REDISCOVERING PHENOMENOLOGY

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REDISCOVERING PHENOMENOLOGY

Phenomenological Essays on Mathematical Beings, Physical Reality, Perception and Consciousness

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INTRODUCTION

L. Boi, P. Kerszberg and F. Patras

Scientific thought has undergone a series of major developments in the second half of the twentieth century. Retrospectively, disregarding some special cases such as biology, this evolution, however radical it may have been, was more a deepening of the ideas born at the beginning of the century than a real transvaluation. Within the limits of mathematics and physics, axiomatic method, algebraic geometry and topology, general relativity or quantum mechanics, have been the driving forces of the great breakthroughs accomplished in the twentieth century.

The second half of the twentieth century has witnessed the systematic development of theories, which had been established and methodologically grounded in mathematics and physics (a process that had led to the paradoxes of set theory followed by Gödel's theorems, the change in the ontology of elementary particles and the problems of interpretation of quantum mechanics). Their qualitative and quantitative rise, in addition to their operational scope, have been such that they led to a change of attitude in the scientific community concerning the need for theoretical and epistemological foundations. Thus, after the second world war, the mathematicians of the Bourbaki group have stopped concerning themselves with the architectonic problems that attracted the attention of such great mathematicians as Poincaré, Weyl, von Neumann or Gödel. Likewise, though perhaps in a less significant manner, and as a result of the incredibly efficient power of description and prediction in quantum theories, the physical sciences have put up with a number of ontological aporias.

Nevertheless, in recent times a number of profound changes have emerged. To be sure, they do not have the dramatic character of the non-Euclidean, axiomatic or quantum revolutions that shook the world of Euclid, Newton or Kant; but they modified our perception and understanding of scientific thought and its mode of operation. In symbolic logic and mathematics, Gödel's heritage or category theory have greatly

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modified, if not invalidated, the significance of most of the reflective work and dispute over the foundations of axiomatic thought. In other words, our understanding of the phenomenology of logical and mathematical beings (in the sense in which experimental research uses this word) has been sufficiently renewed and deepened to allow for new roads in epistemological analysis, which until then could not be pursued because of the lack of relevant tools. In physics too, Bell's inequalities and the experimental verification of non-locality as predicted in the Einstein-Podolski-Rosen paradox have had a deep effect over the intelligibility of quantum theories.

The purpose of this book is to re-examine the epistemology of the exact sciences in the light of these developments. In order to do so, the various methods issued from Hussserl's original transcendental phenomenology will be used. These methods range from the analysis of intentionality to the conceptual and epistemological significance of scientific theory. For us today, epistemology means the revival of transcendental phenomenology in Husserl's sense.

The reasons for such a strategy are many. First the phenomenological method allows for a complete overview of the conditions of possibility of any scientific knowledge. Since science is ever more uprooted from its anchorage in the phenomenal lived experience of the world, the phenomenological method is indispensable in order to appreciate the entire range of its epistemological stakes. A reflection on the nature and scope of the Husserlian project itself is also involved in this strategy. From the *Logical Investigations* to the *Crisis*, Husserl's guiding thread has always been the problem raised by the decidedly formal character of modern science, especially the post-Galilean mathematization of nature. The emergence of the axiomatic method and the ever more symbolic dimension of physical theories have had a great influence over Husserl. In particular, they have determined the theoretical possibilities of phenomenology itself, which is therefore engaged in a continuous discussion with the sciences of its time. (Hilbert is a good example.)

Axiomatics, together with its various correlates (structure of theories of the universe, structuralist methodology, etc.), is seen very differently today. Does this invalidate Husserl's phenomenology? Is it still possible to redirect it in accordance with the new directions taken by the sciences themselves? What kind of tools does it provide contemporary science with? Could it

not be the basis for the kind of epistemological renewal needed by the sciences today, beyond their technical accomplishments?

In order to answer these questions, it is also necessary to part ways with some recent interpretive moves in phenomenology, which unfortunately tend to disfigure it beyond recognition. The originality of the Husserlian heritage does not lie in the complete and dogmatic subjectivization of consciousness, with the dreadful implication of psychologism. Nor does it consist in the full naturalization of consciousness, which could be induced by the traditional use of the word "phenomenology" in the empirical sciences. Ultimately, phenomenology aims at providing a systematic articulation between the various modes of theoretical objectivity and the apprehension, followed by structuration, of the phenomenal world itself by intentional consciousness. Viewed from this perspective, phenomenology is always necessarily *transcendental phenomenology*.

The book is divided into three parts, each being preceded by a specific introduction. They reflect the guiding themes of phenomenological analysis, inasmuch as it is engaged in a dialogue with the sciences: spatial mereology, phenomenology of perception and intentionality, foundations and methods of the sciences, phenomenology of mathematics and its foundations.

