Principles of Structural Phenomenology: a basic outline and commentary

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Structural phenomenology is a scientific method founded on a general theory of experience, whose specific contours and potentially considerable explanatory power have been obscured by its complex historical genesis. Barring a few partial or indirect attempts (e.g. Pos 2013 [1939], Holenstein 1976, Piana 1996, Coquet 2007, Groupe μ 2015), no synthetic account of its core tenets has been provided. In fact, structural phenomenology has not even been framed explicitly as a coherent tradition or theory in its own right. In the rare cases where the term has been used, it seems to refer only to an indefinite conceptual space where structuralism and phenomenology have on occasion intersected. Given that the works of Edmund Husserl, Roman Jakobson, the Gestalt psychologists, Maurice Merleau-Ponty or Jacques Derrida all provide examples of productive convergences or intersections between these two traditions, it is nonetheless quite clear that efforts to articulate what one might call « structural-phenomenological thought » constituted not a fleeting or marginal episode in 20th Century intellectual history, but a persistent undercurrent. As we hope to show, moreover, it is possible not only to identify a number of fundamental ideas in the nexus of exchanges between phenomenological and structuralist approaches, but also to distil these ideas into a set of consistent principles that provide an outline of structural phenomenology as a coherent theory and method.

As we are well aware, the principles put forward here are very broad and schematic. It is thus crucial to point out that their scope is essentially *summarising* and *prospective*. In our view, because structural phenomenology is so strongly enmeshed with its rich, often confusing historical context, providing a bare-bones, sweeping outline of its core tenets constitutes an essential first step towards identifying and establishing it as a unified, coherent whole. To a

certain extent, we thus aim at nothing more than to *take stock* of a number of ideas from the structuralist and phenomenological traditions and to provide some bearings as to how they can be combined into a consistent theory. This text being only a roadmap of sorts, we feel comfortable both with the reductionistic gesture of condensing fundamentally diverse points of view into a limited set of principles and with the perfunctory treatment we give to some of the most discussed problems in philosophy.

A couple of further historiographical remarks are in order to justify our approach to the corpus of so-called « structural-phenomenological thought ». Given that structural phenomenology was never invoked, let alone identified as a well-defined tradition or theory by any of the historical figures whom we deem to have contributed to its development, it is indeed all too easy to call into question our attempt to take stock of what is in effect only a spectral, implicit tradition.

On the one hand, we readily accept that structural phenomenology is for the most part an *a posteriori* construction. As presented here, it selectively highlights specific aspects of the work of a number of thinkers who were spread across countries and disciplines and did not have a strong – if any – consciousness of sharing a common perspective. Moreover, none of them – including those most obviously linked to structural phenomenology (Husserl, Jakobson, Merleau-Ponty, Derrida) – can qualify as « full » structural phenomenologist, as they do not adhere to the totality of the framework we outline. For this reason, we are certainly not claiming that Husserl, Jakobson or Merleau-Ponty were « structural phenomenologists », or that the prism of « structural phenomenology » is the right one to analyse and interpret their work on their own terms. Our aim in reconstructing the tenets of structural phenomenology, however, is neither to define a historical or conceptual category under which to subsume all these thinkers, nor to identify a subset of ideas that are common to them all. Rather, we intend to provide a basis for the future development (or at least a more detailed assessment) of structural phenomenology as a consistent theory in its own right.

On the other hand, we do believe that there are strong historical grounds to present structural phenomenology not as an arbitrary aggregation of theories and ideas – collected retrospectively to suit our own aims –, but as the implicit horizon of crucial debates and intellectual exchanges that took place in the first half of the 20th Century. As mentioned, one can find many instances where structural and phenomenological approaches intersected or

productively combined. Such instances, moreover, extend beyond the most famous names to a multitude of secondary figures such as Karl Bühler, Hendrik Pos, Gustav Špet, Rozalija Šor, Dmytro Čyževskij, Jan Mukařovský, Tran Duc Thao, Konstantin Megrelidze or Emil Utitz. Because many of these figures played an essential role in the transmission of ideas not only across borders and disciplines, but between the likes of Husserl, Jakobson and Merleau-Ponty themselves, they indicate that convergences between phenomenology and structuralism were not the *ad hoc* result of the punctual, specific interests of isolated thinkers, but were sustained over decades by a systemic network of personal exchanges and conceptual transfers.

