

# RECEPTIONS, READINGS AND INTERPRETATIONS OF *GESTALTPSYCHOLOGIE*

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## 1. A Plurality of Receptions

Following the images of *Gestaltpsychologie* of WERTHEIMER, KÖHLER and KOFFKA in 20th century philosophical, epistemological, psychological and science-historical literature may be puzzling. *Gestaltpsychologie* interpretations are various and at times diametrically opposed. Moreover, we may come across strained interpretations, accentuated to various degrees, with generic or metaphoric references. In some cases these are even historically incorrect. The aim of this essay is to offer a minimum, albeit very partial, selection. This essay, I hope, will be sufficiently representative of the most significant transformations undergone by the *Gestaltpsychologie* of WERTHEIMER, KÖHLER and KOFFKA<sup>1</sup>.

Firstly, if we seek to make our way in this kaleidoscope of images, we will realise that – in the end – the interpretations of *Gestaltpsychologie* fall into two main categories. Each of them contains significant variants.

The first category includes the interpretations emphasising properties of creative–constructive organization in our perceptive system. This category, in turn, offers an option for two opposite lines of interpretation. That is to say: the innatistic line and the empiristic line. In the first case our attention is drawn to the fact that, from a neurological standpoint, *Gestaltpsychologie* has highlighted a tendency to perceive certain types of *Gestalt* rather than others. That is to say, a tendency to make the structure of perceived objects correspond to a number of *Gestalten* that can be traced back to innate physiological mechanisms. This first option may then have a number of subordinated variants; indeed, there may be varying levels of emphasis on affinity and relationship with innatism, with Kantism (RIGNANO 1927, but also PIAGET 1937), with idealism (GUNDLACH 1976; KEILER 1980). In the second case, accentuation of the creative matrix of our perceptive apparatus occurs, on the other hand, at the same time as the underlining of the active and stabilising role of the *corpus* of theories that we enter in the construction of the perceptive datum (HANSON 1958; KUHN 1962). Such an interpretation – as we shall see – fatefully ends by binding *Gestaltpsychologie* with the tradition of empiricism. Nothing is actually so far from the intentions of Gestaltism.

The second category includes the interpretations centred around presumed cryptorealism and naturalism of the *Gestalt* perspective. This would appear to be characterised by a tendency to make the perceptive organization coincide (the phenomenic *Gestalten*) with the effective form of things, of the world, of external reality (physical *Gestalten*) (POPPER 1977; PIAGET 1968; MERLEAU-PONTY 1945; GREGORY 1965).

These are the two main families of *Gestaltpsychologie* interpretation.

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<sup>1</sup> As it is well known, the *Gestaltpsychologie* of WERTHEIMER, KÖHLER and KOFFKA (or the Berlin school) is not, in essence, the same as Graz or Italian *gestalt* schools.

## 2. Gestalt Psychology and Seeing as Theory-laden

Let us begin by analysing the interpretations of N. R. HANSON and Th. KUHN. The picture of *Gestaltpsychologie* that we gain from their interpretations is definitely its most spectacular transfiguration. In *Patterns of Discovery* (1958), HANSON – as we all know – introduces his famous conception of seeing as *theory-laden*, drawing on KÖHLER and on RUBIN's well-known goblet-faces example. This deals with an ambiguous figure that can be seen as a goblet or as two faces, depending on one's point of view or on the mental attitude that one adopts (the phenomenon has become famous in psychological literature as "*Gestalt switch*")<sup>2</sup>.

We will very briefly dwell upon the example of KEPLER and Tycho BRAHE, as it is so famous. HANSON invites us to figure them as watching the sun rise together on a hillside: when the latter (a disciple of PTOLEMY and ARISTOTLE) says that the sun is rising, it means that – for him – the sun is *really* rising on the horizon; when KEPLER, on the other hand, says that the sun is rising, it means that – for him – in *reality* the earth's horizon is descending. Thus – observes HANSON – KEPLER and BRAHE do not see the same thing when they watch the sun rise. Yet in their photosensitive cells similar electrochemical changes occur: the same configuration that draws on KEPLER's retina does the same on TYCHO's. It is therefore evident – states HANSON – that the vision of the sun is not the same as the vision of the retina's images of the sun. It is people who actually see, not their eyes. Cameras and eye bulbs are blind: vision is more than just what strikes the eye (see HANSON 1958, 11–19). In this sense, KEPLER and TYCHO are in the same position as regards the sun as we are with respect to the ambiguous figures. The elements of their experiences are identical, but the conceptual organisation is indeed very different. So there is a sense in which the fact of simply seeing is actually "a 'theory-laden' undertaking" (see HANSON 1958, 19).

