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Goethe and Gestalt Psychology: A Commonplace Revisited

Abstract: One has not to forget that Gestalt Psychology – at least until the past century’s Twenties – is deeply rooted in Germany’s science, philosophy – and art. The people involved in launching the Gestaltist programme are deeply indebted to Herbart’s ideas about psychology as science, to Fechner’s psychophysics, to Helmholtz’s and Wundt’s physiological psychology, to Hering’s and Stumpf’s phenomenological approach to the study of perception, to Mach’s analysis of sensation. This people, too, is deeply indebted to Goethe’s ideas about the development of the living organism and also to the latter’s ideas about art. One is entitled to consider all this a commonplace, laying stress at the same time on the achievements of the historical work on the rise of *Gestaltpsychologie*. The paper aims, however, not only to tell again a well-known story, but to detect some till now undetected connections.

1

In a letter to Meinong in 1891, Ehrenfels acknowledged that many of his ideas had been anticipated by Mach. Mach himself, in his answer to Ehrenfels’s envoy of the paper *Ueber die Gestaltqualitäten*, reminds him that he had already formulated analogous concept in a short article published in 1865.

Mach’s 1865 considerations are not easy to come to terms. Mach shows himself deeply indebted to Herbart’s theory of spatial vision. This theory seems to be the starting point for Mach’s discussion.

Herbart believes that spatial vision is based on *Reproduktionsreihen* of the *Reihenfolge* of our *Vorstellungen*. In other words, spatial vision is the product of innumerable clashes among the “forces” (the intensities) of the *Vorstellungen*. These clashes give rise to multiplicities which, in effect, appear to be unities resulting from “fusions” [*Verschmelzungen*]. In their turn, the “fusions” make possible new presentations. The “fusions” are also composite presentations, where two or more elements come together simultaneously. “Fusion” is simultaneous even if it involves elements occurring in succession. This second case is the commonest and at the same time the most important. We are confronted to countless *Reihenfolgen*, “serial successions” of presentations. We realize that our knowledge is limited: it comes into being only as a succession of presentations in-

volved in their reciprocal “inhibition” [*Hemmung*]. A “fusion” takes place between that part of a presentation which survives its “inhibition” and the presentation which is the cause of the “inhibition” itself. Among the presentations suffering the “inhibition” there is a connection established by those parts of the presentations which are not driven back under the “consciousness threshold” [*Bewußtseinsschwelle*]. In general, we can state that the “residues” of the “inhibited” presentations are able to link together the presentations distributed along a “serial succession”.

2

This is the basis of Herbart’s approach to the problem of the reproduction of presentations. Not just a single presentation, but a whole series of presentations may undergo “inhibition” and be driven back “under the consciousness threshold”. How it is possible then to reproduce a presentation or a series of presentations – in other words to have them crossing this “threshold” again? How can they be made to find the new strength enabling them to call on our attention again? We need an answer first of all where the reproduction of a “serial succession” of presentations is concerned and how this “succession” is recognized. From the psychological point of view, we are confronted to an act of *immediate* recognition. This happens firstly when we are led to recognize the *Gestalten* of the “serial successions” of our presentations.

In his *Psychologie als Wissenschaft* Herbart pointed out that the *Gestalten* are to be recognized as the basis not only of the reproduction, but also of all the “inhibitions” and “encouragements” [*Begünstigungen*] typical of the force relationships existing among the presentations. Herbart spoke of “inhibitions” and an “encouragements” due to the *Gestalten* and explained by a “very simple example” the “fairly important psychological phenomenon” represented by the “reproduction due to the *Gestalt*”. He explains: “It makes no difference to us if a piece of writing is presented as black on white or – on the blackboard – as white on black, and we read it with the same ease if it is written in red ink or in gilt lettering. How does it happen? Surely – he continues – only by a reproduction of signs which are already known. But if someone has learned black lettering how is it that black shapes come to him when he sees the red ones and the gold ones?”. There in an “inhibition” as between these shapes – the very opposite of a reproduction. In principle it would seem that a reproduction – an *immediate* reproduction – should not therefore be possible. But experience tells us that it is indeed possible, and in the simplest of the ways. The phenomenon can only be explained by a “mediating element” [*Mittelglied*] coming into play.

Herbart identified this “mediating element” in the “obscure spatial image” which appears in connection both with the red and with the black, and which “called forth by the one, immediately calls forth the other” (Herbart 1964, vol. V, p. 325, 417; vol. VI, p. 101).