PART I

SPATIALITY AND THE PHENOMENOLOGY OF PERCEPTION

FOREWORD

Luciano Boi

The first section of this book deals with the spatial properties of perception, the geometry of the body (its movements and the visual field) as well as with the formal relationship between the "whole" and its "parts." The essential idea underlying the different chapters may be summarized as follows: perception is first and foremost the perception of a phenomenal world that is endowed with a certain spatial (both geometrical and topological) organization. There is thus a close link between the geometric properties pertaining to the physical world and its objects and the constitution of perceptual structures. In fact, these geometric and topological properties, rather than being an accidental element – however important in itself – of the phenomenal world (as Husserl and the Gestalt theorists believed), play an essential role in the dynamic process of constitution of this world.

More specifically, the following has to be assumed: (i) from the outset, perception encloses the characters of space and time as fundamental features; (ii) the mechanisms inherent in perception cannot be understood independently of the properties and the objective physical laws that characterize phenomena, as such, in the natural world; (iii) there are spatial properties related to the notions of nearness, symmetry axis, orientation, group of movements, connectedness, which underlie the constitution of the perception of objects as "objective" phenomena.

Moreover, the objects and contents of perception could not assert themselves as autonomous units, as coherent global wholes, were it not for the intervention of these spatial properties; consequently, the latter appear necessary for the structuring of the phenomenal world. As a number of chapters show, these geometric features are in some sense the source of a great number of physical as well as psychic pregnancies which can invest a variety of objects localized in the surrounding space, and which can thus give rise to salient forms and a significant variety of related phenomena.

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However, such a process only seems possible if we admit a dynamic correlation between the physiological mechanisms inherent in perception and the geometric laws of transformations of rigid bodies in our three-dimensional Euclidean space.

In particular, the issues raised by the contributions of Part 1 lead to four groups of questions that we believe are fundamental to our understanding of spatial perception:

1. How is it possible to characterize the link between the geometrical organization of the neurophysiological structures responsible for perception and the spatial feature pertaining to the movements of our body in the physical space?
2. What kind of geometric models can be developed for the recognition of visual forms?
3. What is the relationship between perceived spatial forms and cognitive activity?
4. What kind of relationship exists between the "parts" and the "whole," or between "discreteness" and "continuity" with regard to the modalities and contents of perception?

These questions are addressed here for the first time in the promising form that they deserve. The authors agree that a satisfactory theory of spatial perception has to aim at explaining the connection between geometrical, physical and perceptual space. Husserl contributed to this explanation in a remarkable way, particularly by showing the type of proto-geometry that is involved in the structuring of phenomenal world or in the constitution of the "spatial things." In the present volume, it is suggested that the sensory space, which is the "natural environment" of our perception, constitutes a kind of "primitive" topological continuum which, in addition to being an essential datum of our intuition, presents a qualitative structure of primary importance. Husserl's analysis was limited by the fact that he could not seriously take into account the possibility of rendering mathematically intelligible the different phenomenal fields of perception. One of the main goals of the chapters in the first section of this book is precisely to fill this gap, by trying to develop a dynamic theory of perception interpreted in terms of interrelated sensory systems.

It is commonly believed that the senses of seeing, hearing, and touching are entirely separate "perceptual modules," each of which operating

independently from the other in order to provide us with the relevant information about the external world. Recent studies, however, have revealed that our perceptual experience is in fact shaped by a multitude of complex interactions between sensory modalities. For example, a number of powerful multisensory illusions demonstrate that the senses are inextricably linked, and that our perception of visual, auditory, or tactile events can be either completed or dramatically altered when the information issued by the other senses is taken into account. When a sound is accompanied by a visual stimulus at another location, people tend to perceive this sound incorrectly at the same position as the visual stimulus – the ventriloquism effect. When two objects are lifted, different in visible size but equal in weight, the larger object is felt to be heavier – the size-weight illusion. When people see a life-sized rubber model of their own hand being touched at the same time as theirs, but hidden from view, they experience the touch on the rubber hand, and often report that the rubber hand feels as if it was their own.

Besides, there is more and more neuropsychological evidence indicating that action influences spatial perception. First, actions using a tool can modulate unilateral visual neglect and extinction, where patients are unaware of stimuli presented on one side of space. It has been showed, at least for some patients, that modulation comes about through a combination of visual and motor cueing of attention to the affected side. There is also evidence that action-relation between stimuli reduces visual extinction: there is less extinction when stimuli fall in the correct collocations for action, as compared to when they fall in the incorrect relations for action, or when stimuli are just associatively related. Finally, it can be demonstrated that action relations between stimuli can also influence the binding of objects to space, in the case of patients with certain syndroms (e.g., the Balint's syndrome). These neuropsychological data indicate that perception-action couplings can be crucial for our conscious representation of space.

From a more global perspective, we would like to stress some very interesting and promising issues closely related to Husserl's. They highlight the rich and meaningful phenomenological constitution, as well as the inner and dynamic geometric organization of objects, events and bodies, both in experienced space and in the living environment.