HANSON appeals to *Gestaltpsychologie* in order to claim that perception consists in giving a creative form, and that seeing the world is not the same as photographing the world. Rather, it is tantamount to constructing significant structures that give order to what we encounter in our visual field, and these structures are found to be fundamental in that they affect our way of perceiving reality. From a general viewpoint, claims such as these certainly reflect the spirit of *Gestaltpsychologie*. However, I would like to emphasising the following considerations. On HANSON's account, phenomena such as the *Gestalt switch* show that sensory material is not sufficient to determine what we perceive, whether it is a goblet or two faces. HANSON thinks that such phenomena should be traced back to a *plus* of conceptual nature; this binds to observation and causes the sight of an ambiguous figure to be fixed as one thing or another (the goblet or the two faces). Thus, perception appears determined by the *corpus* of theories that underlies our acts of observation. This is the very aspect to be emphasised: a solution of this kind upholds HANSON's theory but could not be further from that envisaged by Gestaltism. Nevertheless, before pausing on this we should also give some brief consideration to KUHN. He uses in a way similar to HANSON's, and in his wake, what he calls very generically "*Gestalt experiments*". The fact that KUHN was influenced by *Gestaltpsychologie* is a fascinating shared belief among philosophers and historians of science. However, when he wrote *The Structure of Scientific Revolutions*, KUHN did not even know who the representatives of what is conventionally known as "*Gestaltpsychologie*" were. This we shall see quite soon.

For it is common knowledge that in KUHN's theory "paradigms" are determinant for scientific activity and its development. The idea is that our experience of the world (including scientific experience) is heavily conditioned by our theories. These depend in turn on various paradigms that gradually become hegemonies.

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<sup>2</sup> When discussing ambiguous figures, following his examination of the concepts of seeing and observation, HANSON makes reference not only to KÖHLER, but also to other authors (such as WITTGENSTEIN).

Such is the way through which, according to KUHN, theory determines the individuation and the definition of problems, as does the procedure of investigation and the criteria of evaluation applied to test results. As in HANSON's case, it is clear that a perception theory which claims that our perception of the world is always loaded with structures, forms and meanings that can be traced back to a subject's active doing, in the long run is not so distant from the view that the theory and our assumptions of varying degrees of awareness determine our perception of the world.

Exactly as in the case of HANSON, with KUHN we should also wonder whether WERTHEIMER's *Gestaltpsychologie* and the *Gestalt* experiments carried out within this framework have ever supported something resembling such a psychological perspective. Well, as we know, if there is one thing that *Gestalt* experiments of classic Gestaltism have tried to disprove, that is the role of unconscious assumptions and judgements, experience, knowledge and interventions of an intellectual order. The turning point that Gestaltism imprinted on psychology actually consisted in disputing this aspect. When we perceive, we pick up structured wholes, with no type of intellectual integration. On the other hand, the unconscious inferences attacked by KÖHLER in 1913 in his most famous *Über unbemerkte Empfindungen und Urteilstäuschung*, together with criticism of the theory of constancy, unnoticed sensations and errors of judgement, remain as the earmark of Gestaltism through its entire history. For instance, this is far more so than for the isomorphism theory, which – on the other hand – certainly represented a far more reductive feature of the WERTHEIMER school. Moreover, if we move from perception to more complex cognitive performances, i.e. to the entire *problem-solving* field, we realise that – unlike KUHN's perspective – Gestaltism is characterised by a clear-cut re-evaluation of the perceptive–visual context, of the concrete perceptive component in problem-solving and in dynamics of abstract thought. These features are all to the disadvantage of assumptions of a theoretical nature, basically of knowledge and theory. It is indeed symptomatic that, when looking at the authors of “*Gestalt* experiments” mentioned by KUHN, one discovers that there are no Gestaltists, but rather authors who began to open new horizons in the late 1940s by studying perception. They mapped (with no little difficulty) the distances of what for decades had been the strong hegemony of behaviourism. These authors also studied the works of the *Gestalt psychologists* who were opposed to behaviorism, but not in the same way as these authors would do it. KUHN actually quotes Jerome S. BRUNER and Leo POSTMAN, the authors of the so-called “New Look” movement. The movement was meant to demonstrate that perception is fundamentally conditioned and correlated to needs, motivations and, above all, to the assumptions and expectations of the organism, and thus exposed to factors that WERTHEIMER's school had tried to put down. Moreover, KUHN quotes Albert H. HASTORF. In this case we are faced with an author even more extraneous to the culture and presumption of Gestaltism, for he is an exponent of the transactional theory (perhaps the names of A. AMES and H. CANTRIL, Princeton University, are more closely related to it). The theory is designed in its turn to demonstrate how perception is the result of a *transactional process* taking place between two variables. On one hand, we have the characteristics of the environmental stimuli we are subjected to. These always show a greater margin of inconstancy or of irregularity. On the other, we face the knowledge and assumptions that we previously and unconsciously accumulate about them. These assumptions allow us to apply unconscious inferences, calculate probabilities – but we are obviously unaware of doing so – on the nature and characteristics of the stimuli. In such a way we therefore witness a recovery in the grand style of the role played by past experience and by unconscious inferences, the denial of which was a strong feature of the birth of the Gestaltism of KÖHLER, KOFFKA and WERTHEIMER.

