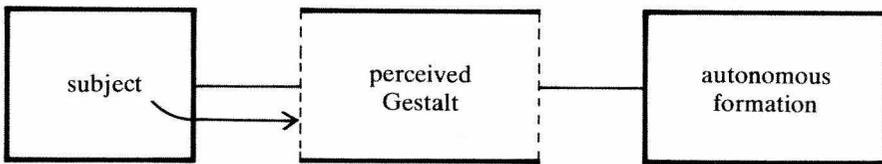


ON THE STRUCTURES OF PERCEPTUAL GESTALTEN

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I

The objects we perceive exhibit structures and properties which are not indigenous to the world as it is in itself. Thus whilst the two horizontal lines in the Müller-Lyer illusion are objectively of equal length, they are experienced as being such that one is shorter than the other. There is a distinction between the structure as we experience it, the *perceived Gestalt*, and the underlying autonomous objectual formation. Now the perceived Gestalt is dependent both upon the experiencing subject and his acts and states on the one hand and upon the autonomous formation on the other, a state of affairs we might represent in a diagram somewhat as follows:

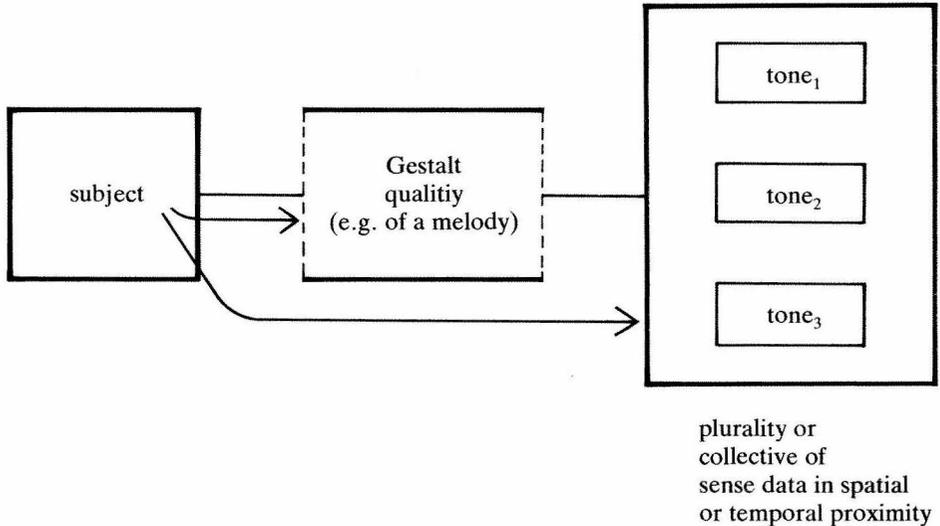


Here the lines connecting broken to solid walls of adjacent frames represent relations of one-sided dependence. A solid frame signifies that the entity in question is independent, i.e. can exist even if those entities to which it is connected should cease to exist. The solid arrow is intended to represent the relation of intentionality or mental directedness holding between the subject and the object of his experience.

Clearly there is a danger, in such an account, that we shall end up with some form of Kantianism, i.e. with a view according to which the underlying autonomous formation would cease to play a role as an object of cognition but would rather dissolve into an unknowable thing in itself.² This is not the case, however. For Gestalten are to different degrees transparent; they do not block out all autonomous properties of the objectual structures on which they depend. Indeed, the very fact that perceptual illusions are exceptional (or so, at least, experience tells us), suggests that Gestalten are typically transparent to a high degree. Moreover, even in cases of non-transparency we can embed an objectual formation into a larger whole—for example we can embed the two figures of the Müller-Lyer illusion into a complex involving the laying on of rulers—in such a way as to make quite specific properties of the original formation directly accessible as parts or moments of the resulting perceived Gestalt. Indeed the process of measurement, which enables us precisely to determine a large range of properties of objectual formations, is nothing other than the embedding of an object within a larger structure in such a way as to give rise to perceptual Gestalten of specific sorts.

The possibility of a systematic theory of perceptual Gestalten was first recognised by the great Austrian philosopher Christian von Ehrenfels in his paper “Über ‘Gestaltqualitäten’” of 1890.³ Ehrenfels himself however embraced a somewhat different interpretation of the way in

which Gestalten play a role in our perceptual experience. Ehrenfels was writing at a time when atomistic sensationalism still retained the status of an orthodoxy in perceptual psychology. It was in no small part as a reaction to Ernst Mach's attempts to understand within a sensationalistic framework what is involved in our perception of melodies and geometrical figures that the notion of Gestalt quality was introduced. Thus for Ehrenfels the role of the autonomous objectual formation is played not by real physical things or processes but rather by individual data of sense. This gives rise to a picture somewhat as follows:



The presence of two arrows is intended to represent the fact that, as will become clear, we have to do here with a certain sort of double intentionality.

The Ehrenfelsian account of Gestalt perception was taken over by another student of Brentano, Alexius Meinong, and its implications were worked out in detail by Meinong's students in Graz. Benussi, in particular, — whose influence continues to make itself felt in contemporary Italian Gestalt psychology — devoted an extensive series of articles to the development and to the empirical investigation of the Ehrenfelsian idea. But he and the other Meinongians introduced a number of refinements into Ehrenfels' original conception. Where Ehrenfels had seen the process of generation of Gestalt qualities as a spontaneous one, requiring no special activity on the part of the perceiving subject, Benussi stressed that Gestalt qualities come into being as a result of more or less deliberate, specifically intellectual *acts of production*. The Meinongians were thereby able to explain how it is that different Gestalt structures can come to be associated with identically the same foundation of sensory data, as for example when the same sequence of notes is heard in different ways e.g. in reflection of the fact that different notes are taken as tonic or different groups of notes are collected together into phrasal clusters.⁴ The new position made it possible for the Meinongians to acknowledge also the fact that our capacities to grasp Gestalten may differ over time, for they were able to show how the facility to perform acts of production may be affected by experience and by training.