Herbart was convinced that he was dealing with laws affecting the whole mechanism of our presentations. In his *Psychologische Untersuchungen* of 1840–41 he was concerned with an improved formulation of these laws. In particular, Herbart tried to make clear that the “inhibition due to the *Gestalt*” is quite distinct from the inhibitions that may come about in plain sense experience. Herbart points out that the “inhibitions” and the “encouragements” due to the *Gestalt* are caused by the presentation we have of the *Gestalten* into which two or more presentations have “fused” – in other words the *Gestalten* represent a qualitative leap compared to the elements on which they are founded. *Gestalt* – or *Gestaltung* – has to be regarded as what is resulting from a “leap across partial presentations” which leaves behind it an “overall impression”. Herbart was very clear in stressing that spatial *Gestalt* had to be considered only an example of the true character of our perception of reality. Setting out to clarify the notion of “inhibition due to the *Gestalt*”, he emphasized that, in order to understand this notion it was necessary to bear in mind a series of examples where the *Gestaltung* taken on by presentations was in no way dependent on spatial relationships. At the same time one must have always in mind that *Gestalt* is something qualitatively “other”.

3

In his 1865 paper, Mach showed himself well aware of Herbart’s theory. Mach, however, didn’t abstain from placing Herbart theses and example under a close scrutiny, first of all in the case of the “reproduction due to the *Gestalt*”. Mach’s reservations derive largely from his conviction that it was necessary to bear in mind the new findings of the physiology of the sense organs. Mach was convinced that an investigation based on physiological and psychophysical research had by now completely supplanted Herbart’s concept of “psychology as a science based on metaphysics, mathematics and experience”. Nonetheless he never broke completely with Herbart’s psychology. In fact, after having listed all the reasons provided by observations and experiment in order to confirm the role of eye muscle sensations, Mach devoted again his attention to the reproduction problem. He devoted his attention to the reproduction of presentations that aren’t homogenous, but are at the same time ordered along a series, within which, though quite diverging from a qualitative point of view, they marked

themselves out on account of an “equal or similar form”. Mach emphasized that this way we are confronted to series of presentations to which we assign “equal forms” in the case not only of spatial vision, but also of temporal perception, and so on. This is a kind of equality that comes out when we abstract from the existence of specific qualitative differences. Mach thus came to a generalization of what he had already stated concerning the equal “muscular sensations” necessary to explain our recognizing *Gestalten* of different colours as equal. It is known that this opened in many regards the way to Ehrenfels’s *Gestaltqualitäten*.

4

For many years, until the 20’s of the new century, German psychologists (and German philosophers) will confront themselves with the problems connected to the way physics would be able to explain a lot of psychological processes. The confrontation seems, however, highly problematic. In many cases, one has to remark a kind of mutual lack of trust. This lack, anyway, was greater on the psychologist’s side, as remarked in 1924 by Wolfgang Köhler in his *Die physischen Gestalten* (Köhler 1924 p. ix ff.). The debate on the foundation of scientific psychology held by psychologists didn’t show a true interest in the ideas developed by physics about the “Eigenschaften in sich zusammenhängender physikalischer Systeme”. This being the case – Köhler observed –, one had not to wonder if the ideas by Ehrenfels and Wertheimers had been received “als etwas unklare Neuerungen”. As well known, Köhler firmly rejected as a true proof of scientific backwardness the same scepticism of many of his time biologists.

At the same time, however, Köhler showed himself not only well acquainted not only with the ideas held by many of his fellow psychologists and biologists in their confrontation with the so-called “mechanistic”, but also highly sensitive towards the cultural atmosphere nourishing and inspiring these ideas. Köhler in fact entitled this chapter of *Die physischen Gestalten* “denn was innen das ist außen”. The title was a Goethean title. Köhler, however, could not aim to be considered a refined Goethe-specialist. The largely quoted Goethe’s sentence came from the *Urworte orphisch* di *Zur Morphologie* (Goethe 1817–1822, 440):

Müset im Naturbetrachten
Immer eins wie alles achten.
Nichts ist drinne, nichts ist draußen:
Denn was innen das ist außen.
So ergreift, ohne Säumnis,
Heilig öffentlich Geheimnis.

Freuet euch des wahren Scheins,
 Euch des ernsten Spieles.
 Kein Lebendiges ist ein Eins,
 Immer ist's ein Vieles.

5

Köhler's quotation of Goethe's *Epirrhema* wasn't a naive exhibition of scholarship. Köhler was well acquainted with the role assigned to Goethe's ideas about the mutual friendship of science and art in the inquiry of nature by many of his time philosophers and scientists too, as tested by the editions (e.g.: Troll 1926) of Goethe's scientific writings published in the first two decades of the XX century. There are no doubts, however, that the wide audience enjoyed by Goethe's views on art and science has to be traced to the sovereign elegance of the dresses the genius of the great poet was able to tailor for his ideas – and not only for his ideas.