1. A first fundamental issue worth of mention concerns the investigation of global effects in visual occlusion. "Classical" occlusion examples, such as a square partly occluded by a rectangle, have given rise to so-called local and global accounts of *amodal completion* (in the terms of Kanizsa). Without denying the influence of local configurations, we are of the opinion that, in the long run, any theory of amodal completion should account for global properties. Recently two extensions of the stimulus domain have been proposed, which add weight to the necessity of global accounts. The first is the domain of so-called fuzzy regularities, i.e., regularities which are not based on metrical identities. It has been demonstrated that observers react to these fuzzy regularities and that they complete partly, occluded shapes accordingly. The second extension has to do with three-dimensional object-completion. Theories of object-representation that describe intrinsic regularities of objects appear to be most suitable to predict relative preferences in alternative object completions. Consequently, fuzzy object completions such as the completion of the back of a tree-trunk can be explained more satisfactorily by global constraints.

2. A second issue is related to the way in which visual object constancy across plane rotation and depth rotation can be achieved. Visual object constancy is the ability to recognize an object from its image despite variation in the image when the object is viewed from different angles. Research probes into the human visual system's ability to achieve object constancy across plane rotation and depth rotation. In some cases, the recognition of invariant features allows objects to be reorganized irrespective of the view depicted, particularly if small, distinctive sets of objects are presented repeatedly. By contrast, in most situations, recognition is sensitive to both the in-plane and in-depth view from which an object is depicted. This result suggests that multiple, view-specific, stored representations of familiar objects are accessed in everyday, entry-level visual recognition, or that transformations such as mental rotation or interpolation are used to transform between retinal images of objects and view-specific, stored representations.

3. A third issue regards the influence of spatial reference frames on imagined object and viewer rotations. It is an important fact for perception that the human visual system can represent an object's spatial structure with respect to multiple frames of reference. It can also use multiple reference frames to mentally transform such representations. Recent research has

shown that imagined object-rotations tend to be more difficult than imagined viewer rotations. How are we to understand this discrepancy in terms of the different reference frames associated with each imagined movement? An examination of many mental rotation situations reveals that the difficulties for an observer to predict an object's rotational outcome might stem from a general deficit with regard to imagining the cohesive rotation of the object's intrinsic frame. Such judgments are thus more reliant on supplementary information provided by other frames, such as the environmental frame. By contrast, motor imagery and other studies prove that imagined rotations of the viewer's relative frame are performed cohesively and are thus mostly immune to effects of other frames.

4. A fourth issue has to do with the problem of the visual representation of three-dimensional, rotating objects. Depth rotations can reveal new parts of objects, which results in poor recognition of "static" objects. Recent studies have suggested that multiple object views can be associated through temporal contiguity and similarity. Motion may also play an important role in object recognition since observers recognize novel views of objects rotating in the picture plane more readily than novel views of statically reoriented objects. The most interesting experiments presented in the literature investigated how different views of a depth-rotated object might be linked together even when these views do not share the same parts. The results suggest that depth rotated object views can be linked more readily with motion than with temporal sequence alone to yield priming of novel views of three-dimensional objects that fall in between "known" views. Motion can also enhance path specific view linkage when visible object parts differ across views. Such results suggest that object representations may depend on motion processes.

5. Lastly a fundamental issue is related to the problem of subjective contours. The phenomenon of perceptual closed contours cannot be psychophysically predicted by local rules of grouping. This indicates, e.g., that linkage of collinear segments is strongly affected by the global arrangement. In other words, equally aligned line segments are easily segregated from the background if they compose a circle, but they blend into the background when they are not closed. This robust "pop-out" effect requires that adjacent line segments ought to be quasi-collinear. For example, if the closed curve formed a half-moon, closure enhancement would disappear, although both a circle and a half-moon are topologically closed.

This implies that the closed curves cannot contain "kinks." In the case of contour detection, one can demonstrate that contour closure does have perceptual significance in binding spatially separate features: oriented segments group together to form a closed contour outside the range of local grouping constraints. Recent psychophysical studies showed that the detection of line continuity is supported by a well-defined spatial range of interconnection between neighbouring detectors, where interconnection is constrained along the major orientation axes of no-overlapping filters.

CHAPTER 1

HUSSERL AND THE PHENOMENOLOGY OF ATTENTION

Bruce Bégout

> "Millions of item of the outward order are present to my senses which never properly enter into my experience. Why? Because they have no *interest* for me. *My experience is what I agree to attend to*."
>
> W. James, *The Principles of Psychology* (1890)

According to Husserl, attention is one of the most difficult issues that a philosophy of consciousness has to understand and clarify. Although on the one hand its ordinary sense seems clear and relatively determined, on the other it presents unique problems and so continues to be discussed by philosophers. These difficulties originate in the various factors that intervene in the fact of being attentive, but also in a false understanding of attention. Attention is certainly, says Husserl, "one of the chief themes of the modern psychology,"[1] but nobody thinks to join it to intentionality, for the connection between attention and intentionality has been always thoroughly overlooked. According to him, a sensualistic understanding of consciousness blocks the way to a phenomenological account of attention, insofar as it considers attention just as the outcome of sense-data discrimination. During all his philosophical work, Husserl has attempted to explain this complexity of attention and to propose a new conception of it, namely a "phenomenology of attention."[2] We are, says Husserl in the first book of the *Ideas*, at the gates of "the radically first beginning of the theory of attention." So a systematic inquiry into the essence of attention

[1] *Ideas pertaining to a pure Phenomenology and to a phenomenological Philosophy*, Book I: *general Introduction to a pure Phenomenology* (*Ideas I*), translated by F. Kersten, Den Haag, Nijhoff, 1982, p. 226.

