

On Two Foundational Principles of the Berlin School of Gestalt Psychology

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Abstract

In this article, I consider what I have long taken to be the two foundational principles of the Berlin School of Gestalt psychology, namely, that perceptual configurations are “distinguishable from” or “other than” the elements from which they are configured and that the identity of such “elements” is determined by their relation to other elements within perceptual configurations. Yet, while it seems clear that Max Wertheimer (1880–1943), Kurt Koffka (1886–1941), and Wolfgang Köhler (1887–1967) were all committed to the first principle, it is less clear that they were committed (or were all committed) to the second principle. This is perhaps not surprising because commitment to the second principle would seem to undermine the first principle. I note that Wilhelm Wundt (1832–1920) appears to have been one of few psychologists clearly committed to the second principle, which is perhaps why, despite appearances to the contrary, he does not seem to have been committed to the first principle. Finally, I discuss some questions raised by this analysis and relate it to recent developments in theoretical psychology and a perennial question in social psychology.

Keywords

holism, relationalism, Berlin school of Gestalt psychology, Wilhelm Wundt

The Gestalt psychologists proposed the radical view that the whole is psychologically, logically, epistemologically, and ontologically prior to its parts. A whole is not only more than the sum of its parts, it is entirely different from a sum of its parts.

(Wertheimer, 1983, p. 43)

Introduction: Holism and Relationalism

Gestalt psychology is all about wholes and parts. Max Wertheimer (1880–1943), Kurt Koffka (1886–1941), and Wolfgang Köhler (1887–1967), members of the so-called Berlin (or Berlin-Frankfurt) School of Gestalt psychology, held that perceptual wholes are different from collections of sensational “parts,” and that the parts of perceptual wholes derive their identity from the wholes of which they are parts. These distinctive ontological claims were rooted in their theory that the self-organizing dynamical properties of perceptual wholes are responsible for the determination of wholes and parts (and figures and backgrounds etc.), a theory ultimately grounded in a postulated isomorphism between self-organizing perceptual and neurological fields (Köhler, 1920).

While acknowledging the theoretical explanatory role played by the postulated dynamism of Gestalt structures, in this article, I focus on the two ontological claims, rearticulated in the following fashion: that perceptual configurations (wholes) are “distinguishable from” or “other than” (or different from) the elements from which they are configured (parts) and that the identity of such “elements” (parts) is determined by their relation to other elements (parts) within perceptual configurations (wholes). I argue that while it seems clear that the Berlin Gestalt psychologists were committed to the first principle, it is less clear that they were committed (or were all committed) to the second principle, which is perhaps not surprising because commitment to the second principle would appear to undermine the first principle. I also note that Wilhelm Wundt (1832–1920) appears to have been one of few early psychologists clearly committed to the second principle, which is perhaps why, despite appearances to the contrary, he does not seem to

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have been committed to the first principle. I should perhaps stress at the outset that I am concerned *only* with the explication of these two principles and their problematic relation to each other, and remain neutral on the questions of the adequacy of the dynamical theories of Gestalt psychology (psychological and neurological) and their evidential basis.

In considering these matters, it may be useful to bear in mind a distinction between what I call holism and “relationalism.” Although the term holism is commonly employed to reference both doctrines about wholes and parts noted above, the term holism properly applies to the first doctrine only: that perceptual configurations (wholes) are different from the combination, addition, aggregation, or inference from perceptual elements, traditionally conceived as atomistic sensational elements in earlier theories of perception. In consequence, holism may be true of wholes even though their parts may be characterized independently of the wholes of which they are parts. Thus, the H₂O molecule may be said to be different from the atomic elements that constitute it, insofar as the H₂O molecule has properties different from the properties of the atomic elements that constitute it, but these atomic elements (hydrogen and oxygen) can be characterized independently of—and can exist independently of—the water molecules they sometimes constitute. They are logically as well as physically atomistic in nature.

In contrast, relationalism more aptly characterizes the second doctrine, that the identity of the elements (parts) of perceptual configurations (wholes) is determined by their relation to other elements (parts) within perceptual configurations (wholes; although considerations of this doctrine are often confused by the fact that some authors [most notably philosophers of language] use the term holism to reference what I have called relationalism, see e.g., Blackburn, 1996, p. 177). Relationalism is about the identity of parts of wholes. Thus, and in contrast to the relation between hydrogen and oxygen atoms and H₂O, the identity of a juror in a jury is determined by the relation of that juror to all the other jurors in the jury, and a person is not a juror independently of or absent that relation.

Or at least in part. It might be objected that relationally constituted configurations like a jury also owe their identity in part to their relation to wider legal, judicial and penal configurations, a point recognized by von Ehrenfels (1890/1998). This point I readily grant, while noting that it is entirely consistent with the claim that the elements of relationally constituted configurations such as juries (jurors) owe their identity to their relation to other elements in the configuration (other jurors). Moreover, not all relationally constituted configurations are constituted by relations to configurations beyond themselves. Consider the members of a self-contained poetry or wine club, who have jointly committed to meet on a regular basis to discuss poetry or drink wine. Their relation to other members of the poetry or

wine club determines their identity as members of the poetry or wine club. Although the poetry or wine club is nothing other than the members so related, the club has properties that individual members do not (the ability to fill a small minibus and have elected officers). (These illustrative examples of juries, and poetry and wine clubs are my own.)