In addition, this network took root in a number of common sources, such as Anton Marty's philosophy of language, the foundational research in mathematics of Karl Weierstrass and David Hilbert, as well as certain strands of psychology (Johann Friedrich Herbart, Wilhelm Wundt, Franz Brentano) or the various post-kantian reactions against psychologism (Hermann Lotze, Paul Natorp, Heinrich Rickert, Ernst Cassirer). In this perspective, structural phenomenology does appear plausibly as a paradigm that slowly emerged out of the so-called « crisis of positivism » in the late 19th Century, and whose maturation and consolidation into a clearly defined, explicit theory was preempted or delayed mostly by contingent factors and catastrophic events, the two World Wars and the liquidation of the cosmopolitan milieu of inter-war Prague chief among these (on these points, cf. Sériot 1999, Espagne 2014, Aurora 2017, Flack 2018).

We turn now to the principles themselves, each followed by a short commentary linking it to the ideas and thinkers from which it draws. Our commentaries should not be understood as fully developed demonstrations or justifications, but rather as contextual elucidations both of each principle's background and of its relation to the general framework of structural phenomenology. Furthermore, it goes without saying that it would be highly interesting to confront structural phenomenology with models such as 4E cognition, cognitive semiotics, biosemiotics, interpretive semantics, actor-network theory, radical constructivism, or speculative realism. Just as we will mostly leave out the historical background of the principles, such discussions will not feature at all in the following pages. At this point, we wish to remain focussed on delineating structural phenomenology itself as a coherent whole, leaving for later discussions of its complementarity, specific relevance and originality relatively to other contemporary approaches.

1 | Epistemic principle

Structural phenomenology is a general methodological framework for the scientific description of any type of experience. In particular, it seeks to provide a rigorous foundation to the human sciences, without subsuming them to the natural sciences or giving them lower epistemic value. It is grounded not in the a priori conditions of knowledge, analytical deduction or the experimental method, but in the intentional, phenomenal structure of lived experience.

At the most obvious level, structural phenomenology is a combination of the two fundamental insights of phenomenology and structuralism. These are, respectively, that experience should be studied in the broadest sense as whatever appears in the manner in which it appears; and that objects of experience should be described explicitly as wholes and the parts which make up those wholes. For phenomenology, « every originary presentive intuition is a legitimizing source of cognition, […] everything originally (so to speak, in its « personal » actuality) offered to us in « intuition » is to be accepted simply as what it is presented as being, but also only within the limits in which it is presented there » (Husserl 1982, sec. 24). For structuralism, « any set of phenomena […] is treated not as a mechanical agglomeration but as a structural whole, and the basic task is to reveal the inner, whether static or developmental, laws of this system » (Jakobson 1971, 711).

For structural phenomenological (which does not essentially differ on this specific point from the classical phenomenological view), the source of all experience and knowledge lies in intentionality, that is, in the correlation between a subjective consciousness and the structures of the different objects that present themselves to it. Crucially, no ontological priority whatsoever is posited between these two poles of the intentional relation. On the one hand, there can be no consciousness, and therefore no knowledge, without the intentioned phenomenal objects which are given to it in experience. At the same time, no phenomenon can be experienced outside its relation to a consciousness. As such, the intentional relation itself is what is primarily given *as* experience and one can thus speak of the intentional, phenomenal structure of lived experienced itself. In the words of Giovanni Piana, « in all its various manifestations, experience always reveals a structure and phenomenological research must uncover with clarity all the joints and articulations of this structure » (Piana 1996, 114, *our translation*).

Unlike the various structuralist trends that have animated many scientific fields – such as, among others, linguistics, mathematics, anthropology or psychology – the philosophical programme that underlies structural phenomenology is not limited to a specific disciplinary domain but aims to sustain a general science (or scientific method) that provides a unified basis for the systematic description of all the significant relations that obtain within each and every domain. The basis for this general science lies in a formal ontology that has its starting point in the analyses developed by Husserl in the *Prolegomena* and the *Third Logical Investigation*. According to such a formal ontology, every individual science can be said to represent a domain of objects which is governed (or can be expressed) by a set of axioms and mereological laws that are bound to the class of objects and the structural relations specifically considered. For instance, in the case of mathematics, mathematical entities and their structural laws, in the case of linguistics, linguistic signs and their grammatical laws, and so on.