We cannot dispense us with remembering the widely acknowledged thesis that we are indebted to Goethe for the introduction of the *Gestalt* notion (or concept) in order to designate what we now mean by *Gestalt*. Needless to say, at the same time we can dispense us with ascertaining the true lineage of the *Gestalt*. I frankly acknowledge the perfunctory – if any – meaning of such an inquiry from the point of view of contemporary debate. But the historical inquiry has its own rights, and perhaps – form another point of view – also a bit of usefulness in order to explain what happens when the introduction of new ideas is unavoidably bound to the usage of old words. We limit ourselves to some quotations. We say “quotations” because we are so lucky to rely on an extraordinarily useful tool: the *Wörterbuch der deutschen Sprache*, the “Grimm”.

When we open the volume 5 of the “Grimm” – published 1897, a few years later than con Ehrenfels's *Ueber die Gestaltqualitäten* –, we are said that from a general point of view, one has to take into account “Gestalt” as “die Art, wie sich etwas in festem Umrissen, mit unterscheidenden Merkmalen darstellt”. It is also possible to understand “Gestalt” as “die Form, die Figur einer Person oder eines Dinges”. We don't lack, of course, of quotations from Goethe. The “Gestalt” of the Strasburg Minster imposes itself in its “feste, greifbare, klare Form”. The beauty of Helen of Troy is “die Gestalt aller Gestalten”, and at the same time it is the idea of something like an “abstract form” that is meant by “Gestalt”. (Grimm 1897, cols. 4184, 4187, 4189)

6

Goethe's quotations by the "Grimm" came not only from the *Faust* and from Goethe's writings on art. The dictionary took into account the huge amount of pages Goethe had dedicated to the study of nature. This happened in order to give evidence to a very important fact: Goethe (Goethe 1817–1822, 389–395; 439–440) had remarked that movement plays a decisive role in denoting "den Complex des Daseins eines wirklichen Wesens". The "Gestalten" are in many (if not in most) cases the "Gestalten" of living organisms, and also their meaning is never the meaning of something "Bestehendes". On the contrary: referring to "Gestalt", we are in fact led to underline "daß vielmehr alles in einer steten Bewegung schwanke". This way, Goethe had drawn the attention of his contemporaries on the "dynamical" meaning of "Gestalt", giving the idea of a kind of evolving and adapting structural organization.

It would be in any case highly interesting to give even a short account of "Gestalt"'s fortune during the entire 19th century. We limit ourselves, however, to remember Vischer jr. 1873 ("lebendige Gestalt", "organische Gestalt", "bewußte Gestalt"), Fiedler 1887 (gestaltete Form, Gestaltung zur klaren Sichtbarkeit, Formgestaltung), Magnus 1906 (Goethe's morphology as "Lehre von der Gestalt des organischen Wesens"). One had also to remark the pivotal role played by scholars involved in the debate about the arts and their mutual relationship: from this stems a significant increasing of the attention devoted to the way one has to consider "Gestalt" as resulting from the "fusion" of elements imbued in many cases of emotions (Cohn 1901).

7

Speaking of "Gestalt" doesn't mean also not only movement of a kind of elastic structure, but the way our sentient and especially perceptual activity seems to be at same time "oriented" and coloured by emotions, i.e. by states of mind we are led to consider as resulting from a "fusion". In fact, we are unable to detect the elements of the "fusion": each "post festum" would however "frozen" the emotion, depriving our sensations – first of all the chromatic and the auditory ones – of their true, ultimate, deep emotional value.

The echo of Goethe's ideas – as advanced and developed in the *Farbenlehre* – begins also to resound. "Since color occupies so important a place in the series of elementary phenomena, filling as it does the limited circle assigned to it with fullest variety, we – had written Goethe in his *Farbenlehre* – shall not be sur-

prised to find that its effects are at all times decided and significant, and that they are immediately associated with the emotions of the mind. We shall not be surprised to find that these appearances presented singly are specific, that in combination they may produce a harmonious, characteristic, often even an unharmonious effect on the eye, by means of which they act on the mind; producing this impression in their most general elementary character, without relation to the nature or form of the object on whose surface they are apparent. Hence, color considered as an element of art, may be made subservient to the highest aesthetic ends.” (Goethe 1810, 247).

