

Introductory chapter:

The complex and the naive

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Abstract

Sense occurs in living beings, and in order to approach the complexity of the living organization it is suggested to relax a strict distinction between sense as occurring in the observer and sense as occurring in the observed systems. Thus a 'third domain' of thinking becomes demarcated that is beyond the dichotomies of formalized description, a *tertium*.

1. Introduction

The present book deals with complexity, and does so by relating it to sense and lived experience. Thus we find a field of study where science and hermeneutics have a common playground.

The central idea is that the capacity to experience is a major, if not essential, function of the complex organization of living beings. In other words: what makes an organism so different from a machine is its capacity to act and make sense. Furthermore, the concept of sense may be intuitively clear, but as yet it has successfully resisted attempts at formalization. How is this possible? Could it be that the phenomenon of sense cannot be grasped in formal terms without grinding it into non-sense? If so, can we learn from complex systems how to approximate such ungraspable sense? This book aims to offer a variety of explorations of this idea.

1.1. The epistemic relation between observer and observed

In our scientific tradition we usually accept the lacunae of what we can understand and explain, as temporary imperfections of scientific method, not as substantial parts of theories. The present book is about one such lacuna, constituted by the limits of formalization«1». The lacuna makes up a domain of 'thirdness'«2», beyond the dichotomies of formal thinking. Within this lacuna, it is claimed, *sense* and lived experiences are present. It is here that science and hermeneutics meet and may mutually profit from their encounter. Rather than as a temporary imperfection, it should be taken as a phenomenon in its own right, a kind of twilight niche (to be called 'naive') that harbors a wealth of phenomena and insights as long as the burning daylight of formalization does not affect them.

The livingness of living beings can be perceived and sensed. We living beings feel certain in our

1. By 'formalization' I mean a reformulation of a description, such as to fit it into a system of formal inferences.

2. This is not how C.S. Peirce used the word, though some interesting connections can be found, as e.g. in professor Gunji's contribution to this volume.

recognitions of it«3». This is remarkable. The recognition and appreciation of the living organization is both an act of interpretation, and itself a manifestation of life. It may be worthwhile to see if these two aspects, the observer and the observed, can be brought together. This, in fact, is to say so much as to study the area between observer and observed, not as an epistemic cut, a demarcation line between the two established epistemic positions but instead as an intermediate domain that is more basic than observer and observed themselves. It is the primacy of this epistemic relation itself that of our interest here.

On the following pages I will discuss this relation in terms of a non-distinction of logical types, and I will argue that this non-distinction is the basis of sense and lived experiences, both in (living) observers and in (observed) living beings. In section 4 this will be related to complexity.

2. Form and content: a relative distinction

Modern thought presupposes a strict differentiation between a form and that which is contained or demarcated by this form (the 'content'). Form and content are kept separate as different logical types, and a fusion between them is traditionally taken as a violation of proper reasoning. This holds for epistemology, ontology, ethics and other disciplines. For instance: knowledge a priori should remain distinct from knowledge a posteriori; ethical principles from social performance, etc.

By permitting a non-distinction of form and content, we do not postulate paradox as a new axiom in a formalism«4». We rather expand our discourse beyond the domain of formalizations. The limits of formalization were the quintessence of Gödel's (1931) famous theorem on self-referential sentences and the incompleteness of formal systems. He showed that there is a necessary difference between what is provable within axiomatic systems, and (informal) truth that does not depend on such systems. And it is this surplus that is of our interest here: there seems to be more truth than can be proven or calculated by formal means«5».

What does it mean to say that form and content become indistinguishable? Where precisely does their non-distinction occur: as a feature of the observed object or as a feature of its observation process? In other words, does it materially exist, as a fusion of various physical processes, expressible in terms of natural processes? Or is it a process characteristic, performed by the observing subject, as a 'strange loop' in his own categories of thought, and expressible in terms of logical structures? Or is it both, in a way that does not distinguish between object and process?