In contrast to Husserl's or other classical approaches to formal ontology, the laws and axioms of structural phenomenology are not meant to express absolute knowledge or describe *a priori* conditions of knowledge. Rather they constitute dynamic models that are derived from and grounded in the intentional, phenomenal structure of lived experienced. As such, they can also affect lived experience itself through a reflexive process of auto-correction between theoretical model and experience. In this sense, structural phenomenology is close to the conceptions of scientific knowledge as a dynamic, incremental and normative process of critical reflection that can be found in the works of the later Husserl, the Neo-kantians (in particular Cassirer and Rickert), Pos or Merleau-Ponty

On this point, structural phenomenology also differs substantially from canonical versions of structuralism. Indeed, these generally limit themselves to identifying a specific domain of objects – for instance, natural language – and to uncovering its structure, namely the formal model that describes all the significant relations that obtain among the objects belonging to the domain, without looking into their source or the modalities of their appearing in experience. By taking this last question very much into consideration, structural phenomenology seems to be able to provide a solution – although neither conclusive or unproblematic – to one of the fundamental difficulties pertaining to the structuralist paradigm, namely the question regarding the relation between genesis and structure or, better, the genesis of structure.

Following Derrida here, structural phenomenology ceaselessly attempts « to reconcile the structuralist demand (which leads to the comprehensive description of a totality, of a form or a function organized according to an internal legality in which elements have meaning only in the solidarity of their correlation or their opposition) with the genetic demand (that is the search for the origin and foundation of the structure) » (Derrida 2005, 197). This attempt to conciliate genesis and structure, represents one of the hallmarks of structural phenomenology.

2 | Aesthetic principle

All experience is given as aisthesis*, i.e. as the intentional crystallisation or articulation of concrete aesthetic forms. Purely « transparent », dematerialised or immediately intuitive modes of experience are excluded, since even high-order symbolic representations, abstract concepts, eidetic intuitions or fleeting, indeterminate feelings are always given in a fundamentally aesthetic form.*

The equation of experience with *aisthesis* in structural phenomenology is of course open to a number of differing interpretations. In the perspective envisaged here, *aisthesis* entails in particular the following features:

- it has nothing to do with classical notions such as the norms of beauty or aesthetic pleasure, and refers instead to the mere experience of something in a given form ;
- it characterises all types or modalities of experience (perception, dream, imagination, abstract thought, etc.) – which are only distinguishable through the specific aesthetic forms they take. That is not to say that perception or imagination involve the same intentional relation to the world, but that they share the basic feature of always and necessarily taking an aesthetic form ;
- it negates the possibility of disembodied, immaterial, ideal or *a priori* types of experience or objects : even pure mathematical or abstract logical thought, in this sense, are aesthetic since they need minimal forms (such as algebraic notation or even something as fleeting as mental images) to subsist at all. Conversely, purely « material » or « sensual » experience is excluded : even the rawest, simplest of sensations has to be construed as articulated, aesthetically formed in some way.

On this basis, *aisthesis,* can be defined as the crystallisation or – to speak with Mukařovský – « concretisation » of experience into form. Put differently, experience *is* the crystallisation of something as a concrete or given form. The precise modalities of that crystallisation, along with the meaning taken on by the concept of « form » already go beyond the definition of *aisthesis* itself and are the object of the next two principles relating to the notions of expression and value. But the one characteristic feature of *aisthesis* that must be emphasised here already is that the crystallisation of aesthetic experience is definitely not to be understood as the performance or the production of a detached, ideal or judicative consciousness or *cogito*. Rather, aesthetic experience (and therefore all experience) always involves a somatic, bodily engagement, it results from the activity of an embodied consciousness or subjectivity.