### 3. Innatism, Naturalism and Subject Activity

PIAGET presents an historically impeccable reconstruction in *Le structuralisme* (1968). In fact, it is worth lingering briefly on this as it shows very clearly the reasoning that underlies the interpretations of

*Gestaltpsychologie*, according to which the latter was characterised by realism and by a debasement of the subject's role. Nor should it be overlooked that about thirty years earlier, PIAGET had expressed himself in very different terms, declaring the *Gestalt* theory to be an experience of Kantian ilk (PIAGET 1937, 371)<sup>3</sup>. Anyway, let us now look at *Le structuralisme*.

In a perfectly pertinent way, PIAGET focuses his attention on one of *Gestaltpsychologie*'s fundamental aspects, which its representatives felt to be most important and which led to the great desertion from Franz BRENTANO's approach. The *Gestalt* perceptions that von EHRENFELS highlighted in 1890 were seen as "perceptive realities" that hinged on and overlapped with sensations. PIAGET quite rightly points out that WERTHEIMER's school contested precisely the existence of sensations as simple "psychological elements", and considered them directly "structured" realities, regardless of the subject's "structuring" acts. PIAGET concludes that "what is given right from the start is a whole as such and it requires explanation: at this point the field hypothesis comes in, according to which relevance does not strike just the brain, but triggers almost immediate 'forms' of organisation through the nervous system's electrical field [...]" (PIAGET 1968, 48-49). PIAGET puts forward some very severe criticism of the most important law of perceptive organisation of WERTHEIMER's Gestaltism. In the end, his target is the law of "good *Gestalt*" (or *Prägnanz-law*), stating the tendency of the perceptive scene to assume the "better *Gestalt*" among those that are available, i.e. that is characterised – as far as conditions allow it – by greater simplicity, regularity, symmetry, proximity between the elements of the perceptive field. Let us look briefly at this basic aspect, starting with the example introduced by KÖHLER in 1920, in *Die physischen Gestalten in Ruhe und im stationären Zustand*.

If we transmit an electric charge to any point of the surface of a homogeneous conductor of any form, the charge moves and distributes itself until all the points on the conductor's surface have the same potential (the system is thus in stationary equilibrium). The density of the charge is different from one point to another: it is higher in points where the surface is more curved and convex towards the exterior. Thus the way in which the charge distributes itself over the conductor's surface depends on the conductor's geometric form: in other words, the charge's final distribution layout depends on the "topography" of the system. The value of each single conductor point (the fact that in each point we have a concentration of a specific amount of the charge) depends on the overall global structure. Moreover, if we keep constant the geometric form of the conductor, the way in which the charge distributes remains the same, independently of the material (as long as it is homogeneous) constituting the main conductor, the dimensions of the latter, the absolute quantity of the charge and of its sign. This reflects exactly what von EHRENFELS pointed out in the case of melody, which remains identical even if the physical nature and the absolute values of the parts is changed. Moreover, KÖHLER claims that the organization assumed by the distribution of the charge also represents the system's natural structure (*Eigenstruktur*). If this state is disturbed, say, by introducing a new charge in any point of the surface, all the other points will be involved and will undergo a change: the intervention causes a general quantitative redistribution of the charge, but the final structure will turn out to be the same.

At this point we should ask: why is it that organization which imposes itself among all that are theoretically possible? KÖHLER finds his solution in the scenario of the second principle of thermodynamics, and more exactly in the principle of entropy, whereby all physical systems, when left to their own devices, tend to achieve a maximum level of stability, since greater system stability (and therefore maximum regularity, tendency to eliminate asymmetries) also means least energy output. In this respect, a large number of examples may be brought forth: a wire set on a smooth surface and crossed by a current will form a circle independently of

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<sup>3</sup> In this respect, both KOFFKA and WERTHEIMER openly dissociated themselves from any interpretations that appeared to consider *Gestaltpsychologie* as asserting "a sort of psychological Kantian *a priori*" (KOFFKA 1935, 549; compare also, *ivi*, 305 and WERTHEIMER 1925, 57).

its original shape; the form of a soap bubble; the form taken by a drop of oil in a liquid in which it is not soluble. All these forms impose themselves because – as it can be mathematically proved – the utmost simplicity of the system means greatest energy saving, and it is precisely in that direction that the natural phenomena evolve, up to where the conditions allow. Thus, in this sense for KÖHLER physical and physiological *Gestalten*, on one hand, and phenomenal *Gestalten* on the other follow the same laws. As a matter of fact, it is precisely because of this conviction that he does not talk of innate hereditary structures: more properly, it is the spontaneous tendency of each natural system (physical, organic, perceptive) to take on the most regular and most stable possible configuration. The anatomical and physiological mechanisms, so to speak, do not impose their own organisation, but support this tendency which all natural systems show. This is the actual reason why PIAGET insists on the important feature of this perspective, which makes the *Gestaltpsychologie* a *non-innatic* theory – quite the contrary of other interpretations. According to PIAGET, the principles of equilibrium and the law of maximum and minimum (that is to say, the principle: greater system stability = least energy output) are capable of explaining the “generalities”, or the universality of the fundamental principles of overall perceptive organisation. These are marked by the law of good *Gestalt* or *Prägnanz*-law – independently of the innatic perceptive: “Since the laws of equilibrium are compelling – PIAGET remarks – they are in fact sufficient to account for the generality of these processes without having to attribute it to a heredity.” (PIAGET 1968, 49)