Of these two possibilities, the object oriented and the process (or subject) oriented, we find instances in literature. An example of an object oriented understanding can be found in Pattee's (e.g. 1996) concept of 'semantic closure'«6». An example of a process oriented understanding can be found in Kampis (1995), where he describes self-modifying rule-systems in a formal environment.

Let us, for the moment, leave the question of the ontological status of the non-distinction between form and content, and instead start from praxis (cf. Bernstein, 1983). I will introduce the concept of 'naive perception' and I will argue that this concept contains some interesting cues about viable occurrences of non-distinction between form and content.

3. cf. Rosen (1987, p. 319), Bateson (1979, p. 7)

4. Nor do we propose the introduction of a third logical value, such as for instance Varela's (1975) 'self-referential state'. For in a three-valued logic the dichotomy of correct versus incorrect arguments and calculations remains valid as well.

5. It was also a major tenet of Gadamer's *Wahrheit und Methode* that truth reached beyond the limits of proof (cf. Weinsheimer, 1985). In a similar vein, Von Foerster (1990) maintained that "only those [ethical] questions that are in principle undecidable, we can decide", since all other questions are already decided.

6. Another famous example can be found in Varela (1979, p. 25), where he describes self-referential and self-including biological processes (notably the 'production of relations of order').

2.1. Naive perception

It is possible to take a distinction (such as the distinction between a form and a content) as an *act* (cf. Spencer Brown, 1969), instead of as an entity. As an act, a distinction would exist in and throughout the performance by one or more individuals. Then the *form* of the performance is the observation process; its *content* is the object observed. Thus, the distinction between an observation process and the object observed, self-evident and inevitable as it may seem to those who take reading and writing processes for granted, can be *present* as well as *absent* in the performances of an observer.

When it is present, the observer does distinguish between logical types, as well as between the 'what' and the 'how' of his observations. This mode of perception can be called 'critical', after Kant's critical treatment of the limits of knowledge and experience. Critical discourse has become the regular mode of expression in science and public communication«7».

On the other hand, beyond critical discourse, the observer's act of perception would *not* be accompanied by any awareness of itself. The kind of object perceived thus has as a defining characteristic *that it is not distinguished from the way in which it is perceived*. This mode of perception can be called 'naive' «8». The object perceived in a naive way does not exist as an external objective thing, manifesting itself to the subject. As a naive perception is performed, the naive perceiver does not know that he does not make this distinction; rather, he embodies its absence. This embodiment is enigmatic, it is part of the lacuna mentioned above. Thus, naive perception is typical of a huge class of sensitive performances by human as well as non-human beings. Indeed, it is prior to a critical type of perception«9».

Starting from naive perception, our initial question about the ontological status of the non-distinction between form and content (is it in the object or in the subject?) can be avoided.

Naive perception is in fact a coincidence of an act of perceiving and its object. It can be found in the performance of children, poets, and others who, unlike regular scientists, are not obliged to critically account for properties of the observation processes.

2.2. Concepts related to 'naive perception'

2.2.1. *Touching and touched: the absence of distinction*

An example of the coincidence of touching and touched in naive perception can be found in little preschool children's appreciation of things they like. For instance, it is not merely tea with milk and sugar that they want, but it is their own performance of pouring the milk and the sugar into the cup that is essential, not a dispensable extra. The act of preparation and its outcome are not distinguished.

Naive perception, as an act, implies the absence of a distinction between logical types, and, hence, the object perceived can be described as a *coincidence* of logical types«10». The point is, that the absence of distinction between logical types can be described by us only in terms of a coincidence (e.g. the non-distinction between expression and expressed, between dancer and dance (cf. also Culler, 1982, p. 246; Sheets-Johnstone, 1986), between performance and performed work of art). But it is in order to be able to say all this, that *we* must distinguish them first, and then declare them indistinguishable! This is only possible by describing indistinguishables as coinciding parts, i.e., by saying "'this' and 'that' are the same,

7. unlike in fundamentalist movements, where critical discourse is often appreciated as obstructing the purity of the convictions at stake

8. See for an extensive elaboration of the opposition between naive and critical discourses: Goudsmit, 1992, 1998.

9. Critical, i.e. a distinction is made between the thing and the way it is perceived. Notice that the term 'naive' is not used here with any pejorative connotation.