As such, the conception of *aisthesis* outlined here clearly implies a number of fundamental phenomenological insights, in particular :

- The noetico-noematic structure of acts (Husserl), which allows one to conceive of a presentational articulation of experience itself (rather than a representational theory of concept and object).
- A non-objective conception of facticity (Heidegger, Merleau-Ponty), where objects are not « facing » conscious subjects, but are the articulated, concrete embodiments of an « engaged » subjectivity.
- The definition of experience as the attribute or affordance of a body (Leib) or of « flesh » (chair), not of a transcendental consciousness or ideal form of subjectivity.

In addition to this phenomenological background, another key contributor to the structural phenomenological principle that experience is necessarily aesthetic, « intransitive » and embodied are the avant-garde and modernist artistic movements of the early 20th Century, in particular the Russian Cubo-futurist and Czech Cubist movements. The contribution of the Russian and Czech avant-gardes are of course primarily of a practical nature (although one also finds explicitly theoretical writings, e.g. by Malewicz and Kandinskij). The immediate theoretical import of their artistic explorations for structural phenomenology can however easily be retraced through the Russian and Czech modernists' direct conceptual impact on the likes of Jakobson, the Russian formalists and the Prague School.

3 | Expressive or Semantic principle

The intentional aesthetic forms of experience constitute meaningful, expressive phenomena. Meaning inheres within the aesthetic forms of experience, it is both expressed and instituted by the articulations of these forms themselves. Conversely, aesthetic forms are always minimally expressive. As such, meaning and expressiveness are not the properties only of linguistic or semiotic systems, but an essential feature of all experience.

The concepts of meaning and expression used in structural phenomenology are to be understood explicitly in reference to the discussions conducted on these matters by Husserl, Špet, Jakobson, the Russian Formalists, Derrida and Merleau-Ponty. As a result, this involves dismissing the traditional concepts of sign and expression. One might want to object that if structural phenomenology does not make use of the traditional concepts of sign and expression, it would be preferable to use a new nomenclature, recycling for example the Husserlian notion of « noema ». However, the structural-phenomenological notions of meaning and expression are indeed explicitly meant to replace the corresponding traditional definitions and to discharge their explanatory function. As such, although the same terms involve widely diverging conceptual horizons, their continued use makes sense.

With regard to the notion of sign, it is most important to highlight that, in structural phenomenology, it is not used primarily in its *referential, denotative* or *deictic* functions, and thus does not follow the well-known medieval definition of *aliquid stat pro aliquo.* Structural phenomenology obviously does not deny that signs can have a referential function. But that function is clearly considered as a secondary, not an essential property of the sign. In structural phenomenology, first and foremost, a sign is something that *signifies* or *is expressive*, or in other words, that is articulated in such a way that it can differentiate itself in structured, meaning-inducing fashion either from a background or from a set of contiguous phenomena.

The best definition of the expressive sign is provided not by Saussure's concept of negative oppositions, but by Jakobson who, in the footsteps of the Russian Formalists, insists that any linguistic sign must always direct attention onto itself as an autonomous whole. A sign needs to « promote its palpability » (Jakobson 1981, 355) in order to fulfil any other linguistic or

semiotic function such as denotation, communication, etc. To take an example from phonology, the first property of the phoneme is to differentiate itself sufficiently from other phonemes so as to be perceived and recognised as such : without a minimal recognition of the phoneme as an autonomous, distinctive (and therefore signifying) entity, no other linguistic functions – such as morphologically combining phonemes into lexical units or using these in discourse – are possible. Conversely, the pure distinction of phonemes is an minimally expressive act in itself, as is demonstrated by the radical experiments of the Russian Futurists in their « zaum » (*transmental*) poems:[1] while often consisting only of « meaningless » phonemes, « zaum » poems are clearly identifiable as both *poems* and instances of *language,* i.e. as expressive linguistic and literary objects in their own right.

With regard now to the notion of expression, the classical conception that needs dismissing is the romantic notion of expression as the exteriorisation of a subjective emotion or inner disposition. Indeed, in structural phenomenology one dispenses of any connection of the notion of expression with the realm of feelings and emotion. This point is made explicitly by Jakobson, when he insists that the expressiveness of the sign is technically speaking nothing else than its power to demarcate itself as a signifying entity. As he writes : « The word is perceived as a word, not as the simple representation of a designated object or as display of emotion. Words and their composition, their signification, their external and inner form do not constitute only indifferent references to reality, but obtain their own weight, their own independent value » (Jakobson 1989, 79, *our translation*).