But then, according to PIAGET, we should wonder whether a perspective of this kind is really sufficient to account for psychological phenomena: his reply is negative. First of all, he believes that there is a series of psychological aspects that are clearly modified by, or subordinated to, learning, and this invalidates the generality of interpretations based on the concept of physical field. For example, PIAGET quotes several of Egon BRUNSWIK’s results, which show how in many cases perceptions change under the influence of experience or probability, circumstances, and relative frequency. In BRUNSWIK’s, for instance, the tachystoscopic exposition of an intermediary form between a hand and a figure with five symmetrical ramifications is seen in this latter way (or, to use BRUNSWIK’s terminology, as “geometric *Gestalt*”) by only 50% of the adults subjected to the experiment, while the other half declares that they saw a hand (“empirical *Gestalt*”, again BRUNSWIK’s terminology). So – PIAGET says – if perceptions change under the influence of experience, this happens because “their structuring obeys not only physical (field laws) but also functional laws – continues PIAGET – which even Hans WALLACH, who was KÖHLER’s chief collaborator, had to admit” (PIAGET 1968, 50). This was precisely the direction that PIAGET’s criticism of *Gestaltpsychologie* took. Indeed, he draws the reader’s attention to its *anti-functionalistic* tendencies, that is to say having debased – or even cancelled – “perceptive activity”, “relating activity through almost intentional exploration” as part of the subject, the “active comparison” operated by this (PIAGET 1968, 50):

“In brief - this is PIAGET’s reproof – the subject’s perception terrain is not a theatre where plays are acted out independently of the subject and preordained by automatic laws of physical equilibration: the subject is the actor and often also the author of these designs, which settle gradually as they unfold thanks to an active equilibration composed of compensations to counterbalance external perturbations: thanks, therefore, to a continuous self-regulation (*autorégulation*).” (PIAGET 1968, 51)

As PIAGET sees it, the aforesaid reasons show that *Gestaltpsychologie* “has developed in an atmosphere of phenomenology, but of the latter has retained only the concept of fundamental interaction between subject and object” (evidently here he refers to a point of view for which consciousness is always “consciousness of something”, to a concept of intentional relationship). According to PIAGET, this has always “resolutely followed the naturalistic direction, because KÖHLER came from a physics background and also because the role played in his theories by ‘field models’ ”: thus, the influence of such models, “even though initially stimulating”, according to PIAGET, were fateful (*néfaste*) for *Gestalt* theory (PIAGET 1968, 47).

#### 4. Konstanzannahme and Realism

MERLEAU-PONTY's opinion is, essentially, the same as that of PIAGET, even if his argumentative accuracy is not as good. MERLEAU-PONTY tries to establish a highly vague sort of nexus between HUSSERL and *Gestaltpsychologie*. In MERLEAU-PONTY's words, "Gestalt psychology has practiced the type of reflection for which HUSSERL's phenomenology supplies the theory". In particular, MERLEAU-PONTY says, "is it perhaps an error to find an entire philosophy implicit in the criticism of the 'constancy hypothesis'?" (MERLEAU-PONTY 1945, 62 note 1). At a general level, MERLEAU-PONTY points out a couple of "external clues" to the extremely close relationship between HUSSERL and *Gestaltpsychologie*. However, the first is quite generic and the second is even historically unfounded. They concern the fact that in *Über unbemerkte Empfindungen und Urteilstäuschung* (1913) KÖHLER pinpoints the role of psychology in the "phenomenological description" of the lived experiences and the fact that KOFFKA was one of HUSSERL's pupils (instead, as it is known, Koffka was one of Karl STUMPF's pupils, but certainly not HUSSERL's). On the other hand, even from a strictly theoretical point of view, the nexus between the criticism of the constancy hypothesis developed by *Gestaltpsychologie* and HUSSERL's phenomenology is quite obscure. In fact, the development of this criticism in *Gestaltpsychologie* shows far more precise features, which should be mentioned, though we can only do this in a concise way.

In the aforementioned *Über unbemerkte Empfindungen und Urteilstäuschung*, KÖHLER shoots down the so-called *Konstanzannahme* (constancy hypothesis), or, as we have already mentioned, the hypothesis of the univocal and constant correspondence between stimuli (conceived as the result of single sensations, considered atomistically) and perceptive data. He is also hostile to the idea that the cause of experiences that do not assert this correspondence are to be found in a specific psychic function (errors of judgement, unnoticed sensations). On the contrary, according to KÖHLER, a different conception of the stimulus is required, conceiving it as something essentially different from the sum of the single sensations. Each time that the perceptive datum "threatens the absolute rule of the stimulus over the sensation" – observes KÖHLER – an immediate hypothesis is put forward concerning an error of judgement, relegating the entire question to "an unfortunate obscuring of the problem". In actual fact, the unnoticed judgements are hypothesised precisely where they cannot be observed by anyone and they "must also be capable of remaining unnoticed" if they are to serve the purpose which is attributed to them. That is to say, the purpose of bringing on the illusion. Most succinctly, their effective existence and the role they play hence become unanswerable questions (KÖHLER 1913, 30–32 *passim*). Just like KÖHLER, KOFFKA holds *Konstanzannahme* to be nothing more than a dogma, a hypothetical assumption, since we cannot actually conceive sensorial impressions independently of the organism's perceptive performance. On the other hand, the constancy hypothesis offers an equally unsatisfactory related idea, for which the perceptive span would be split into two stages. On one hand we should find sensory data (determined univocally by external stimuli), and on the other the subjective approach or attitudes that intervene on the sensory data. KOFFKA says that a division of the perceptive process into two stages could not be substantiated by any type of proof and that, furthermore, it was useful to indicate that you could not assimilate positions inspired by WERTHEIMER's standpoint and those of – for example – the school of Graz, thinking especially, in the latter case, of Vittorio BENUSSI. In fact, unlike BENUSSI's solution, adhering to WERTHEIMER's standpoint meant sustaining that there are also stimuli for *Gestalten*, which are not at all psychic additions to aggregated sensation. Nor are they created – but indeed experienced – by the subject (compare KOFFKA 1915, 25 f, 39 f).