[2] *Logische Untersuchungen*, *Untersuchungen zur Phänomenologie und Theorie der Erkenntnis*, Halle, Niemeyer, 1913 (1901), Zweiten LU, §§ 18–23.

L. Boi et al. (eds.), Rediscovering Phenomenology, 13–32.

is "among the fundamental tasks of general phenomenology."[3] This investigation, which must be conducted within the limits of intentionality, has to deal with the general problem of how consciousness selects, by its own means, its objects from the background of the perceptual world. What are the principles of this elective discrimination of consciousness? Why do we focus our attention on this thing instead of another?

Since his *Philosophy of Arithmetics* (1891), Husserl has insisted on the fact that attention is always conjoined to the lower levels of consciousness, which have their own degree of *being-directed-towards*. Besides it is evident for him that attention is from the outset related to the general characteristic of consciousness: intentionality. Every sort of attention is "nothing else than a fundamental *species* of intentive modifications." Attention concerns at first sight the *consciousness of something* and cannot escape from it. But it will be false to believe that it is just a particular mode of intentionality as is perception or imagination. Actually attention forms a new feature of consciousness that one could distinguish sharply from the intentional functioning of the ego.

But even then, it is still hard to say what attention is exactly, because it stretches out as far as consciousness extends itself. To quote the *Logical Investigations*, attention, as far as it has no specific component, "embraces undoubtedly all the province of consciousness."[4] It has "an extension as wide as that of the concept of *consciousness of*."[5] It disappears in a way under the theoric investigation, because it is interwoven with every mental act. In an ordinary perception, whether it is external or internal, we only pay attention to the objective differences, but the act of attention in itself stays always invisible behind. To understand its nature and function, Husserl reckons that one must clearly mark out the legal borders of attention, especially with regard to affection and intention.

If phenomenology, as Husserl conceives it, claims a privilege to be a radical reform of the science of consciousness, it is evident then that attention must be clarified first, for it is the main medium to acquire a such science. The question of attention amounts in the end to the question

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[3] *Ideas I*, p. 225.
[4] *Logische Untersuchungen*, *Zweiten LU*, Halle, Niemeyer, 1913, p. 163.
[5] *Ibid*.

of the possibility of a true knowledge of what is consciousness and what is it doing.

1. Attention and Intentionality

According to the fifth *Logical Investigation*, there are three principal significations of consciousness. Consciousness means at first the internal perception of states, ideas, feelings, i.e., the ability to see what occurs in the mind; it means also the living set of those internal components of the mind, the unity and the stream of consciousness; and finally a specific operation that sets consciousness apart from the other natural things: intentionality. When Husserl speaks of attention as a function of consciousness, he refers essentially to the *third signification* of consciousness. Attention is therefore always considered as a "modification" of a mental intention. At first sight, attention and intention seem almost synonymous for him. They both mean to *be directed towards* an object. Besides they are specific acts of consciousness, which require a certain mental activity, so that the theory of intentionality includes, as it appears, the complete issue of attention. But if each attitude of attention implies an intentional act, the opposite is not necessarily true. Despite their apparent likeness, Husserl considers that attention and intention must both be clearly distinguished lest consciousness at large may be reduced to "attentionality."

So the main difficulty which Husserl is confronted by is to separate attention from intentionality. It is already conspicuous in the *Psychological Studies on Logics* (1894). In this text, Husserl tries for the first time to clarify what he calls "the subjective circumstances of seeing." Making the distinction between intuition and intention, he remarks on that occasion that attention belongs before anything else to the former. When I pay attention to something, an idea, a sound or a man, I am directed towards it as it is given in person. At this stage, intention refers only to a mental process of meaning which doesn't seize its object in person but, for this very reason, only aims at it. That is to say attention represents a particular orientation to the object, but surely not a genuine intention. Although attention is certainly a consciousness mode of being, yet it is not a simple intentional act. It is instead a "particular act-mode."[6] Even if Husserl

[6] *Ideas I*, p. 76.

changes his conception of intentionality at the turn of the twentieth century, as it can be seen in the *Logical Investigations*, he remains faithful to the distinction between attention and intention.

> To pay attention is not to take position in the sense of an act. Attention is not intention.[7]

Despite their proximity as both mental attitudes, Husserl warns his reader against the confusion between attention and intention. In others words, attention has nothing to do with a *position-taking*, because it bestows no existential position upon its object as real or doubtful. It's not really an act in which a doxic position is taken. It is therefore ontologically neutral. One can't even say that attention is a particular case of intentionality.