Jakobson's notion of expression, which he applies strictly to the linguistic sign and to language, is expanded and modified by Merleau-Ponty, for whom perception itself must be understood as the expressive articulation of sensible experience. Coming back to the aesthetic principle of structural phenomenology, one thus sees that experience is not only the articulated crystallisation of aesthetic objects or concrete forms, but indeed of *expressive, meaningful forms*. In other words, the aesthetic crystallisation of experience does not involve merely an ornamental or « formal » play of shapes and volumes, but their articulation in signifying entities that immediately express (or indeed institute) meaning.

1 The most famous example of zaum poetry is Aleksej Kručenych's « Dyr bul schyl », which does no contain a single standard Russian word : *dyr bul ščyl / ubešščur / skum / vy so bu / r l êz*

4 | Normative principle

Expressive forms are instantiated as the values of a hierarchised system. All values (and thus all expressions and aesthetic forms) are system-dependant and there can therefore be no purely discrete, fully determined objects or entities, whether perceptive, linguistic, conceptual, high-order symbolic, etc. Similarly, no experience is possible outside of a normative intentionality that structures or institutes it as a hierarchised, expressive system.

As is already obvious from the definition of the expressive sign, one of the main features of any object in structural phenomenology is to be different from its context or background. In contrast to the Saussurean or Derridean definitions, however, structural phenomenology does not construe the expressive sign as being in a purely negative opposition either to the other signs in the system or to a potential infinite series of differences (*différance*). Difference or differentiation in the structural phenomenological sense is a clearly positive process that results in the constitution of positive values organised and defined by a value-system. Figural differences and the resulting values in structural phenomenology are thus closer to the notion of *Gestalt*, i.e. a complex of properties or features that immediately display or express a coherent meaning or a certain structural or semantic unity. One can of course admit a distinction between transcient, vague systems of values and more stable, fixed systems that have undergone a process of sedimentation and normalisation. In this sense, an important aspect of the study of values and value-systems in structural phenomenology is to describe how the discrimination between values becomes sufficiently stable for expressive signs to be functionally constituted and to be fully apprehended (and possibly modelised) as meaningful entities or processes.

Given both this positive approach to the concept of value as a process of meaningful (or meaning-inducing), hierarchising discrimination, and the previous assumption that experience is always already a concretised, meaningful form, it is possible to affirm that, in structural phenomenology, any experience is shaped by (or « constitutes ») a value system. The corollary of defining all experience as informed by (or articulated as) a value system, moreover, is that each and every experience can be analysed and interpreted as such. This is the core methodological proposition and generalisable explanatory potential of structural phenomenology.

Generally speaking, value systems share two essential properties or central problems, namely how their « discrete » entities or values are constituted and how they interrelate together in the wider system. In structural phenomenology, as in classical structuralism, these two aspects are conflated: one does not distinguish between terms and relations, or rather, terms and relations are secondary to the structural differences that hierarchise and articulate individual entities that only exist or hold a value in a particular hierarchised system. The paradigmatic example here remains phonology, where phonemes (or terms) only have a value in virtue of their hierarchised, differential oppositions (relations) to other phonemes.

Not all value systems display the same consistency and stability as the phonological system, nor do they have to follow the specific structuration of that system. One can imagine both much simpler and much more complex hierarchies, in particular in perceptual systems where differentiations cannot be easily and accurately modelised or formalised. Nonetheless, it holds true that any experience is given and can be analysed as a value system. One historical demonstration of this is the extension of phonological analysis to anthropology by Lévi-Strauss or to psychoanalysis by Jacques Lacan. Conversely, one can retrace a certain development of the notion of value from an ethical or aesthetic concept to a general, epistemological one through the work of Lotze, Simmel, Scheler and the Neo-Kantians (Rickert, Cassirer) up to the works of Saussure, Husserl or Pos.