I find it therefore rather clear that, in *Gestaltpsychologie*, the criticism of *Konstanzannahme* is essentially related to the criticism of the division of the perceptive process into two stages, or of the division between founding contents and founded contents: thus of BRENTANO's heritage which remains absolutely fundamental

not only, for instance, in MEINONG, EHRENFELS and BENUSSI, but also – and precisely – in HUSSERL’s *Logische Untersuchungen*, as well in the *Idee*. We should briefly recall that for Brentano, in the scenario of the intentional structure of conscience, perception is basically a form of judgement, arising from the subject’s taking a position with regard to mere representations compared to what is simply represented. In HUSSERL’s *Logische Untersuchungen* this scheme remains unchanged: perception is grounded on sensory data, that it interprets and to which it gives sense. As it can be presumed from the *V. Logical Investigation*, subject’s apperceptive intervention is added to the sensory material: the former interprets it, i.e. interprets “the formless being of the sensation [...] and its *essence* mean that we perceive this or that *objectuality*”<sup>4</sup>. In this light, therefore, the nexus established by MERLEAU-PONTY between the criticism of *Konstanzannahme* perfected by *Gestaltpsychologie* and HUSSERL’s phenomenology should leave us wondering: in fact, in HUSSERL’s phenomenology, perception is firmly related to the subject’s acts, which remain fundamental. However, within *Gestaltpsychologie*, criticism of *Konstanzannahme* seems to develop in a rather different direction, that is towards the criticism of that type of two-phase articulation of the perception process - as well as towards a vision of a stimulus that is already quite structured (and not as a chaotic mass of sensations). In other words: towards the concept of *Gestalten* as something given, experienced, and not psychically added by the subject to a mass of atomistically conceived sensations. We thus find ourselves facing premises that – in the light of interpretations by MERLEAU-PONTY and by PIAGET – in the long run set two serious limits on *Gestaltpsychologie*. These are given by the debasement of subject activity and a solution that is ingeniously realistic of the connection between perception and outside world. According to MERLEAU-PONTY, in fact, in *Gestalttheorie*, the reaction against naturalism and causal thought is neither consequent nor radical. He feels that this is testified by ingenuous realism of the theory of knowledge produced by *Gestaltpsychologie* (this latter theme had been dealt with by MERLEAU-PONTY also in MERLEAU-PONTY 1942). In particular, according to MERLEAU-PONTY, “*Gestalttheorie* does not see that psychological atomism is no more than a special case of a more general prejudgement: the prejudgement of the being determined by the world”. According to MERLEAU-PONTY it was this lack of recognition even in gnosiology, that led *Gestaltpsychologie* to trigger a true “restoration of realism” (MERLEAU-PONTY 1945, 62 note 1, 61). In HUSSERL’s phenomenology this is not the case: here the subject did not become theatre, – so to speak –, but continued to be actor or author of the perceptive scenario.

MERLEAU-PONTY’s reasoning concerning the presumed close link between the criticism of the constancy hypothesis developed by *Gestaltpsychologie* and HUSSERL’s phenomenology, therefore, is far from convincing. Moreover, as far as HUSSERL is concerned, it is not possible to agree unconditionally with MERLEAU-PONTY’s conclusion. More specifically, there is no doubt that things are as indicated by MERLEAU-PONTY in the case of *Logische Untersuchungen*, as also in the case of *Idee*. But what can be said if we extend the topic to other “moments” of Husserlian reflection, taking into consideration the concept of “passive synthesis”? It is well known that, in contrast to KANT’s active synthesis, this notion, developed by HUSSERL in *Analysen zur passiven Synthesis*, recalls precisely the approach of dynamics within perceptive material, putting forward the idea that in this there may be an organisation and a unity of sense that - rather than founding and conferring - the subject then picks up, follows through and hence is already in the content, in the material of what is perceived (compare HUSSERL 1966). Thus WERTHEIMER’s most famous laws on the spontaneous unification of the perceptive field, could legitimately be interpreted as a sort of concrete