But of course attention, as a presupposition, requires a such act of position-taking. That which with attention has to deal is already there, tacitly presupposed: intentive acts. Husserl notes in the first book of the *Ideas* that attention is a "fundamental *species* of intentional modification."[8] On its own, attention cannot produce the intentional relation to the object, but, in order to change this *intentive* attitude of the consciousness respecting the object, it has to be anchored to the ground of intentional acts. This is the reason why it always adds a conscious modification to the present intentions of the actual consciousness. In fact, attention superimposes itself upon intentions. It covers it up. As Husserl sees it, every new attitude of attention demands a previous intentional act with a previous doxic position-taking. It follows then that attention stresses or reduces the connection to the noematic correlate, but doesn't make it up. In fact, Husserl often gives two different meanings to intention. If first intention means *to be directed towards* an object, then attention is as well intention; but if secondly intention means only *an act in which a thetic or doxic position is taken*, then attention differs entirely from intention. Everything occurs as if attention was between a mere intention and a complete act of position-taking. Attention is embedded in a twofold intentional horizon.

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[7] *Einleitung in die Logik und Erkenntnistheorie. Vorlesungen 1906/07* (*Introduction to Logics and Theory of Knowledge*), ed. by Ulrich Melle, *Husserliana XXIV*, Kluwer, Dordrecht, 1984, p. 250.
[8] *Ideas I*, p. 76.

For that reason, Husserl can venture to say that there could be attention without a doxic act, what he calls a "pure intention."[9]

But if attention is not a complete "act-character," as Husserl claims in the Lectures of 1906 (*Introduction to Logics and Theory of Knowledge*), what is it then? Since, after Husserl, an act means only a position-taking with a doxic attitude, attention can't be related to the genuine activity of consciousness. It pertains to the object but not as an intentional act does. This is therefore a conscious attitude which is to *direct oneself towards* something or to *adjust to* something. As "orientation by" an object, attention simply "modifies" the intentional act of consciousness.

By emphasizing the difference between modes of intentionality and modifications of consciousness, Husserl presents hereafter attention in the *Ideen* as a "mental regard." This "mental regard" means that attention is not really an intentional form of consciousness, but an attitude of consciousness that combines regularly with it. A "mental regard," which defines attention more than any other term, signifies for him that "this having the mind's eye on something which pertains to the essence of the act as act is not itself in turn an act on its own right."[10] In any intentional act "a mode of heedfulness dominates."[11] When I give heed to something, I am not necessarily attentive to the other things which are co-present with it, and yet they are intended as such. That means attention is surrounded by an intentional consciousness which is not previously *directed towards* something determined. An attentive object is not just an intented object to which the intentional consciousness is directed, but it is rather "an object seized upon, heeded."[12] . In addition, this particular mode of intending to something sprawls itself to every intentional modes of consciousness.

Given the different intentional modes (perception, imagination, memory, and mere meaning), attention could at every moment combine itself

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[9] *Hua. XXIV*, p. 251.

[10] *Ideas I*, p. 76. It is evident that, if the whole consciousness is intentional, it is not in the same way attentional. Consequently there are many intentional acts that are not usually accompanied by an attentional advertence. Husserl's theory of attention consists essentially in putting this matter of fact in the foreground.

[11] *Ideas I*, p. 77.

[12] *Ideas I*, p. 76.

entirely with them. It then becomes evident that an intentive consciousness is not necessarily an attentive one. In a conversation with D. Cairns, Husserl states that "these modes of attention don't confine themselves to the perception, but take place in every Ego's activity."[13] There could be a "modification of attention" in a perceptual act, or in a meaning act. It may be remarked here that attention is not strictly related to mere perceptions. There could be also an attentional attitude in imagining, remembering or simply meaning. This is a characteristic feature of attention, to be associated with every intentional act in every intentional realm. Since attention is not a new intentional act, it can be joined to every perception, imagination, memory or meaning. It doesn't make up an act, but it can belong to every act. As Husserl points out in the first book of the *Ideas*, "I can let my attention wander away" from place to place," shift it *ad libitum* towards another object. To say it briefly, *to be directed towards* an object doesn't set up an new act, but it reveals itself as a possible characteristic of each intentive act.

Here Husserl has to account for the special quality of attention without overlooking its close relationship with the intentionality of consciousness. Is attention a new mode of intentional consciousness, or is it something completely different? Generally speaking, attention enters under the general heading: "changes of consciousness." *To pay regard to* implies, according to Husserl, a certain change in conscious attitude and attention means then this very result. Although they are merged into the intentional operations of mind, these "attentional changes" form "a quite universal structure of consciousness having its own peculiar dimension."[14] But attention can't be isolated from the intentional acts, it lives within them, without being them. In fact, attention "cuts across all other species of intentional events," so that there could not be attention qua attention without a previous activity of consciousness. To change consciousness somehow, attention must be before prior acts of consciousness. These attentional changes play a major role in cognitive consciousness without being separated phenomenologically from certain other phenomena. It is just when

[13] D. Cairns, *Conversations with Husserl and Fink*, Dordrecht, Kluwer Academics Publishers, 1976, p. 30.
[14] *Ideas I*, p. 222.

