communication and – sometimes – even interaction. A primary example in present-day cognitivism is the “theory of mind”, especially the modular version of it.

However, a more general observation is that the three conceptualisations (1-3) have dominated the mainstays of three different disciplines: (formal) linguistics, (cognitive) psychology and (structuralist-functionalist) sociology. Nonetheless, they are relevant to language studies, though representing rather different views on the nature of language, reflecting divergent disciplinary interests. Yet we have witnessed attempts to make them mutually compatible; for example, Noam Chomsky (and generativism) was, at least initially (1964: 52; 1965), in partial agreement with Saussure in looking at language as langue (cf. 3), but mainly conceived of a language as a formal system (1), which he assumed to be internalised into the individual mind (2). Despite this, and other attempts, one might question if there is a realistic and coherent meta-theory in all this; rather, the three approaches remind us of the blind men (in the well-known allegory) who were trying to understand what an elephant is by exploring three entirely different parts, such as the trunk, the tail, and a foot.

The three approaches (1-3) do have at least one assumption in common, namely, the idea that the language system has priority over language use. They all argue that unless language is there first, one cannot imagine how it is put to use by speakers, listeners, writers and readers. But there is an alternative, which also has the advantage of providing a coherent meta-theory. We should reverse the priorities, and assume that languaging in social interaction is the primary phenomenon, and that “languages”, i.e. linguistic “systems” (3) or accumulated linguistic resources (2), emerge from and are abstracted from the experiences of languaging. Linguists may then, sometimes for very good purposes, formalise the abstractions (1).

This then would make us prefer the dynamic term “languaging”, over “language use”, since the latter suggests precisely the priority of language over use. The primacy of languaging is evident at all levels: phylogenesis, sociohistorical genesis, ontogenesis and even microgenesis. However, we must of course acknowledge that once participants to interaction (and cognition) have started to accumulate knowledge of types of languaging, there will be interdependencies and reflexivity; those linguistic resources which have already been abstracted and sedimented (have already “emerged”) will influence the further languaging (in which more resources will emerge).

As a consequence, we suggest again a fourth approach, something which is already familiar to us, namely, dialogism:

(4) **Dialogism (contextualist interactionalism):** languaging (which is primary) is meaningful action and interaction involving participants’ understanding of self, others and the world. Languages have emerged from social languaging; they are abstractions, or “second-order constraints” (Cowley 2009: see section 6 below), designed to be used and oriented to in situated sense-making practices.

Dialogism would constitute a transdisciplinary approach to the mind, one which emphasises sense-making in the world. I have presented it here as the fourth alternative, both in relation to previous generations of cognitive science and to dominant conceptions of language in different disciplines. At the same time, we have identified cognitivism and formalism in lin-
linguistics as the major alternatives of the last fifty years of theorising about mind and language. In psychology at large, there has of course been at least one other alternative, which has not been mentioned here so far: behaviourism. Behaviourism looks at language (and language use) as behaviours with communicative and cognitive functions, which individuals acquire basically through situated conditioning. However, here I shall leave behaviourism aside, and continue to focus on dialogism, which I take to be the real counter-theory to formalism-cum-individualism. Dialogism, or dialectical theory, which emphasises the importance of others, and their direct or indirect contributions to the individual’s cognition, looks upon interactions and contexts as basic aspects of languaging and communication, and of the mind as a sense-making ability (Linell 2009b).

As I noted above, formal linguistics and cognitivism take the abstract language system and cognitive systems as primary, whereas dialogical theories take their point of departure in situated languaging (language use). This has a number of consequences, as we shall see.