10. see also Verene's (1981) discussion of Vico's concept of 'imaginative universals'

do not differ, though they have been defined previously as distinct; by now, we declare their distinction to be nonexistent."

2.2.2. Heidegger's principle of identity

It is the impossibility *not* to make a distinction between terms after having introduced their identity, that is also of interest to Heidegger in his essay on the 'Satz der Identität':

"Since the era of speculative Idealism, it is no longer possible for thinking to represent the unity of identity as mere sameness, and to disregard the mediation that prevails in unity. Wherever this is done, identity is represented only in an abstract manner." (Heidegger, 1969, p. 25)«11»

2.2.3. Gadamer's aesthetic non-distinction

An important treatment of naive perception can also be recognized in the writings of Gadamer. According to Gadamer (1960), it is typical of the observation of play (a term used for the games of children, but equally for the theatre performance of a drama) that the observer is participating in the play, in that he contributes to its realization. In observing the play, the observer forgets the distance between himself and the play. This is particularly clear for the case of the theatre visitor, when he becomes enchanted by the play, so that its 'hermeneutic identity', as Gadamer (1977, p. 33) has it, becomes apparent. This loss of distance between the observer and the observed play is a case of non-distinction between content and form. It implies a non-distinction between the observed object and the way in which it is perceived. To put it in even more pertinent terms: it may serve as a paradigm for the *tertium* we are looking for.

Similarly, it is in the performance of a work of art (say music) that the performer also loses sight of the distinction between the music as written down by the composer, and the way it is performed. (Notice that here 'performance' corresponds to 'form', and 'work of art' to 'content'.) The performer, therefore, also becomes a naive perceiver of what he is performing! Gadamer describes the performance as a process during which the work itself becomes indistinguishable from the way in which it is performed (a process dubbed "ästhetische Nicht-unterscheidung", 1960, pp. 111/112). This aesthetic non-distinction holds both for the performer and for the observer (audience) who participates in the performance by attending it«12».

2.2.4. Self-referential conversations in psychotherapy

Likewise, in the conversational encounters of psychotherapeutic sessions it often becomes impossible for them to distinguish between the form of the conversation and its content. This indistinguishability usually arrives unnoticed for those involved in it, and does not occur to those not involved, such as external observers (e.g. Goudsmit, 1993, 1998)«13».

2.2.5. Immediacy of appreciation versus reconstructed account

In naive perception the individual immediately appreciates the events in his environment, without conscious reflection and argued considerations. There is no computational procedure that can replace these immediate appreciations. There is spontaneous judgement. For if a naive observer were able at all to give his reflections and considerations afterwards, these would be reconstructions, and as such they would not cover the immediate and naive qualities of the perceptual processes they are to reconstruct. These reconstructions are like *simulations*: the immediateness has been lost in the various steps of the reconstructed argument, and the naivety has been lost in the reoccurrence of form-content distinctions (e.g.: "as I saw ..., I realized that ..."). Kaplan (1964) offers a useful elaboration of this issue in his distinction between 'logic-in-use' and 'reconstructed logic'. Naive perception is only possible as logic-in-use.

11. "Seit der Epoche des spekulativen Idealismus bleibt es dem Denken untersagt, die Einheit der Identität als das blosses Einerlei vorzustellen und von der in der Einheit waltenden Vermittlung abzusehen. Wo solches geschieht, wird die Identität nur abstrakt vorgestellt." (Heidegger, 1990, p. 12)

12. Notice that also Merleau-Ponty (1945, p. 177) discusses works of art in terms of the impossibility to distinguish the expression from the expressed.