they are mixed with these others that "they are usually designated as modes of attention."[15]

But there are certainly different manners of *to be directed towards*. The word *attention* covers consequently several senses. First attention means *to be adjusted to* an object. The object represents the focus of its intention. In this case, it is brought to a complete presence; it is litteraly under the light of the mind, seized upon and singled out. The object of attention is what is given itself, picked out, so that attention is equal to the giving of something itself. But, around the object, in its surroundings, many other objects are apprehended also by consciousness. They are not just intended as empty representations, but are given to consciousness. However, as Husserl states it, they are not under the spotlight of "primary attention" (*Aufmerken*) which renders them fully present and lived, but they stand themselves only under the "secondary or incidentally attention" (*Bemerken*). That means that the surrounding objects are "just remarked," but not necessarily noticed. These objects are here related to consciousness as intentional correlates but not seized or singled out as relevant features of our actual perception. The field of consciousness embraces then two main places, the central place occupied by the primary attention and the peripheric place occupied by the secondary attention. An objectity of any kind could be present in two different manners: as noticed directly in primary attention or just remarked in secondary attention. These are for Husserl the two principal functions of attention. And "phenomenologically the consciousness of perception becomes other if we pay attention in a primary way to the perceived thing instead of remarking it in a secondary way."[16] For Husserl *becoming other* is a phenomenological fact that, in virtue of its ability to modify the intentional connections to the objects, alters every conscious component.

But sometimes Husserl wonders if there is not still a lower level of attention, that of the perceptual horizon in itself. Actually the secondary or incidental attention covers only the objects closely co-given with the primary object, viz. with the focus of our consciousness. But what happens to the other objects lying in the background and not directly linked to the

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[15] *Ideas I*, p. 222.

[16] *Vorlesungen über Bedeutungslehre. Sommersemester 1908* (*Lessons on the Theory of Signification*), ed. by Ursula Panzer, *Hua. XXVI*, p. 20.

focus of the mind? Could there be a specific attention belonging to the halo of consciousness? For Husserl there are good grounds for supposing that attention doesn't confine itself to primary and secondary attention. To this inactual field of consciousness, namely the obscure background, "we are not yet directed to it with the mental regard, not even secondarily."[17] But it is still there and besides it could become seized in its main features, for instance in its infinite givenness. As Husserl himself points out, we must consider a "third level"[18] of attention. In other words, he leaves open the possibility of a marginal attention of the horizon itself, namely a tertiary attention. Inherent to the essence of the halo there is then this possibility to be noticed. Here Husserl discovers nothing else than the ternary structure of the field of consciousness that Gurwitsch will develop further in his works especially in his *The Field of Consciousness* and in his famous article "Phenomenology of Thematics and of the pure Ego: Studies of the relation between Gestalt Theory and Phenomenology (1929)."[19] But, unlike Gurwitsch who sees them as objective components of the field itself which would retrace the ways of mental regard,[20] Husserl considers these distinctions as belonging merely to the attitudes of consciousness. Hence attention remains for him an attitude of the Ego and it is independent as such of objective components of the field of consciousness.

Anyway, it is taken for granted that there are conscious differences, albeit often very smooth and gradual, in the way of being heed to something. I can always turn my attention towards the things not seized upon until then and convert them "in the mode of actional advertence." "A free turning of regard,"[21] Husserl claims, could always modify those unseen components of the background into attentive ones. But could the horizon be noticed

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[17] *Ideas I*, p. 72.

[18] *Hua. XXVI*, p. 19.

[19] "Phenomenology of Thematics and of the pure Ego: Studies of the relation between Gestalt Theory and Phenomenology (1929)"in *Studies in Phenomenology and Psychology,* Evanston, Northwestern University Press, 1966, pp. 214–215: "acts in which something is primarily noticed, acts of attention in the pregnant sense, (. . .), is consciousness whose objective correlate presents itself as theme."

[20] Gurwitsch, *Studies in Phenomenology and Psychology*, ibid., p. 223: "the possibility of thematic modifications is grounded in the essential situation that the theme has constituents and lies within the field."

[21] *Ideas I*, p. 71.

as horizon? In the *Lessons on the theory of signification* (1908), he is noting that "it remains yet an objective background where what is conscious in a primary and secondary manner is in a certain way extracted from."[22] To follow Husserl here, this background doesn't fail to be remarked as well; but it is remarked in a different manner, namely that of the background itself. As Husserl states it in the *Ideas*,

> It is likewise obviously true of all such mental processes that the actional one are surrounded by a halo of non-actional mental processes; the stream of mental processes can never consist of just actionalities.[23]

There are two manners to be attentive to this horizon of consciousness. One is by the horizontal attention as such, a sort of tertiary attention obscure and vague; but this mode is very difficult to single out because of its own nature to be not singled out. Another is by the "attentional changes," for when I give heed to the previous unseen components of the horizon, I seize upon them as they were just before as unseen and rightly out of the attentional cone of light. That is, I am at once aware that I was before entirely heedless of them or that they were barely noticed if not completely unnoticed though still appearing. These structural features of the field of consciousness determine in general the different ways of which attention could take place. That is, attention always slips into the ready-made bed of the structural field of consciousness that existed as such before it.