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<sup>4</sup> “Apperzeption ist uns der Überschuß, der im Erlebnis selbst, in seinem deskriptiven Inhalt gegenüber dem rohen Dasein der Empfindung besteht; es ist der Aktcharakter, der die Empfindung gleichsam beseelt und es seinem Wesen nach macht, daß wir dieses oder jenes Gegenständliche wahrnehmen, z.B. diesen Baum sehen, jenes Klingeln hören, den Blütenduft riechen usw.” (HUSSERL 1901, *V. Untersuchung*, § 14, 385). An exhaustive evaluation of Husserl’s point of view, however, would need a much more complex and detailed analysis, which is not possible to develop in this case. See regarding this K. MULLIGAN 1995, 180-191.

specification of the Husserlian idea of “passive synthesis”. Nevertheless, independently of this, could we then conclude that HUSSERL too, with the idea of “passive synthesis”, grew to consider perception as mere receptivity? Clearly such a conclusion would not only be simplistic, but also mistaken: both in HUSSERL’s and in *Gestaltpsychologie*’s case.

### 5. Reductionism and Determinism

Another member of the PIAGET and MERLEAU-PONTY school of interpretation is Karl POPPER, who criticised severely the “clearly deterministic” character of KÖHLER’s isomorphistic solution and the affinity with the “determinist” spirit of Max PLANCK, of whom KÖHLER had been a student in Berlin (POPPER and ECCLES 1977, 37–8). Similarly, in *Eye and Brain. The Psychology of Seeing*, R. L. GREGORY maintains that “Gestalt writers” aim to explain the perception process as the result of a modification of cerebral electric fields that repeats the form of perceived objects (GREGORY 1965, 7).

However, it is worth pointing out that KÖHLER’s supposed determinism was not considered such by those who had systematically pursued and professed determinism. This is the case of Ernest NAGEL, the American philosopher of Czechoslovakian origin, whose reflections on structures held not to be susceptible to a convenient analysis from an “additive standpoint”, or ways of holistic or gestaltic organisation exhibited by perceptive phenomena and by “organic unities”. In particular, NAGEL refers to organic or functional wholes defined by WERTHEIMER’s systems “whose behaviour is not determined by that of their individual elements, but where the part-processes are themselves determined by the intrinsic nature of the whole”. In KOFFKA’s words, quoted by NAGEL, “the chief content of Gestalt as a category” consists of a “view of the relation of parts and wholes, involving the recognition of intrinsic real dynamic whole-properties” (NAGEL 1961, 391)<sup>5</sup>. NAGEL intends to refute this view of organic unities and perceptive phenomena by criticising the approach to Gestaltism of an author who, more than any other, had worked in that direction, producing issues, examples and reflections drawn from physics. Namely, we are referring to W. KÖHLER.

We have already hinted at the famous example of functional system at the core of the fundamental *Die physischen Gestalten in Ruhe und im stationären Zustand* (1920): the isolated electric conductor to which an electrical discharge is transmitted. What KÖHLER points out is that the charge distribution diagram cannot be reduced to a part-to-part construction model and the system actually shows with no shadow of a doubt all the so-called von EHRENFELS properties. Basically, we are looking at the contrast – the central theme of KÖHLER’s book – between the so-called typical additive analysis of classic mechanical physics particles and the non-additive analysis which, in the ambit of electrodynamics, is a field physics property: the electromagnetic field – in point of fact – must be treated as a whole, and not as a simple sum of the single charges. From NAGEL’s point of view, however, and unlike KÖHLER’s, for functional whole there is no need to invoke different laws that are irreconcilable with those of non-functional system (that is to say earmarked with a merely additive logic). NAGEL acknowledges that in the case of electrodynamics things are quite different from that of a mechanical system. For example, unlike what happens in Newtonian mechanics, the action of an electrically charged body on another body does not depend only on their distances, but also on their relative motion. In this sense, for the variety of factors involved, a system of this type may certainly be regarded as similar to a “whole”, and not to a sum of individual punctiform parts. Nevertheless, in principle, this does not mean that a theory and a mathematical representation of the system’s component parts that would allow us to explain the properties and laws of that system is not possible. Needless to say – NAGEL points out – the

<sup>5</sup> The two quotes are taken, respectively, from WERTHEIMER 1925, 5 and KOFFKA 1931, 645.



mathematical technique for describing such phenomena diverges quite radically from that used for particle mechanics. First of all, a mathematical illustration would require differential equations of quite another type and different types of variables. A conclusion of this nature – NAGEL says – can appear “meager”, but shows that the problem under examination “cannot be settled [...] in a wholesale and a priori fashion”, as is assumed by “so much of extant literature”, which evidently also includes *Gestalt* analyses, and of course KÖHLER’s (NAGEL 1961, 397). Thus, KÖHLER’s supposed deterministic and reductionist intentions do not appear to be such in the view of the determinist NAGEL, who finds that the aforementioned characteristics of *Gestalten* or functional wholes are far less interesting than the formal analysis offered by K. GRELLING and P. OPPENHEIM in *Der Gestaltbegriff im Lichte der neuen Logik*, published by “Erkenntnis” in 1938 (NAGEL 1961, 394 note 27).