Terminologically, the notion of value can be made to replace both the notions of « object » and « meaning », given that both of these are considerably broadened and transformed in structural phenomenology, or indeed slowly conflated. Instead of the experience of objects or the definition of meanings, one can talk of the experience and definition of values.

In conjunction with the aesthetic principle of structural phenomenology, values cannot and should never be construed as *a priori,* or as an ideal, formalised abstraction of lived experience. What is commonly referred to as the ideality of an object or the *a priori* condition of its possibilities are replaced in structural phenomenology by a concrete notion of crystallised, lived values, which can be translated into more formal descriptions (such as algebra or abstract logics), but descriptions which are themselves to be understood as (concrete) value systems. The expressive, meaningful dimension of experience is not transcendant to it, it is not projected unto it by a consciousness, nor is it constituted in reference to abstract ideas and formal

norms: it is a factor of the crystallisation of experience itself. The concept of value, quite close in this sense to the Husserlian noema, is precisely the tool that can account for the immanent meaningfulness or expressiveness of experience itself.

Already in the *First Logical Investigation*, Husserl advocates a « non-representational » or « positional » theory of meaning, which structural phenomenology seeks to deepen and refine with the concept of value. According to Husserl, meaning constitutes itself only within a network of relations and only on the basis of the position that a given sign, of whatever nature, occupies within the reference system. Thus, meaning does not tie primarily to the « real » object indicated by a sign, but rather to the position occupied by the sign within the complex network of relations that forms the reference system. Meaning, with Husserl's wording, must then be primarily understood in terms of « game meaning » (*Spielbedeutung*).

5 | Mereological principle

Values are best analysed and described scientifically through mereological laws. Values are non-discrete and thus can only be studied in terms of the hierarchised system in which they are instantiated. In turn, a value system must be investigated and described in terms of the interdependence of its parts, and of the parts and the whole system.

As Roman Jakobson writes in a 1958 essay, in structural linguistics « [one] speak[s] about the grammatical and phonological *system* of language, about the laws of its structure, the interdependence of its parts, and of the parts and the whole » (Jakobson 1962, 525). In structural phenomenology, we could then say, one speaks about the system of experience, about the laws of its structure, the interdependence of its parts, and of the parts and the whole. Indeed, as Göran Sonesson observes, « structure has to be studied within a more complete mereological framework, that is, within the science of parts and their relation to the whole, first defined by Twardowski and Husserl » (Sonesson 2012, 84).

As we have already mentioned, Husserl was among the first to develop, in the *Third Logical Investigation*, a formal mereology, that is a formal study of the relations between parts and whole as described by Jakobson.[2] Accord-

2 As prominent a philosopher as Kit Fine has even written that « Husserl's *Third*

ingly, both from a historical and theoretical point of view, the *Third Logical Investigation* represents one of the fundamental sources for a structural-phenomenological approach.

In this text, Husserl devotes himself to a fundamental, formal study of all the possible relations that can obtain, in *a priori* fashion, among objects. These are considered independently from their belonging to a particular class or domain: « the term 'object' is in this context », and this also holds true in structural phenomenology, « always taken in its widest sense » (Husserl 2001b, 3). The term « object » does not designate only spatio-temporally determined things; rather, it identifies, in the most general way, a possible, that is, non-contradictory, content of representation. « Objects », Husserl claims at the beginning of the *Third Logical Investigation*, « can be related to one another as Wholes to Parts, they can also be related to one another as coordinated parts of a whole » (Husserl *Ibid.*, 4). He then distinguishes between two fundamental kinds of relations that can obtain among two or more objects, namely independence and non-independence. « A content », or an object, « A is relatively non-independent in regard to a content B (or in regard to the total range of contents determined by B and all its parts) », Husserl writes, « if a pure law, rooted in the peculiar character of the kinds of content in question, ensures that a content of the pure Genus A has an a priori incapacity to exist except in, or as associated with, other contents from the total ranges of the pure Genera of contents determined by B. If such a law is absent, we say that A is relatively independent in regard to B » (*Ibid.,* 22-23). If an object A is a priori connected to another object B according to a law of necessary implication – that is to say, with Husserl's wording, according to a foundational relation – A is relatively non-independent in regard to B (for instance, number 2 is relatively non-independent in regard to number 3); if instead the connection between an object A and another object B is arbitrary and accidental, A is then relatively independent in regard to B (for instance, a pencil is relatively independent in regard to the table on which it rests).