13. When immediate physical contact between persons is involved, it becomes impossible to maintain a scientific and detached perspective, and accordingly to keep in mind a clear distinction between research process and topic of research (cf. Devereux, 1967).

3. Sense in the observer and sense in the observed

How can the praxis of naive perception be of use to our understanding of the non-distinction between form and content? First, in section 3.1, I will sketch the trap of reducing the observer-observed relation to a spatial relation. Then, in section 3.2, I will introduce 'sense in the observer'. It will be shown that this corresponds to the form-content non-distinction understood as a process. Next, in section 3.3, I will present 'sense in the observed', which corresponds to the form-content non-distinction understood as an object. Finally, in section 4, I will argue that it is in naive perception, practiced as an act, that 'sense in the observer' can be used for perceiving 'sense in the observed' as a unity! As a result the two senses may become a vehicle for the identification between observer and observed.

3.1. The interface between observer and observed

The study of the contact boundary between observer (observing subject) and observed object has a rich history in physics, where the transfer of information between object and subject has been recognized to make up a hard problem (e.g. Kornwachs, 1988). The events that take place between observer and observed are usually called by physicists 'reading and writing', or 'decoding and encoding', 'interpretation and definition', etc. Von Neumann (1932, p. 223), in a famous passage on measurement in quantum systems, argued that the locus of this subject-object contact is not fixed, but can be displaced arbitrarily deep into the subject, considering part of the subject as an artificial extension of the observed object. At some particular moment, however, a perceptual act *has* to be effectuated; somewhere, e.g. at the retina, or in the optical tract, the object has to reach a limit and the subject has to enter the stage and actually perceive it. Von Neumann thus explained the transition from the physical to the symbolic domain that is typical of a measurement process, by invoking the occurrence of an act of consciousness; and he thus 'passed the buck directly to psychology' (Pattee, 1982, p. 336).

It was hoped that the 'measurement problem', the question of what happened at the interface between the object studied and the measurement device, could be reduced to a problem of the variety: 'what is perception?', 'what is consciousness?'. Psychology was expected to provide answers here, but it found itself trapped in its own underlying assumption *that an observer contains inside himself a consciousness that is a knowing and perceiving entity whose function it is to serve as a tool for the reception of input signals from the external world!* Indeed, the acceptance of a dualist framework and the search for a 'psychological' answer did not shed too much light on the interface between the observer, or the observation process (qua subject) and the observed (qua object).

For in this way the subject has implicitly become itself an object and the logical relation between subject and object has become reduced to a spatial one, by which the initial problems have become unsolvable. For in order to save the observer's subjectivity, a homunculus has to be introduced«14».

Instead, taken as a logical relation, the intermediary between observer and observed should be understood as a *tertium* between an act (operation of measurement or observation) and the observed/measured object. Such intermediary cannot be conceived of in terms of either acts or objects. Indeed, it can be thought as a *non-distinction* between categories of different logical type (act and object), as a convergence of form and content. But can it be perceived? I will argue in section 4 that naive perception will be capable of doing that job. First, the sections 3.2 and 3.3 will examine this non-distinction as an (observation) process and as an (observed) object, respectively.

14. Interestingly, Matsuno (1989) avoids this problem by postulating that elementary particles are already endowed with the capacity of sensitivity!

3.2. 'Sense in the observer': the non-distinction between form and content as a property of the observation process

As soon as a process can be caught in a formalization, its description has attained a high degree of observer independence. On the other hand, to the extent a description contains at least some informal features, it means that full observer independence has not been realized, so that a certain non-distinction remains between what is perceived and the way in which it is perceived. This is 'sense in the observer', the assignment of meaning to some observed entity, in the absence of formalization.

It has been a major achievement of theoretical biology to take into account the limitations of formalization. A principal idea is that the organization of the living cannot be understood in terms of rules of formalized syntax (e.g. Rosen, 1991), or in terms of algorithmic computations (Kampis, 1991, 1995).