If this is the opinion of Ernest NAGEL, an author influenced by logical empiricism, it is certainly quite the opposite of what was claimed by Moritz SCHLICK, one of the most authoritative writers of European phase of neo-positivism. KÖHLER’s isomorphistic theory is based on the properties shown by inorganic systems in stationary equilibrium – such as the structure assumed by an electric charge transmitted to a conductor with a homogeneous body. In SCHLICK’s opinion, the theory concentrates on showing that the physical processes are able to show “Gestaltic peculiarities” and so *cerebral* physical processes may be considered physiological correlations of Gestaltic phenomenal experience. It would then no longer be necessary to resort to explaining them with hypothetical interventions of physical, non-sensorial factors<sup>6</sup>. Consequently, in a paragraph added to the second edition of his *Allgemeine Erkenntnislehre* (1918, 1925), SCHLICK noted “this approach with particular satisfaction”, as it was evidently a point in favour of the disappearance of the discontinuity between psychic and physical, *vice versa* smoothing the way to the “gnosilogic parallelism” solution he had indicated (1918–1925, 292–293 *passim*). Moreover, in the European phase we find significant affinities between KÖHLER and the neo-positivist approach. First of all SCHLICK and KÖHLER shared a personal contact with Max PLANCK – the former was his assistant in Berlin, in the early 20<sup>th</sup> century, while the latter was a student – that proved to be influential, especially for what concerns their common aversion to the phenomenism of MACH<sup>7</sup>. Moreover, the letters between SCHLICK and KÖHLER show that they were in contact in the early twenties and that the latter was particularly interested in founding a psychological review inspired by the principles of SCHLICK’s *Wiener Kreis* (STADLER 1997, 251). Finally, in Berlin, KÖHLER was also an active member of Hans REICHENBACH’s “Gesellschaft für empirische Philosophie”; so much that he was regarded by J. JOERGENSEN as one of the “most prominent components” alongside names such as C. G. HEMPEL and K. LEWIN the *Gestalt* psychologist. This consideration actually derived from the mentioned opus of 1920 on the isomorphistic hypothesis, which the same JOERGENSEN quite rightly indicates as an opus that seems to actuate the ideals that gave birth to the Berlin group of neo-empiricists (JOERGENSEN 1951, 144–145). The driving spirit at the root of KÖHLER’s theory appears absolutely identical to the neo-positivist ideal of a unitary science. Such an “ideal” aimed totally to overcome the contrast between natural sciences and *Geisteswissenschaften*.

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<sup>6</sup> As we may recall, KÖHLER opens *Die physischen Gestalten in Ruhe und im stationären Zustand* with two introductions. One is aimed at biologists and psychologists, and the other at physicists. They contain an invitation to both to abandon prejudices and contrasts with regard to the accredited thesis of “incomparability” between physical, inorganic and physiological phenomena on one hand, and psychic and organic phenomena (in the sense of finalism and organic appropriateness traditionally emphasised by vitalistic currents in biology) on the other.

<sup>7</sup> KÖHLER makes strong criticism of MACH’s phenomenism, especially in *Dynamics in Psychology* (1940). The difference being that unlike in Vienna, phenomenism in Berlin was not very popular because of PLANCK’s influence, who had engaged in a brief debate with MACH at the end of the period leading to the 1920s.

## 6. Phenomenism and Idealism

This is neither the time nor the place to deal with the question whether or not KÖHLER's approach is a reductionist theory (as POPPER claimed), or if it is oriented towards a realistic solution of the perception–outside world relationship (as GREGORY claimed). This is a rather difficult and complex question. Certainly, the primary intention of KÖHLER's work is to show the existence of physical and physiological *Gestalten* with properties similar to the perceptive or the phenomenal, thus being able to establish an isomorphistic relationship between the phenomenal and the physiological. What is far more controversial is whether KÖHLER really thought that an analogous relationship could be obtained between these two levels and the physical plain, the world exterior to the organism. He would thus have exposed his theory to the criticism of proposing a chiefly monistic vision, a sort of structural monism of Spinozan-type. The latter is a reiteration of the terms of the severe criticisms made by Karl BÜHLER of the WERTHEIMER school (and of KÖHLER's isomorphism in particular)<sup>8</sup>.

It is worth stressing that a careful reading of KÖHLER's text may lead to absolutely contrasting conclusions. Firstly, it should not be forgotten that the isomorphism postulated by KÖHLER concerns the structural similarity between phenomenal *Gestalten* and the underlying physiological processes. Even in *Die physischen Gestalten*, KÖHLER was very clear on this point. In the chapter that takes its title from GOETHE's famous statement *Denn was innen, das ist außen* (what is in is also out), KÖHLER speaks exclusively of that type of resemblance: "inside" is so represented by physiological *Gestalten*, "outside" by the phenomenal. On the other hand, he states very clearly that he is not in the least interested in the correspondence between physiological *Gestalten* and environmental *Gestalten* (that of the outside world, the physical stimuli). Phenomenal *Gestalten*, in his opinion, are not at all an "image" (*Abbild*) of physical environmental *Gestalten* and – he continues – the extent to which physiological and phenomenal *Gestalten* have objectivity value (*Objektivitätswert*) is completely extraneous to the interests of the book (KÖHLER 1920, 195).