For Benussi, as for Ehrenfels, it remains the case that the world of experience is rigidly divided into two different sorts of entity, each correlated with its own peculiar sort of mental act. We might compare this dichotomy with the classical division between matter and form. The *matter* of experience was conceived by Ehrenfels and the Meinongians as being constituted by the data given in simple sensory acts, all of which are discrete and independent, i.e. are such

that each can exist in principle in isolation from all others. The *form* of experience they conceived as being constituted by Gestalt qualities ('*qualità di forma*') given in non-sensory intellectual acts.⁵

It is worth noting in passing that the world of experience thus conceived has much in common with the world of Brentano's mature ontology. Neither Brentano nor the Meinongians have any room for physical things in the standardly accepted sense. They see the world rather as a kind of sensory surface, capable of being partitioned into constituent surfaces more or less *ad indefinitum*. To some of the sub-surfaces thereby generated a certain 'thing-character' may then be subjectively imputed.⁶

II

It is well known that the University of Prague, whose faculty included not only Ehrenfels but also Anton Marty, Oskar Kraus and other students of Brentano, was for a long time a centre of Brentanian thinking in philosophy and psychology (and indeed to some extent also in linguistic theory, economics and other fields). One of the products of Prague Brentanism is Max Wertheimer, who regularly attended lectures by both Ehrenfels and Marty, and it was Wertheimer who first seriously called into question the division of objects of experience into discrete and independent sensory data on the one hand and dependent structures yielded by intellectual acts of production on the other. In a series of classic experiments on phenomenal motion carried out in 1912, Wertheimer discovered that when subjects—his subjects in the present case were a certain Dr. Köhler and Dr. Koffka—are exposed to two alternately flashing lights a short distance apart, then they have an experience of movement back and forth from the one to the other. That is to say, they *see* a movement: the movement is an object of perception, it is not a purely intellectual product of an act of production. But the pure phenomenal movement that is experienced in such circumstances is not a matter of discrete and independent sensory data, either: for it can be perceived only in the context of other sensory data of the given sort and is to that extent dependent on the latter.

Wertheimer's experiments signified a final brake with the atomistic sensationalism which had still made itself felt in the work of Ehrenfels, Meinong, Benussi and their followers. His experiments made it clear that it is not the case that to every part of a perceived structure there corresponds one or more sensory data which could in principle be experienced in isolation. What we perceive are, rather, complex Gestalten, some of whose parts bear at most a certain analogy to the putative discrete and independent data of sense which had formed the basis of the earlier theories. Wertheimer, Köhler and Koffka went even further in their later writings in asserting that data of sense are at home only in surrounding Gestalt structures of certain determinate sorts. Even 'isolation' signifies a special kind of Gestalt structure: an isolated coloured fleck or tone must appear in some specific way against a background of some specific sort, and then it may manifest itself either as independent and self-sufficient in relation to this background, or as incomplete, in need of saturation by something else. It may appear with the character of being 'lost' or 'homeless', or with the character of an alien body smuggled into an environment in which it does not belong, or with the character of a disturbance in or defect of its environment, and so on. A true isolation, a sensory experience pure and simple, does not exist.⁷

The Gestalt tradition is responsible for a series of innovations which have since become part of the orthodoxy of psychological theory, and for all its faults the work of the Gestalt theorists is distinguished above all by the fact that it stressed from the very start the existence of physiologically-based universals of perception and of cognition. And whilst the term Gestalt has ceased to be associated with any single school, the problems raised by Ehrenfels, Meinong, Benussi, Wertheimer, Köhler and Koffka continue to make themselves felt, not least in recent developments in pattern recognition theory and in other areas of cognitive science.

ENDNOTES

- ¹ I should like to thank the Alexander von Humboldt Stiftung for the award of a grant for study in Louvain and Erlangen where this note was written.
- ² Exactly the same danger manifests itself in relation to the theory of *noemata* set forth by Husserl in his *Ideas I*, and indeed there are many similarities between the noema theory and the theory of perceptual Gestalten as here presented. Where, however, noemata were conceived by Husserl as peculiar abstract entities accessible to the subject only in a special sort of reflection, Gestalten were introduced as straightforward objects of presentation, and they were shown to be capable of investigation within a naturalistic framework.
- ³ References are provided in the bibliography of writings on Gestalt theory in B. Smith, ed., *Foundations of Gestalt Theory* (Munich: Philosophia, forthcoming). This volume also contains an English translation of Ehrenfels' paper on Gestalt qualities.
- ⁴ Wittgenstein's remarks on 'seeing as' notoriously grew out of his reflections on issues such as this in the Gestalt theory of perception.
- ⁵ This aspect of the Meinongian position will perhaps become more intelligible if we consider that its preferred examples of Gestalt qualities were: identity, similarity, difference, and all relations of comparison.
- ⁶ The view that things are themselves Gestalt qualities of sensory data was defended explicitly by Kreibitz in his *Die intellektuellen Funktionen*.
- ⁷ Compare on this issue the work of Edwin Rausch, whose writings on the logic and ontology of Gestalten are among the neglected glories of post-war theoretical psychology.

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