Rosen describes the living organization as one in which all functional relations have been internally caused. Unlike a machine, there is no way to decompose an organism into disjoint physical parts that match with the system's functional units. Rather, in a living system there is an entanglement of functions and relations between functions, such that a single physical process may play roles at various logical levels simultaneously. It is here that we find the non-distinction between form and content. Rosen describes these entanglements by means of category theory, a branch of mathematics in which "there is nothing (...) that mandates [an] absolute distinction between sets and mappings [of sets]" (1991, p. 135). In this way, a mapping can be the effect of another mapping, and so in a circular way.

It is the impossibility to describe such a circular organization in terms of mechanisms and machines (hence: to describe it by means of syntax), that brings Rosen to propose a comparison with semantics:

"In fact, it is not too far wrong to say that an organism (...) is itself like a little natural language, possessing semantic modes of entailment not present in any formal piece of it that we pull out and study syntactically." (1991, p. 248)

We may understand these 'semantic modes of entailment' as the *sense* that an observer finds within linguistic expressions, and that cannot be made explicit in terms of formal syntactical structures. Likewise, Rosen claims, an organism contains coherences that cannot be expressed in terms of such syntactical structures. Thus, Rosen's fragment suggests that sense can be a *metaphor* for the functional relations in an organism, because these functional relations, unlike those in machines, cannot be described in terms of syntax. From the entanglements of logical levels something crucial escapes, which Rosen compares to the semantics of natural language.

Now if the semantics of natural language, as a phenomenon, can be a metaphor for the functional relations in a living organism, then it is a small step to *use* these semantics for the actual description of living behavior, i.e., to make meanings. This is not what Rosen says, but it is a plausible step. For the semantics of natural language enables us to formulate a coherence that we can recognize in the behaviors of living beings and that we can ascribe to them. For example, such a perceived coherence could be intentional behavior, e.g. 'hunger', and the expression of the naive perception of it could be: 'look, the cat wants to eat something'. We use natural language, without any awareness of complex problems, as an instrument for the expression of things that are extremely hard to formalize, i.e. 'hunger'. For what would 'hunger' look like, when expressed in terms of syntactical relations (cf. Pask, 1978)?

Sense in the observer is the coherence found by the observer. For it is here the observer who does the meaning assignments; the observer uses the semantics of natural language in order to express the observed coherence and situate it in the organism. And this act of meaning assignment, as it colors the meaning assigned (giving the assigned meaning a 'subjective' component), cannot be derived from syntax«15».

15. A concept related to 'sense in the observer' is Gadamer's (1960) concept of 'phronesis'. This term refers to an intermediate region of knowledge between theoretical and technical knowledge: practical wisdom. In contrast to 'techné', that proceeds according to a certain plan or blueprint (cf. formal descriptions), this phronesis takes shape only as it is performed, as e.g. in jurisdiction, tentatively, weighing and appreciating the various phenomena that are encountered. In phronesis, one does not rely on a general rule and apply it.

Notice that both Rosen's natural language semantics, and Gadamer's phronesis lack a body of formal knowledge from which inferences can be made. An obvious question would then be, what the use or function of these informal expression modes could be. One answer is that they facilitate the observer to be sensitive to novelty and unexpected experiences. For instance, a person who practices

Sense in the observer can also pertain to other coherences, such as those of inanimate things, but for those phenomena a formalization is often possible as well. As we will see below (section 4), sense in the observer is capable to recognize *sense in the observed* and to fuse with it.

To resume, the complexity of the living organization requires a descriptive apparatus that affords the entanglement of various logical levels. This, indeed, surpasses the limits of syntactical descriptions (or, equivalently: of mechanistic models), and for that reason it can be compared to the semantics of natural language. The meanings assigned to a living being by a natural language user are called here 'sense in the observer'.

Not only can sense be situated by an observer in observed organisms, as an attributed property; sense may be actually inherent to a living being, as a distinctive characteristic of life. This is the topic of the next section.