An object is thus independent, when the relation that connects it to another object is not necessary but only accidental or arbitrary, thus only a posteriori definable; an object is instead non-independent, when the relationship that binds it to another object is necessary, namely *a priori*

Logical Investigation is perhaps the most significant treatise on the concept of part to be found in the philosophical literature » (Fine 1995, 463).

definable. The term « necessity », however, must not be understood as indicating a « subjective incapacity-to-represent-things otherwise », but rather « the objectively ideal necessity of an inability-to-be-otherwise » (*Ibid.,* 12).

The kind of necessity that comes into play in the definition of independent and non-independent relations is thus ontological and not merely psychological. « What prevents its being otherwise is », in the case of a non-independent object, « the law which says that it is not merely so here and now, but universally so, and with a lawful universality. Here we must note that […] the 'necessity' relevant to our discussion of non-independent 'moments' stands for an ideal or a priori necessity » (*Ibid.,* 12). The general form that pertains to the necessary lawfulness that presides over the foundational relations that obtain among non-independent objects is determined by ontological inclusion exclusion laws, which, on a general level, play the same function of *implicational laws* as defined by Jakobson within the field of phonology (« for instance, the concurrence of nasality with the vocalic feature implies its concurrence with the consonantal feature. A compact nasal consonant (/ɲ/ or /ɳ/) implies the presence of two diffuse consonants, one acute (/n/) and the other grave (/m/) » (Jakobson 1971, 582)).

An object or content A is thus non-independent whenever it necessarily entails the existence or non existence of an object or content B. Against this background, Husserl then distinguishes between two different kinds of sets of objects, namely aggregates and wholes. Aggregates are mere sums of independent objects, which stand together accidentally, that is without implying a relation of foundation, whereas by wholes Husserl understands a set of non-independent objects, which are unified by a foundational relation, that is to say, with Husserl's words, « a range of contents which are all covered by a single foundation without the help of further contents. The contents of such a range we call its parts. Talk of the singleness of the foundation implies that every content is foundationally connected, whether directly or indirectly, with every content » (Husserl 2001a, 34).

A whole is thus a set of objects among which subsists a foundational relation, that is to say a relation of necessary implication.

The notion of « whole » proposed by Husserl in the *Third Logical Investigation* is perfectly comparable to the structuralist notion of « structure ». In fact, just in the same way as for the notion of structure, a whole is not merely the resulting sum of its components. Moreover, it includes laws of necessary implication, which are grouped by Husserl under the title of « foundational

laws ». Finally, it has in itself the principles of its own regulation, since the parts and the relations that compose the whole are mutually determined and do not need any element external to the system in order to function.

6 | Axiomatic principle

Mereological laws are determined and expressed by a combinatorial axiomatics, a model that aims ideally to define and explain the full set of mereological relations that obtain among expressive values in a given system. Combinatorial axiomatic models a) are the general form of scientific theory, b) can be applied to any particular value system or class of objects, c) express the laws that regulate or instantiate given values and systems.

Once a set (whether complete or not) of mutual mereological relations among objects or values in a given system has been identified, it becomes possible to provide models or theories that have an explanatory or operative power on that defined set of objects, e.g. numbers or phonemes. The theory of numbers, for instance, represents a model related to the class of objects represented by numbers, phonology the model relative to the class of objects represented by phonemes. On the basis of the mereological framework that is at the heart of structural phenomenology, one can also provide models for subclasses of objects, namely a theory of cardinal numbers, of real numbers, of complex numbers etc. In other words, by changing the class of objects to be considered, one obtains different theories, which are however always coherent with the more universal, or less determined, principles of structural phenomenology. Structural phenomenology therefore aims towards a general *combinatorial axiomatics* that allows for a descriptive model of every area of reality, that is to say of every class of objects considered.