One such fundamental difference is that some formal theories assume that language is a highly specific module (or a set of modules) in the brain/mind, which amounts to a reductionist, static, atemporal, disembodied, emotion- and culture-free view. By contrast, dialogical theories take a developmental stance, looking at language as intimately connected with, and partly derived from, capacities of perception, cognition, communication, action and emotion, as well as from culture. Processes operate under “real-time constraints, real-world opportunities and the peculiarities of living bodies” (Freeman & Núñez, as quoted above). This last-mentioned point is connected to yet another important assumption: cognitivism, especially of the first generation, assumes that language, cognition and the mind are processes taking place in individuals, and more specifically, within their heads (“intracranial cognition”). Dialogism would of course not deny the existence and importance of individual agency, but would insist that individuals, with their embodied brains, are sociocultural beings, who make sense in and of the world “out there” in interdependencies with others and external artefacts (as well as with other worldly things and their affordances). Indeed, the brain is built to serve these needs, rather than being some kind of a self-contained machine. But nobody would nowadays deny the importance of brains and intradividual bodily processes.

Accordingly, a rough overall characterisation of formalism (and cognitivism), behaviourism and dialogism would be the following: formalism stresses systems without processes and dynamics, and sustains a (formal) semantics, behaviourism is about processes without meaning (and largely without linguistic systems too), dialogism builds upon processes and practices with meaning (i.e. actions) and assumes some open-ended systematicity. According to dialogical theories, languaging is neither “just” external behaviours, nor signs inside individual minds (or brains).

At this point, one may wonder about the status of the theory of Goetzsche & Filatova (this volume). Their paper contains a plethora of terms: “mechanisms”, “strips”, “signs”, “mophs”, “modules”, “images”, etc., the bulk of which is almost opaque to me. However, it seems clear that their “epistemological physicalism” leads them to assume that “languages are, first and foremost, things in the heads of people” (p. 88), that is, “neuronal” and “cognitive systems” (p. 93). Thus, they would belong to the first generation of cognitive science, as discussed above (section 2). The view propounded in their paper builds, I think, on a category mistake (in the sense of Ryle 1949). I would regard language as a relational phenomenon (in an “inter-world”, cf. Linell 2009, chapter 7), rather than a “thing in the head”. Language, seen as resources for sense-making, lives in and is emergent from (or has already emerged, cf. above) interaction with others; it is appropriated from others, sustained through, reused and modified in and through interaction between people, and between people and the world. There is nothing more mystical in this than in the claim that social institutions like marriage and cultural norms reside in the social interrelations and interactions. (Or would anyone seriously suggest that marriage and culture originate in the brain?)

Without verbal interaction between people (interactions being in our cultures often aided and augmented by writing and reading texts, using computers, etc.), there would be no living language, and much less of sense-making than now. Another thing is of course that individuals need their brains as physical substrates to support, and maintain over time, these relational phenomena of language and languaging. Of course, if all people died out, i.e. if their brains ceased to function, there would be no language (and no human life) any more.

4. Speech and writing:

On the written-language bias in linguistics

Any reasonable discussion of the nature of language must arguably take up the relation between speech and writing. However, for obvious reasons, I can do this only very briefly here. Furthermore, it is of course a gross simplification to speak just of “speech” and “writing” without further specification.
Spoken vernaculars and literate standard languages differ in many respects. One of these respects concerns people’s awareness of linguistic norms. Whereas spoken habits and routines, sometimes called “natural norms”, are often unconscious, written standard norms are usually taught, conscious, and even promulgated, and therefore they tend to mold metalinguistic awareness. Their repercussions easily spill over to our representations of spoken language too.

The status of written language has changed considerably over centuries and millennia in the history of language studies. In traditional language study (some might prefer to say pre-theoretical linguistics), in normative grammar as well as in philology, certain kinds of written language were regarded as the only language worthy of scholarly attention, the only one in need of a theory of practice. “Grammar” was regarded as relevant only for written language; technē grammaïkê in Greek is the art (or technique) of writing.

In the 19th century, with its interest in dialects and the history of languages, and especially in the 20th century, with the advent of “natural-scientific” language study, things were changed. Linguistics as a science should deal with “natural language”, not with cultural products or artefacts. Accordingly, spoken language was recognised as primary and “natural”. Written language, on the other hand, was often looked upon simply as a trivial secondary representation of the only real, natural (i.e. spoken) language. Yet, theories of language, including those of spoken, interactive language, were still, on many points, based on methods and models more suited for the analysis of written language. Despite the fact that in this way linguistics has been largely recontextualised from a prescriptive into a descriptive (and allegedly explanatory) approach, many assumptions about language were taken as given and taken over by modern linguistics without much further ado. This is what I have referred to as the “written-language bias” (WLB) in the language sciences, and especially in the discipline of linguistics (Linell 2005).