3.3. 'Sense in the observed': the non-distinction between form and content as a property of the observed object

Paradigmatic are here Merleau-Ponty's (1945) ideas on the 'body-subject'. This interesting term itself strikes us by its duality. Apparently two parts, 'subject' and 'body' are meant to be indistinct. We encounter here another instance of a non-distinction between form (body) and content (subject).

In the body-subject sense is in the first place a matter of *lived experience*, that cannot be understood without taking into account the livingness of the individual that brings it forth. It is a *manifestation* rather than a metaphor of life. It is *in* the observed, rather than attributed to it by the observer.

Sense, thus understood, is a quality of a living being's ways of dealing with its environment, and *through* which it builds a praxis of interpretative and appraising acts«16».

We also find such a notion of sense in Pattee's (e.g. 1996) concept of 'semantic closure'. This term refers to a living being's capacity to incorporate and blend both physical and symbolic processes. It is due to its ability of measurement and observation«17», Pattee maintains, that a living being cannot be described only as a physical system, i.e., in terms of physical laws. Measurement and observation are considered to be processes of a kind different from physical processes, describable only in terms of symbolic constraints, which are arbitrary, i.e. not determined by a physical law. For instance, the rules of chess are such symbolic constraints, according to which a game unfolds. Physical properties of the pieces, however elaborate, are not sufficient to understand their movements on the chess board«18». Pattee (e.g. 1978) puts much emphasis upon the necessity of complementary modes of description of the living organization: we need descriptions both in terms of physical laws and in terms of symbolic constraints; these two types of description cannot be reduced to one another, they are incompatible, and precisely that is typical for the complexity of living beings. Hence, complex systems are qualified by a complementarity of the descriptions by which their operations are described.

phronesis is better able to attain new conceptions and new insights, as he is not impeded by the presuppositions that always underlie general (rules of) knowledge. Phronesis is a mode that is more open to novelty than any rule based performance can be. Equally, sense in the observer is just that part of the observer's judgement that resists formalization. For instance, in judgments made by medical doctors the informal and theoretically not defensible part is usually highly valued in practice, though theories cannot but ignore it.

16. For instance, according to Maturana (1983), events that perturb a living system can be characterized only by their impact upon the system, not by objective features. More generally, bodily performance is considered fundamental to every appreciation of the environment by the living organism. An elaboration of this idea of embodiment, one that presents itself even as a 'modern reincarnation' of Merleau-Ponty's (1945) project, can be found in Varela, Thompson & Rosch (1991).

17. Measurement and observation are said to have a direct function for the system's survival and adaptation. In Pattee's words: "The cell "knows what it is doing" down to the molecular level" (1982, p. 335). The cell feels the survival value of its own performances, due to its semantic closure.

18. Kamps puts it thus: "Why is this protein inactivated? Because this molecule does this, that does that, and you get what you get." (1991, p. 272) Likewise, a mechanist model cannot explain new or creative ideas in the chess player: in a mechanism each state is by definition explainable in terms of its preceding states and the transition functions operating on them.

Thus understood, Pattee's notion of 'semantic closure' is a perfect case of 'lived experience', where sense arises through the organism's way of dealing with its physical environment«19». Semantic closure, then, can be considered a *name* for the complementarity that is so pivotal in Pattee's thinking; however, a name that does not solve it, that even deliberately rejects the option of solving the complementarity, of mapping it onto a single conceptual frame. In other words, we are brought to accept the existence of a unity of logically incompatibles; but this acceptance does not render this semantically closed body-subject more intelligible. The next section is meant to elaborate the opposition between *knowing* the two complementary modes of description on the one hand, and on the other hand *living* their integration without explicitly knowing them. In other words: what happens when an observer is naive and perceives sense in a living being?

4. The complexity of naive perception and the 'naive non-distinction'

The complementarity of descriptions that Pattee stipulates for living beings with semantic closure can also be applied to naive perception, which then appears as a coincidence of a measurement process and the object measured; the former describable in terms of symbolic constraints, the latter in terms of laws of nature. This is how naive perception is a complex thing: as a coincidence of phenomena that do not fit into one encompassing description!