Thus, combinatorial axiomatics a) is de facto the general, descriptive form taken by any theory formulated in structural phenomenology, b) can be applied to any class of object c) regulates or expresses relations between classes of objects.

Structural phenomenology is not a model of the *a priori* conditions of possibility of knowledge or, as Husserl writes with reference to his idea of a pure theory of manifolds a deduction of «all possible theories in a priori fashion» (Husserl 2001a, 155), but rather a general description of the concrete forms of experience and of their possible modelisation. In this sense,

structural phenomenology not only differs from Husserl's fundamental project of a « theory of science » as developed in the *Logical Investigations*, but also from some of the most radical instances of structuralism, as for instance the philosophy of mathematics established by the so-called « Bourbaki group » and the structural linguistics developed, among others, by Louis Hjelmslev.

According to the Bourbakists, every mathematical element can be described in structural terms, namely as the element of a mathematical structure, as part of a structural relation. There exist different kinds of relation, which can be grouped in three big classes that give life to what the Bourbakists call « mother-structures ». These are the fundamental structures, from which all the other mathematical structures must be generated and the entire « architecture of mathematics » – from algebra to the theory of numbers, from analysis to geometry to probability calculus – can be deduced. The mother-structures are, according to the Bourbakists, the « algebraic structures », which are defined by compositional relations (for instance, addition or multiplication of real numbers), the « order-structures », which are defined by order relations (for instance, *x* follows *y*), and finally « topological structures », which are defined by relations of proximity, continuity or limit. All other possible mathematical structures are deducible from the mother-structures either *via* combination – by simultaneously submitting a class of elements to two structures – or *via* differentiation – by posing restricting axioms that define a substructure.

If in the *Logical Investigations*, Husserl defines his analyses as concerning « all sciences equally, since they concern, in brief, whatever makes sciences into sciences » (Husserl 2001, 16), in his 1943 masterpiece, *Prolegomena to a Theory of Language*, Louis Hjelmslev analogously writes that « [a] linguistic theory […] must seek a *constancy*, which is not anchored in some « reality » outside language – a constancy that makes language a language, whatever language it may be » (Hjelmslev 1961, 8). Hjelmslev describes the fundamental idea underpinning a theory of language in a passage situated in the final pages of the *Prolegomena*: « The theoretician's main task is to determine by definition the structural principle of language, from which can deduce a general calculus in the form of a typology whose categories are the individual languages, or rather, the individual language types. All possibilities must here be foreseen, including those that are virtual in the world of experience, or remain without a « natural » or « actual » manifestation. In this

general calculus there is no question of whether the individual structural types are manifested, but only whether they are manifestable and, *nota bene*, manifestable in any substance whatsoever » (Hjelmslev 1961, 8).

What makes the combinatorial axiomatic models of structural phenomenology different from these theoretical endeavors is that, as stated in the previous points, structural phenomenology is firmly grounded in the lived structures of experience itself and does not admit of idealised, transcendent forms of knowledge beyond it. Hence, firstly, no axiom (or axiomatic model) in structural phenomenology is deducible in *a priori* fashion, since it must be derived from lived experience. Secondly, there is no fundamental or pure domain – being it logic (Husserl), mathematics (Bourbaki) or language (Hjelmslev) – from which all other sciences must or could be derived. On the contrary, structural phenomenology posits the possibility of developing any number of axiomatic models, without hierarchy or indeed without domain-specific exclusivity (i.e. there can be more than one way to modelise a specific domain of experience). Each axiomatic model, indeed, is directly grounded in lived experience and is legimitised by its own immanent capacity to elucidate the specific expressive value systems, class of objects or domain of experience to which it applies.

As a result, structural phenomenology proposes a « flatter » organisation of the sciences, where the movement of knowledge is not towards ever greater formalisation and generalisation, but a deeper, more complex understanding of the specific system of each level or « region » of experience, or indeed a deepening and « deploying » of our lived experience itself. As such, it unites the scientific impetus behind mathematics and poetics and opens up the path towards constructive inter-disciplinary cooperation. It also resuscitates the dream of the « rigorous human sciences » as an integral part of the scientific project of modernity, without subsuming them to the dogmas of naturalism and formalism or the pitfalls of scepticism.

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