But one can ask if it is indeed attention that, by virtue of its faculty to select something already given, creates these structural differences in the field of attention or if it is rather these structures that underlie from the outset the way attention happens. Is attention the privileged factor in the perceptual discrimination or is it simply a subjective consequence of it? Is there, before attention as such takes place, a prior organisation of the field of consciousness that drives in a way the rays of the Ego? It is very difficult to answer now because the only theoretical tool that we have at hand is attention itself, so that a *circus vitiosus* could threaten our investigation. The only thing we can say for the moment is that to the

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[22] *Hua. XXVI*, p. 19.
[23] *Ideas I*, p. 72.

three modes of attention are certainly correlative to three places in the field of consciousness: the given, the co-given and the horizon of givenness.

In the *Ideen*, Husserl insists many times on the obvious fact that, although they do modify the conscious connection to the object, the "attentional changes" leave nevertheless the *noema* entirely unchanged in its internal composition. Consequently each "attentional mutation" changes solely the consciousness attitude towards the object, but not the object in itself.

> It is clear that throughout such alterations, the noematic composition of the mental process remains the same in so far as one can always say that the same objectivity is continuously characterized as being there in person, presenting itself in the same modes of appearance.[24]

Whereas attention brings constantly to light new aspects of the object, Husserl considers however that the noematic core on its side doesn't change. The attentional mutation affects directly the relation between noesis and noema, but not the internal components of the noema. It is then a more subjective than objective feature of consciousness since the noematic nucleus is still the same. The noema, as taken in its essence, is not altered by the *attentional mutations* not much more than an perceptual object is internally modified by the sunlight. The alterations affect only "the distribution of attention and its modes."[25] One can say that the noema, as it is taken by a lived apprehension, is not the always same, but the noema, as it is in itself, can't change. Therefore the Husserlian theory of attention always presupposes the invariability of the object and that attention in itself pertains essentially to a modification of consciousness but not of conscious objects. The noema must be surely changed, but not by attention. Only a real intentional act can modify the noema in its core. For its part, attention modifies nothing more than our conscious connexion to the object. This means that attention depends first of all on internal factors of consciousness.

Briefly, the attentional changes presuppose:

1. the presence of a noematic core
2. that they do not alter the correlative noematic production

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[24] *Ideas I*, p. 223.
[25] *Ideas I*, p. 223.

3. that they exhibit alterations of the whole mental process with respect to both its noetic and noematic sides

These are the structural factors of attention which depend on the general field of consciousness. For Husserl, correlative to structural features of the field of consciousness, there are different modes of *being attentive to*. The three modes of the consciousness of the field echo the three main spots in the field of consciousness (theme, thematic field and unthematic or marginal field). Attention can move from the core to the margins of the field and take place where it wants to be, but it can't really alter the object *qua* object. Although the attentional changes modify our apprehension of the object, they don't come under the reach of noematic correlates. They are specific features of consciousness *qua* consciousness. When I see the pencil before me, on my table, I don't pay attention to the table itself, its colour, its matter, not event to the room nearby, its form and its background lighting. In such a case, the object of attention overshadows usually its objective environment. Therefore this distinction between primary and secondary attentions doesn't square with the objective facts. It belongs only to the attentional mutations of the ego-ray. So one can say that the attentional change "consists merely of the fact that, in one of the compared cases, one moment of the object is favoured and, in another case, another."[26] These attentional alterations affect surely the noema but, adduces Husserl, "without touching the identical noematic core." Then the phenomenology of attention reaches here an important element of the intentional analysis: the noema is always divided between the noema as it is for me and as it is in itself, in its independent core.

Just in this way, remarks Husserl, the metaphor of light concerning attention and its modes is fully appropriate:

> Attention is usually compared to a spot light. The object of attention, in the specific sense, lies in the cone of more or less bright light; but it can also move into the penumbra and into the completely dark region.[27]

This metaphor which is, according to Husserl, far from relevant when it is a question of distinguishing phenomenologically all the modes of attention, is still designative insofar as it indicates alterations in what appears as what

[26] *Ideas I*, p. 223.
[27] *Ideas I*, p. 224.

appears. In other words, this metaphor makes us understand that attention does not alter at all what appears with respect to its own sense-composition, but just modifies "its mode of appearance"[28] from brightness to darkness.

In this light, the structures of the field of attention don't only concern the perception, but affect as well imagination, memory and pure meaning. It's worth here noting that every conscious object as a thing, a logic ideality or a person could be affected differently by attention.

2. Affection and Interest

But in his last works, since 1920, Husserl attempts to introduce new elements in his phenomenology of attention. Among them affection and interest play a significant role.