A thing that can be described only in terms of complementary descriptions, such as semantic closure, can be postulated as a unity, but not formally expressed as such. This holds also for the complementarity between the process of perception and the object perceived. It is precisely their integration (or, put differently: the circumstance that the naive perceiver does not distinguish between the two coinciding parts, and hence does not need to force himself towards an integration) that *cannot* be expressed formally, and that also constitutes the core matter of naive perceptions and lived experiences. What makes living systems so complex, then, is *their realization of naive perceptions*, in ways that cannot be expressed in a language that strictly obeys a distinction between logical types! It is here that hermeneutics and biology meet. For the study of the complexity of living beings leads to their capacities to make sense, and the study of interpretations leads to the livingness and the situated bodily existence of the sense generating actors and authors.

Let us use the term 'naive non-distinction' for the naive perceiver's non-distinction between the act (or process) of his perception and its object, which is a non-distinction between logical types. Then this naive non-distinction, in its turn, cannot be the object of critical perception! That is to say, upon critical inspection the naive non-distinction reduces either to an observation *process* (e.g.: 'the child is envisaging to have itself pour the milk and the sugar into its tea'), or to an observed *object*«20» (e.g.: 'tea with milk and sugar, effectively, that is what it wants'). The critical observer can make either reduction, and have them both. But what is lost in critical observation is the identity of the two: the act of pouring milk and sugar and the delightful outcome of this act are indistinguishable to the child, but not to the critical observer, nor to us, reader and writer of these lines! The naive non-distinction cannot be shared with a person who himself does make this distinction«21». It is situated beyond the limits of critical thought, inside the lacuna and beyond what can be described formally.

In a similar vein, a particular naive perception made by a living being cannot be understood as a such by a critical«22» observer. But the naively perceived, on the other hand, does appear as a unity, as soon as

19. Professor Pattee, in a written reply of August 11, 1996, was so kind as to use the qualification 'excellent' for this interpretation of his ideas.

20. as the naive perceiver is supposed to see it. Elsewhere (Goudsmit, 1998) I called this type of attributed perceptions 'quasi-objects'.

21. An analogy to the approach of naive objects can be found in a feature of the organization of our visual field. There is a hole in our visual field, due to the retina's blind spot, but we usually do not notice it. We do not perceive any discontinuity in our visual field (such as a particular dot of ink on a sheet of paper). An external observer may come to say about us that we cannot see the dot and that we even don't notice the absence of the dot from our visual field, but precisely the absence of such a discontinuity is what cannot be experienced by an external observer as long as he is able to point at the object that our eye cannot see due to its blind spot (cf. Goudsmit, 1989).

22. i.e.: an observer who does distinguish between the object perceived and the process of perceiving it

the critical observer is able to accomplish a similar non-distinction, i.e., as soon as he manages to become naive himself«23»! *Thus, it is the observer's naive perception that is required for the appreciation of naive perceptions in other beings.*

Without 'sense in the observer', 'sense in the observed' would remain just a name for the lacuna that cannot be covered by formal expressions! For instance, to speak about a sense of hunger in a particular animal would be a *technical assertion*, not a *personal commitment* to the notion that the animal is hungry.

Thus, if by means of 'sense in the observer' it is possible to appreciate 'sense in the observed' as a unity, then this can only happen to an observer who does *not* keep a clear distinction between the sense that is felt and the sense that is observed! In other words, the sense thus assigned does not have a clear location, nor a clear carrier. This unclarity is a case of naive non-distinction. The sense felt and assigned by the observer is indistinguishable from the sense perceived in the observed. This indistinguishability is usually known in psychoanalysis and hermeneutics as 'identification', but as an epistemic concept its scope is far wider«24». It is not merely a phenomenon from praxis, a troubled mode of thinking in emotionally involved theatre spectators or in psychotherapists trapped in their own countertransferences. Instead, its logical form should be appreciated as one that cannot be subsumed under the logic of a critical observer's administration.