Here are some points of the WLB in linguistics, taken from different subdomains of the discipline:

- **phonology**: talk is supposed to consist of linearly ordered phonological segments (“sounds”);
- **grammar**: sentences are the only primary units; a sentence can be described as a sequence of clearly delineated word forms, with structural integration internal to sentences and no external grammatical relations across sentential boundaries;
- **theory of spoken discourse**: talk is made up of sentences, which are expressions of propositions (sometimes seen as “complete thoughts”);
- **lexical semantics**: lexical items have fixed and stable meanings (theory of “literal meaning”);
- **whole languages**: languages are structurally integrated at all levels;
- and many more points (see Linell 2005).

The WLB still permeates many people’s minds. In a recent paper on “language metaphors of life”, two biologists (Markoš & Faltyńek 2010) report how the formalist view on language captured the minds of geneticists and biochemists too, when DNA strings were discovered. Nucleic acids, or their parts, were seen as quasi-digital strings of characters comparable to a sequence of letters in a text. For example, François Jacob, one of the leading geneticists and molecular biologists, and Nobel prize winner for medicine with Jacques Monod in 1965, discussed the matter with Roman Jakobson, the well-known linguist, and they enthusiastically agreed that genetics had confirmed the fundamental importance of the linguistic code as strings of symbols (Suh 2002: n. 19). Thus, the realities of molecular biology were portrayed as abstract symbols in need of a sense-maker (a homunculus?), when in actual fact we are of course faced with embodied causal processes in organisms and their cell ensembles, and between them and their environments. Markoš & Faltyńek argue themselves that the adequate language metaphor should be drawn from “natural language”, by which they seem to mean spoken languaging, rather than from a conceptual apparatus based on abstract symbols, as well as on readers and their interpretations.

The recognition of the difference between speech and writing has an impact on studies and theorising of both language and languages (Kretzschmar 2009). Speech is multimodal and embodied behaviour, expressing situated actions. Writing involves language, and languaging, as signifying marks on paper, which are artefacts enhancing cognition, especially as regards reflection, memory, communication, and bringing order to the world. Formal linguistics is largely irrelevant for theories of languaging and cognitive dynamics, while interactional linguistics constitutes a significant contribution.

Now, to return to the points listed above, they pertain to assumptions that are better suited for written (literate) language than for spoken, interactive language. This gives rise to a “paradox of modern linguistics”: spoken languaging is held to be primary, yet it is described with models largely taken over from written-language-biased views. The thesis of the WLB is meant to say precisely this. But since this has sometimes been misunderstood, I will briefly mention a couple of things that the WLB theory is not meant to imply.
First, I am of course not claiming that the above-mentioned assumptions (and many more of similar kinds) are all completely pointless. For example, there are some features of segment structure in speech, some genres of talk do exhibit a lot of clause-and-sentence structure, etc. There is indeed a considerable amount of structure in language and languages, especially in morphology and phonology. In particular phonology may be subject to self-organising (Lindblom et al. 2010). But elsewhere the points are commonly overstated in structuralism, and provide a biased view on spoken language, and, by implication, on the nature of language in general. Often, organisations in languages seem to be local, rather than all-encompassing and leading to total integration; this is to be expected, given that participants in language often organise their cognitive and communicative projects locally, as we have seen in Conversation Analysis of verbal interaction (e.g. Linell 2009b: 284). However, some literate practices, especially language standardisation, have contributed a good deal to structuration.

Secondly, the received view does not necessarily provide an adequate picture of actual written language and language using either; it rather deals with idealised language. Actual writing processes involve interactive, contextual sense-making too (Prior & Hengst 2010).