KÖHLER is aware of the misunderstandings generated by the title of the chapter in question and in *Gestalt Psychology*, in 1929, so he reiterates what he had stated, in *Die physischen Gestalten*, with the following significant declaration: "[...] some psychologists have recently said that, according to *Gestaltpsychologie*, 'Gestalten', i.e., segregated sensory wholes, exist outside the organism and simply extend or project themselves into it. This is so absolutely wrong that I cannot comprehend how the misunderstanding arose". Or again: "One chapter of *Die physischen Gestalten in Ruhe und im stationären Zustand* has the title 'Denn was innen, das ist außen'. Should these words of GOETHE have produced the misapprehension? Who reads the chapter will see at once that that title refers to the similarity between sensory experience and the physiological processes accompanying it, not to the relationship between organic processes and the environment" (KÖHLER 1929, 174 and 174 note 1).

M.G. ASH, in *The Emergence of Gestalt Theory: Experimental Psychology in Germany 1890–1920*, highlights this controversial aspect of KÖHLER's theory, pointing out that in KÖHLER one often has the impression that the *explanandum* is not the physical object at all, if we understand it as a real object, external to us, environmental. It is in fact a phenomenon, the way in which objects appear to us. It was just this lack of

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<sup>8</sup> Charges of physicalism, structural monism and Spinozan-type solutions are found in BÜHLER 1927, pages 129–130, 126, 167, 159 (but also BÜHLER 1926).

exploration – right from the time of the 1920 volume – of such an important aspect of the question (that is to say: the nexus phenomenon object–environmental object) that then led other authors to draw interesting conclusions. These authors were in sharp contrast with those stating that KÖHLER's isomorphism was a mainly realistic solution of the connection between physiological *Gestalten* and phenomenic *Gestalten* on one hand and physical and environmental *Gestalten* on the other. Peter KEILER, in an essay entitled *Isomorphie-Konzept und WERTHEIMER-Problem: Beiträge zu einer historisch-methodologischen Analyse des Köhlerschen Gestaltansatzes* (1980) and Horst GUNDLACH, in a book dedicated to the concept of stimulus *Zur Verwendung eines Begriffes in der Psychologie*, (1976), maintained that the excessive interest shown by KÖHLER in phenomenal data and in the underlying physiological processes, as well as his avoidance of comparisons with the problems tied to the “value of objectivity” of phenomenal *Gestalten*, made his isomorphism lean strongly towards a form of idealism of the Berkeleyan type (compare KEILER 1980 and GUNDLACH 1976).

## 7. Brief Considerations in Conclusion

I feel tempted to close with that Latin saying *Quot homines, tot sententiae*, but obviously that would be a cheap way out. Rather more seriously, however, another type of consideration is in order. The history of *Gestaltpsychologie* – it is now common knowledge – was rich, articulate, fascinating and dense with stimuli. It was interwoven with great comparisons and debates, not only of a psychological sort, but also philosophical, epistemological, methodological, physical, biological. Nevertheless, the story of its controversial 20<sup>th</sup> century reception is equally interesting. This I have tried to (very selectively) outline in my paper<sup>9</sup>.

### *Zusammenfassung*

Verfolgt man die Rezeption der *Gestaltpsychologie* in Philosophie, Epistemologie, Psychologie und Wissenschaftsgeschichte des 20. Jahrhunderts, kann man die Orientierung verlieren. Die *Gestaltpsychologie* wurde sehr verschieden und gelegentlich völlig entgegengesetzt aufgefaßt. Einerseits finden wir nativistische, empiristische und idealistische Interpretationen. Andererseits wird die gestalttheoretische Perspektive in die Nähe von Determinismus, Reduktionismus, Kryptorealismus und Entwertung der Rolle des Subjekts gerückt. Wir treffen auf mehr oder weniger gewaltsame Lesarten, die in wechselndem Ausmaß auf allgemeine oder metaphorische und – in einigen Fällen – sogar historisch falsche Verweise zugespitzt sind. Dieser Artikel soll eine zwar minimale, dennoch genügend repräsentative Auswahl der wichtigsten wundersamen Verwandlungen bieten, die die *Gestaltpsychologie* WERTHEIMERS, KÖHLERS und KOFFKAs erdulden mußte.

### *Summary*

On reflection, we may become disorientated when following the image of *Gestaltpsychologie* in 20th century philosophical, epistemological, psychological and history of science literature. *Gestaltpsychologie* interpretations are varied, and at times diametrically opposed. We may find innatist, empiristic and idealistic interpretations. According to other readings, the *Gestalt* perspective was characterised by determinism, reductionism, cryptorealism and by a debasement of the subject's role. Moreover, we may come across strained interpretations, accentuated to various degrees, with generic or metaphoric references and – in some cases – even historically incorrect. The aim of this essay is to offer a minimum selection, but sufficiently representative of the most significant transfigurations undergone by the *Gestaltpsychologie* of WERTHEIMER, KÖHLER and KOFFKA.

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