It is quite interesting to note that, in the *Ideen*, Husserl always understands and defines consciousness only as a pure activity of the ego. Acts of attention refer essentially to the actual performances of the *ego cogito*. Furthermore attention belongs to this activity, insofar as it could happen only by the means of the ego-acts. It deals with the different acts through which something is given as the target of the ego's intentionality. Each ray of attention, indicates Husserl, "presents itself as emanating from the pure Ego and terminating in that which is objective." Attention can't ever be detached from the Ego, so that it always remains related to an ego-ray, even when it occurs in its incidental manner. It is an "actional" (or actual) mode of consciousness.

> If an intentive mental process is actional, that is, effected in the manner of the cogito, then in that process the subject is directing himself to the intentional object.[29]

Each attentional attitude pertains to this activity of the aware and actual ego cogito. The ego has the freedom to direct itself to anything whatsoever. Attention is accordingly understood as a ray emanating from the ego's spontaneity, so that it is always said to be "actional." The actional ego lives

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[28] *Ideas I*, p. 224.

[29] *Ideas I*, p. 75. Commenting on this text, Gurwitsch notes that "problems of attention concern the peculiar nature of acts through which something is experienced as theme," ibid., p. 215.

within its acts as free to do what it wants, as the pure subject of the acts. In this light, attention depends exclusively on the free ability of the ego.

> It is in their actionality modes that attentional formations have, in a pre-eminent manner, the characteristic of subjectiveness.[30]

This leads us to conclude that, conversely, all the passive processes of mind are inattentive and *vice versa*. Husserl confirms this point: "what goes on in the stream of mental process outside the ego-ray or the cogito is essentially characterized otherwise"; it lies outside the ego's actionality and yet it is relevant to him insofar as it represents "the field of potentiality for the ego's free acts."[31] Husserl then calls this non-actionality mode of consciousness: "inattention."

But one may ask if the secondary attention and even more the horizontal attention don't entail the presence of passive states of mind, of something undergone mentally, that does not amount to pure activity of the ego. On closer inspection, one may observe that the presence of the halo of consciousness implies a passive mode of being, given the fact that it is not present in the actional or actual ego-rays and that all the attentional modes of consciousness are said to have the actional form of the ego cogito. Husserl calls this peculiar presence of the co-objects before the ego converts himself to them: "affection." In *Erfahrung und Urteil* like in *Analysen zur passiven Synthesis*, Husserl clarifies the relations between actional attention which depends exclusively on the free ability of the pure Ego and affection which embodies a sort of passive and pre-reflexive attention. It is not our intention here to analyze these complex relations further but we can say however that the horizontal mode of consciousness is now interpreted by Husserl as a "passive synthesis," since the ego-activity concentrates itself only upon the primary and secondary attention. The structural distinction between *primary attention* which corresponds to the "seizing upon," *secondary attention* as "just noticing something" and *horizontal attention*, where we can already find the future specifications of consciousness made by Gurwitsch in *Field of Consciousness* (theme, thematic field, and marginal field) turns now into a modal difference between ego-activity and ego-passivity.

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[30] *Ideas I*, p. 225.
[31] *Ideas I*, p. 225.

In a proper sense, attention is defined by the conscious advertence of the ego to the affecting object. To pay heed to something means to turn the mental regard towards what it is already given albeit unnoticed. On its side, affection pertains to all the sensitive stimuli that excite the Self, but it is still a mode of intentional consciousness, so that it refers itself to a certain *being directed towards something*. As Husserl said in an unpublished manuscript (M III 3 III 3 II, *Studien zur Struktur des Bewusstseins*), written before the *Ideas*, circa 1910:

> In passivity the Self is also part of it in the mode of affection and then we may distinguish the modes of objective consciousness after the kind of affection which is not still become attention. Affection is at once an egoical mode of consciousness' operations.

Every consciousness, goes on Husserl, lives only either as affection or as attention, *tertium non datur*. The field of affection itself is already organized after a steady order similar to that of the attentional consciousness. The distinction between passivity and activity, or affection and attention, depends exclusively on the degree of the ego's commitment.

It would be false however to consider these structures of the field of consciousness, even thought as genetic modes of consciousness as activity and passivity, as the sole factors of attention. In fact, according to Husserl, they constitute a necessary but not sufficient condition of it. When I pay attention to something, I am not only directed towards it in a primary or secondary way, with an active or passive attitude, but I am specially *interested in* it, busied with it. The object which I am directed to becomes then, with the supervening of many sorts of interests, the theme of my attentional rays of consciousness. For Husserl, contrary to Gurwitsch's statements,[32] the theme doesn't amount to the mere object as it is given and present before our mind. Because of its close relatedness to the doxic interests of the ego, it endorses above all a subjective commitment that the position-taking discovers. In a word, the thematic consciousness implies much more than *being turned to* something given.

For Husserl then, it seems that the structural factors which consist in primary, secondary, and background attention don't really account

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[32] Cf. "Phenomenology of thematics and of the pure ego," in *Studies in Phenomenology and Psychology*, p. 183: "When we speak of the theme of an act of consciousness, we mean, accordingly, the object as it stands before our mind, as it is meant ad intended through the act in question."