Thirdly, the WLB thesis is not meant to denigrate the importance and potentials of writing and written language. Written language has made things possible that were largely unthinkable in a purely oral culture (Olson 1994; Kravchenko 2011). It has transformed and extended our capacities of communicating, thinking, memorising, organising society, domesticating nature, distributing knowledge, etc. Therefore, written language should be given its proper place in linguistics, as something extraordinary, compared to spoken natural language; it should be empirically researched and theoretically thought through. Literate culture is extremely important, but it has biased our conceptions of “natural” language.

The recognition of these points is related to trends in the third generation of cognitive science, in which the interaction with external artefacts has become a central topic for research. In other words, the time has come to put an end to the two previous, and somewhat contradictory, ideas about speech and writing, that is, first, that languages are unitary systems (although this is partly made manifest in writing), and, then, that speech is the only manifestation of language in need of serious study, writing being just a trivial secondary representation. Instead, we should finally look at the two as semiotic media with (partly) different affordances for cognition and communication.

A fourth point is that the WLB itself is of course in some senses something socially real, something to be reckoned with. It is pervasive in linguistics, but also in many common-sense conceptions of and everyday-world attitudes towards language, as we can see all the time in the media and popularising accounts of language. Our literate culture has taught us to impose systematicity (arguably an excessive systematicity) on language. This applies concretely in linguists’ construction of grammars, but also more unintentionally, for example, in unquestionably accepting the idea of national standards as actually existing objectively “out there” and to be taken as a norm for correct language use. Accordingly, the power of the WLB in framing our perception and understanding of language, and our self-understanding as a literate culture, should not be underrated. To paraphrase Ragnar Rommetveit, we are faced with “realities lived by enlightened laymen under subtle influence from stories told by prominent scholars” in some language sciences (cf. Rommetveit 1988: 15).

5. Natural and cultural language

The term “natural language” is hardly unambiguous. It is commonly used to refer to “languages” that have been “organically” developed in communities of users (in spoken or written communication), as opposed to (formal) languages deliberately developed for special purposes in e.g. mathematics and logic, or for the purposes of computer programming. But many of these “natural languages”, such as English, Russian or Swedish, have a long socio-history of cultivation and normative regimentation. Accordingly, they can also be called “cultural” languages. We should therefore consider the “nature of language” in both natural and cultural terms.

Given this, what could an “adequate, holistic understanding of the nature and function of natural language [etc.]” possibly be like (cf. section 1)? One fact that is worth noting in the first place is that language consists of heterogeneous phenomena. Multitudes of prerequisites for this multi-aspectual nature of language exist at different levels:

- Bodily prerequisites, and their structures and functions, to be considered in an evolutionary perspective: These comprise body, especially hands and face, the vocal tract and the respiratory organs, that is, not just the brain;
- Expressions: Here we find interdependences of vocal-verbal language, gestures, facial expressions, tactile aspects, and other “bodily techniques”;

• Sense-making functions: Language serves functions such as socialising, communicating, feeling and acting in the world, socially categorizing selves and others, that is, not just cognition and representation. It is not segregated from other mental capacities, but is dependent on and interdependent with cognitive, communicative-interactive and bodily-emotive capacities;

• Linguistic resources: If we look upon a language as abstract resources, it is not a "set of finite rules for generating grammatical sentences", but a "toolkit" of constructions (frames with open slots), prefabricated (fixed) expressions, fragments, discourse markers, lexical items (with rich meaning potentials) (cf. e.g. Hopper 2011);

• Artefacts: Writing and electronic media are different from unaided talk; artefact-based media have a great impact on how languaging is structured in different genres;

• Genres: There is no complete sharing of languages among language users; instead, we use different local (partly genre-specific, but overlapping) activity languages, rather than only one unitary language; the idea of unitary national standards is a political and academic construction; there is no complete uniformity of language use (neither in the use of particular words, nor in larger language games; cf. Sharrock & Coulter 2009);

• Socio-historical origins: Contemporary languages have resulted from loans and influences from other languages, from various dialects, cultural ideologies (e.g. unitary national standard languages) and institutions (schooling etc.); speech and writing have different evolutionary origins.