If anything is to be concluded, it must be that sense can be a quality of the encounter between living beings, such that it is situated in between them; in an area not accessible for critical discourse; beyond the limits of formalization. This inter-individual domain is not a gestalt built from elements that are the individual participants. Rather, it is a primitive, out of which the individual participants can be distinguished, as critical discourse develops. Beyond critical discourse, however, sense is a global property of the situation, not an individual feature situated within the organism.

The naive observer is capable of immediately touching upon something in the observed. It is here, in this touch, that their locus of contact is not a spatial interface for physical interaction and material exchange (which it would be only from the point of view of a critical observer), but primarily a source out of which sense and meaning develop.

The locus of this touch is where the identification between the two 'senses' takes place! It can even become constitutive of the identity of those involved in it«25». We find here strong resemblances to Merleau-Ponty's (1964) philosophy of the 'flesh': the ontological substratum out of which a subject-object distinction may evolve, but which is itself beyond this distinction. Thus, the flesh constitutes a category that is a union of both ontic and epistemic categories! Merleau-Ponty calls the flesh an 'untouchable', situated at the junction of the 'touching' and the 'touched' (p. 308).

The identification of 'sense in the observer' and 'sense in the observed', qua coincidence of an act of

23. Elsewhere (Goudsmit, 1998, 1992) I have argued that the transition from critical discourse to naive discourse requires the passage of a one-sided boundary. See also the contribution by Mowitz & Goudsmit (this volume) on one-sided boundaries.

24. The identification may be an illusion or a fantasy. For instance, if the cat is said to be hungry, then in reality the cat may have other desires than food, and the naive perception of its purported hunger may be flatly wrong. Likewise, the beloved person may not have reciprocal feelings for the lover; the psychotherapist may have been projecting his own theoretical hobbyhorses, etc. It is out of the experience of these errors that an observer (not every observer per se!) *might* become critical and become aware of his own interpretations (cf. Goudsmit, 1998); but these experiences of error do not argue against the primacy of naive perceptions.

On the other hand, the identification may also be shared between persons, as in the so called phenomenon of 'projective identification' (cf. Klein, 1946). Here the mother-baby interaction is paradigmatic. The 'official' explanation of this phenomenon is that of an (unconscious) fantasy in both persons involved (cf. Grotstein, 1999).

25. This means: the identification that may come with touch is capable of *defining* the observed living being that is touched, as well as the observer who is touching. Cf. Anzieu, who underscores the importance of bodily contact for the development of what psychoanalysts call 'the ego':

"The Ego-skin, inexistent at birth, emerges from this basis, with the experience of a new identification with the primary object, which is the adhesive identification (Meltzer) and of which the representation is one of *a skin common to the body of the subject being born and the body of its supporting object*. The interface that connects the infant's body and the body of the person who functions as a supporting object, by having them on both sides of the shared interface, provides the necessary infrastructure for *the Ego to arise at the interface between the external world and the mental reality*." (Anzieu, 1984, pp. 1396/7; italics added, my translation from the French)]

perception with its object, takes place at this junction of touching and touched. Form and content become indistinguishable here. Any understanding of the living organization that takes into account the organism's sense making capacities is faced with this indistinguishability. Any property of the living organization that can be recognized and be put apart as 'clear and distinct' cannot be the locus of its sense.

5. About this book

The present book offers various elaborations of the ideas presented above. They have been divided into four parts. The first part presents some general considerations concerning the study of life and complexity. The second part ('Semantics and emergence') contains papers that discuss semantics in terms of spatial or topological relations. Here complexity is clarified by means of 'sense'. The third part ('The organization of sense') does the reverse: it is about the complex organization of sense and lived experiences. The fourth part ('Sense and social praxis') deals with sense as emerging from social interactions, beyond the scope of a formal prescription.

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