The echo of Goethe’s ideas and words will be, with the new century, particularly clear in Kandinskij and, later, in Klee too. But at the same time we are obliged to remark that the story to be told would be a very long and complicated one. The story would be however highly interesting and, perhaps, also a revealing story, dealing with about thirty years of German cultural history, a cultural history where science, art and philosophy are deeply intertwined. We have clearly in mind – we would abstain from going backward till Schopenhauer – first of all Helmholtz und Hering, Mach und Stumpf, in order to reach first of all Katz’s *Erscheinungsweisen der Farben* in 1911 and, later, Allesch’s book, published 1925, with a very similar title (Katz 1911; Allesch 1925). But in order to reach these latter ones – and Kandinskij and Klee – we would be obliged to enroll in our story a lot of other not so renowned – but in any case highly professional – players, coming not only (as obvious) from physiology and psychology, but from the practice of the arts, and above all from the arts where the phenomenon of the synaesthesia is most clearly at work: music and painting.

8

We know well the role music has played in the history of *Gestaltpsychologie*, beginning with Ehrenfels’s *Gestaltqualitäten*. We know well how decisive is music in the development of Wertheimer’s idea and obviously in the emerging of “Wertheimer’s problem”. And Helmholtz’s and Stumpf’s views about sound and rhythm stay always in the background.

But one should not at all underestimate the role color has played in the debate about the foundations of scientific psychology at the end of 19th century. At the same time we are obliged to state some unquestionable facts. The flourishing of sense physiology in Germany since the 1840 isn’t characterized by a strong interest in color perception, i.e. in the way colors are appreciated and judged by the perceiving subject. Physiological optics constitutes in many regards the “core” of the experimental work initiated by Johannes Müller and pursued by

his pupils: above all by Hermann Helmholtz. From a strictly experimental point of view – i.e. from the point of view of an inquiry working with the tools offered by mathematics and physics – , it is the “mechanism” of vision that comes first. This implies obviously that colors are investigated as spectral colors, i.e. as rays of light refracted by the prism. This clearly Newtonian standpoint is overtly opposed to Goethe’s (and Schopenhauer’s) ideas about the production of color in the eye. But at the same time it is also true that even firm advocates of Newton’s theory of colors like Helmholtz begin in the 60’s to show themselves ready to acknowledge the soundness of Goethe’s (and Schopenhauer’s) ideas if applied to a so to say “phenomenological” description of the chromatic perception, i.e. to observation of the physiology of vision. In fact, we don’t confront in any case with scientists overtly appealing to Goethe’s and Schopenhauer’s ideas. Since Goethe’s days the research has greatly improved. The observational data on which it is possible to rely undergo an exponential increase. These data are nourishing in many regards the new sciences of psychophysics with Gustav Theodor Fechner and of experimental psychology with Wilhelm Wundt. As in the case of well-experienced scientists like Ewald Hering and Ernst Mach, the increasing interest in the phenomena of color perception leads to a critical attitude towards a strictly Newtonian point of view, i.e. towards an examination of the problem of color perception restricted to the spectral colors in the prism. Such an examination meets many difficulties not only in explaining how it is possible that colors perceptions are produced even in absence of physical light, but also in giving a satisfactory account of an unquestionable fact. The fact, namely, that where the angles of diffracted rays in prism are infinite, there is a very narrow number of fundamental color sensations. The opinions thereupon are diverging. But at the same time it is also true that a convergence is unavoidable concerning the role physiology has to play in explaining color perception. Color perception seems to be a highly complex phenomenon, but there are also no doubts about its central relevance from the point of view of the understanding the strategy followed by the sentient, knowing and acting subject in situating himself in the environment.

There is also an increasing opinion that the appreciation of the quality by our senses is before all the problem of our appreciation of colors, of the difficulty to reduce to the Newtonian spectrum the colors we experience in our perception and whose names seem in so many cases highly volatile. This way, the role played by Goethe’s ideas is – I daresay – a very significant one. I say, of course, significant not only from the point of view we are used to name “phenomenological”, as acknowledged in fact even by many of the adversaries of Goethe’s obsessive struggle against Newton. I say significant also – and I would say above all – from an historical point of view. And indeed from a very important point of

view. Goethe's ideas had contributed in a decisive way to avoid, in the German debate between the 19th and the 20th century, the loss of seeing the dynamical complexity of our perception of the world. The fact of this influence is unquestionable. We rely on a huge amount of documents. There are no difficulties to trace it. And in many cases we are led to remark the influence exerted not only by Goethe himself, but by Goethe's followers, whose writings – we have in mind before all an outsider like Rudolf Steiner (Steiner 1883) – find a wide audience among people however involved in the arts, but also among scientists. But it is a deep influence. The influence – the deep and decisive influence – that often, very often, is exerted not by rigorously organized theories, but by fascinating views about the way we live in our world.

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