Nothing of all this supports the idea of a language as a system of formal objects, a totally integrated system (structuralism; Saussure, Chomsky). Rather, language appears to be something like a meshwork (Cowley 2009) (local networks), or even a patchwork of meshworks and not so fully (self-)organised networks. Languages are heterogeneous and distributed (Cowley 2011) across communities of users, media and functions. At other levels, the faculty of languaging is an emergent result of many phenomena, human capacities as well as affordances of bodies and environments. We need an "emergentist theory" in a wide sense (cf. Hopper 2011); emergence means, by definition, that the phenomena that have emerged or are emergent, cannot be fully reduced to, or equated with, phenomena at the levels from which they emerged.

So, we are now far from full-blown structuralism. But as noted, we should not exclude the possibility of self-organising systems in some domains, such as phonology, and parts of grammar and lexicon. But this seems to apply more to language seen as “natural language” than to languages considered as cultural (sociohistorical) phenomena. Chomsky’s (1965) idea of an “ideal speaker-listener in a completely homogeneous community” is not a helpful abstraction. At the same time, however, structuralist ideas are admittedly nearer at hand if you build your models on written standards, which amounts, to some extent, to idealising language.

6. Continuities and discontinuities: pre-semiotic communication, speech, writing, other semiotic systems

The “nature of language” is a multi-faceted issue. In most linguistic communities, there is an interplay between (“natural”) bodily affordances and cultural selections and remediations, although these interactions are played out differently in different languages and different domains.

There are many kinds of interdependencies between speech and writing. Writing has repercussions on oral language too, not just the other way around. Speaking in a highly literate society is not the same as in a purely oral community. In and through acculturation, we learn to take a “language stance” (Cowley 2009) in our cultures, and learn how to talk about the sounds, words and sentences we think we produce and hear. For example, we perceive the same sounds (“phonemes”) despite phonetic differences; we learn to selectively perceive speech in terms of a limited number of sounds. Children who invent spontaneous spellings, sometimes used before they can read properly, often note certain phonetic properties of their speech that they later learn to ignore (they no longer hear them), because these properties are not part of conventional orthography (Reid 1971). The general point is that this mundane-life WLB, manifest as it is in conventionalised practices of writing and meta-languaging, that is, talking and writing about talk and language in a common-sensical way, may not be a “scientifically adequate description”, yet it is nevertheless, and simultaneously, a social reality and a cultural myth (cf. Rommetveit as quoted above). Accordingly, Stephen Cowley (after Nigel Love) talks about “first order languaging” (cf. speech) and “second order language” (cf. meta-language supported by literate culture), and the principle of “dynamics first, symbols afterwards” (Cowley 2009: 504; also Steffensen 2009: 685).

There are continuities between pre-languaging and languaging. Situated interaction is multi-modal, and infant communication involves pre-
conceptual, pre-semiotic and pre-linguistic aspects that are later gradually channeled into more of conceptual, semiotic and linguistic communication and thinking in the phases of secondary and tertiary intersubjectivity (Trevathan 1998; Bråten 2000, and others; see Linell 2009b, for some discussion). There seem to be lessons to be learnt particularly from studies of persons with congenital deafblindness, etc. (Souriau et al. 2008.). In this context too, we have reasons to pay attention to the biological underpinnings of natural language (Imoto, this volume).

On the other hand, language does indeed make a difference; there are some kinds of partial discontinuities, which can be observed at all levels or time scales: phylogenesis, ontogenesis, socio-historical genesis, and situated microgenesis. Yet, these discontinuities have been grossly overstated by linguists, such as Saussure, R. Jakobson, and Chomsky. How such discontinuities are to be combined with the continuities from pre-language to language, is surely a challenging issue for a new generation of cognition and language sciences. We must also ask how the reorganisation processes from pre-language to language may be influenced by artefacts and writing.

Languages allow for genre- and medium-transcending generalisations, and it seems to be part of the nature of language to support transpositions between speech and writing in both directions. These potentials and reflexive transformations are also in need of more exact empirical study.

Some commentators have suggested a general “language bias” in cognition and communication studies, that is, we assign purportedly too much importance to language, as compared to other resources for cognition and interaction. And yet, my argument is that this “language bias” is actually derived from the written language bias, for it is more in writing, rather than in speech, that language comes to stand out as radically different from other human capabilities.

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Notes

1 This article is an expanded version of a paper to be published in Russian in Studia Linguistica Cognitiva.
2 “The biological brain is […] the essential core in all episodes of individual human cognitive activity” (Clark 2008: 117, quoted by Steffensen 2009: 680)
3 Stephen Cowley (pers. comm.) suggests that agency is not basic. According to this view, the feeling of agency comes primarily from our perception of the body as bounded, movable, and capable of doing things. I do not think that agency should be reduced to what the minded body can do physically in the world. Instead, it is conceptually linked to sense-making activities. In Linell (2009b), I argue that meanings are not localisable, i.e. they are neither entirely reducible to something in the brain/body nor to something (referents) in the “external” world. Similarly, agency is distributed. Meaning and agency belong to an “inter-world” of social relations among people in the world.
4 See other contributions to this volume.
5 There seems to be a vacillation between systems-theoretical, “ecological” explanations and dialogue-oriented explanations in Steffensen’s work (Steffensen 2009, Steffensen & Hodges 2010). Steffensen (p. 689) talks about an “ecology in which, as communicators, we become parts of each other’s extended brain-body-world systems”. Does “ecological” mean “dialogical”? Dialogism means: we become parts of each other’s contributions to actual (situated) and historical (situation-transcending) interactions and co-actions (meeting others’ brain-body-world meshworks).
See e.g. Astington (2006) and, for a critical evaluation, Sharrock & Coulter (2009).

Like Imoto (2010), I will use the term “ languaging”, but in a sociocultural context, rather than a biocognitive one (Maturana).

However, behaviourism is having a renaissance in some communication sciences, for example, in some therapies for the communicatively disabled (autism, stuttering, congenital deafblindness). Behaviourism is not dead. In addition, it may be mentioned that there are traces of behaviourism in generative linguistics, on at least two accounts. First, some interpretations of the mental ("psychologically real") grammar are strongly reminiscent of multi-stage stimulus-response models from an earlier epoch (Linell 2005: 159-160). Secondly, both behaviourism and American structuralism (including generativism) have features of elementarism; more complex structures are derived from basic elements, that is, units and rules of a few fundamental kinds. (On this point, they are different from structuralism and dialogism, which assume at least a partial holism.)

See Linell (2009b) on, for example, meaning potentials of lexical items and grammatical constructions.

Of course, we now have electronic language and media too, which deserve systematic study. The far-reaching transformations of orality and literacy caused by this development must be left aside in the context of this paper.

When linguistics was first developed, a lot of regimentation and regularisation of standard languages took place. For example, Johnson (2003) compared actual Swedish 15th century scribal practices, which exhibited a lot of “irregular” morphological variation, with later grammars that created regular paradigms, thus reducing variation, and adding forms that had not or only seldom been attested in actual practice.

Yet, scholars have argued for such ideas on the basis of requirements of economy, parsimony and elegance. But parsimony cannot override reality; if real languages are heterogeneous and “redundant”, this must be captured in a descriptively adequate theory. Another argument (from Plato to Chomsky) is that underlying the “messy” linguistic realities as encountered in the phenomenological world, there “must be” a hidden reality based on simplicity and beauty. Often, ill-founded analogies with natural sciences have been adduced to bolster this idea.

Surely, there are many sense-making activities that do not require that much language use. For example, in dance instruction, instructors use “composite utterances”, which partly consist of spoken words and partly of physical movements being demonstrated (Keevallik 2012).
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Edited by

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CAMBRIDGE SCHOLARS
PUBLISHING
2012