While relationalism about the parts of wholes is consistent with some versions of holism about wholes, because juries have properties—such as the ability to fill the jury box and render a collective verdict—that are not shared by their individual members, it is not committed to the view that wholes are different from their parts so related: There is nothing more to a jury than the jurors so related.

With these distinctions in mind, let us turn to these doctrines as they are found in the work of Christian von Ehrenfels (1859–1932), Max Wertheimer, Kurt Koffka, Wolfgang Köhler, and Wilhelm Wundt.

Ehrenfels: Super-Summation and Transposition

Christian von Ehrenfels (1859–1932) introduced the notion of Gestaltqualität or “form quality” in his 1890 paper “On Gestalt Qualities,” which Mitchell Ash (1998, p. 88) has called the “founding document of Gestalt theory.” Ehrenfels famously illustrated the notion of a form quality by reference to a perceived melody. According to Ehrenfels, the form quality of a melody is super-summative; it is not equivalent to the aggregate sum of its tonal elements, but is something “distinguishable from” or “other than” the sum of the tonal elements. This is the first principle of Gestalt psychology, shared by Ehrenfels and the Berlin Gestalt psychologists, although the principle is often misrepresented as the claim that the whole is *greater than* the sum of its parts (see, for example, Sprung & Sprung, 1997; Wertheimer, 1983), or as the claim that the whole is *independent* of its parts (see, for example, Hothersall, 1995; Viney & King, 1998). As far as I know, no Gestalt psychologist ever made these claims and Kurt Koffka explicitly repudiated the former characterization:

It has been said: The whole is more than the sum of its parts. It is more correct to say the whole is something else than the sum of its parts, because summing is a meaningless procedure, whereas the whole-part relationship is meaningful. (Koffka, 1935/2001, p. 176)

Ehrenfels (1890/1998) also claimed that the form quality of a melody is transposable—the structure or configuration remains invariant through transpositions incorporating different elements—and that the “proof of the existence of Gestalt qualities” is provided by the “similarity relations . . . which obtain between melodies and figures having totally

different tonal or positional foundations” (p. 90). Thus, for example, one may produce a *different* melody by rearranging the *same* tonal elements in a *different* order, and produce the *same* melody by arranging *different* tonal elements (e.g., in a different key) in the *same* original order:

Thus we have on the one hand two complexes of tone presentations, made up of wholly different components, which nevertheless yield a similar (or, as one normally says: *the same*) melody, and on the other hand two complexes made up of exactly the same elements which yield entirely different melodies. From this *it necessarily follows* that the melody or tonal Gestalt is something other than the sum of the individual tones on the basis of which it is constituted.¹ (Ehrenfels, 1890/1998, p. 90, first original emphasis, second my emphasis)

According to Ehrenfels, the form quality of a melody is not determined by the sensory elements (*Fundamente*), but by the structure or configuration of the elements:

By a *Gestalt quality* we understand a positive content of presentation bound up in consciousness with the presence of complexes of mutually separable (i.e., independently presentable) elements. That complex of presentations which is necessary for the existence of a given Gestalt quality we call the foundation [*Grundlage*] of that quality. (Ehrenfels, 1890/1998, p. 93, original emphasis)

It is worth stressing that Ehrenfels’ form of holism did not entail relationalism about parts. The parts of a particular melody—the tonal elements—retain their identity as these tonal elements when they are recombined to form a different melody. Moreover, while the melody may be distinguishable from and other than the individual tonal elements, the melody itself is nothing more or less than the tonal elements so related:

In 1890, Ehrenfels argued in his paper on Gestalt qualities that human perception is relational and not primarily built out of association of individual elements. That is, we perceive in terms of wholes (Gestalt). The standard example is music perception, where the perceived melody is not in the individual notes but in the whole relationship of these notes to each other. (Pickren & Rutherford, 2010, pp. 180–181)

The Berlin School: Wertheimer, Koffka, and Köhler

The notion of Gestalt qualities as form qualities distinguishable from or other than the elements from which they are configured was developed and extended by Max Wertheimer (1912/2012) in his analysis of the phi phenomenon: the perception of apparent motion. Like Ehrenfels, Wertheimer affirmed that the form qualities of motion perception are distinguishable from or other than the aggregation of sensational elements: They are the product of “a kind of

physiological short circuit (*Kurzschluss*)” in the brain (1912/2012, p. 76). Wertheimer’s target was the account of the perception of motion (and shape, distance, and the like) advocated by Hermann von Helmholtz (1821–1894) and his followers, who maintained that our “perception” of motion (and shape, distance, and the like) is not really perception at all, but a *cognitive inference* based upon punctiform sensations (Helmholtz, 1855). Wertheimer (1912/2012) maintained that motion perception is a process that is different from the mere combination or association of sensory elements (“senseless additive combining”) or inference from them. Rather, whatever elements there may be are integrated into the perception of motion by a “physiological holistic process (*Gasamtprozess*)” (p. 80).

In his 1912 paper, Wertheimer was content to insist, with Ehrenfels, that perceptual form qualities are distinguishable from and not determined by the aggregation of sensory elements. Later, he came to question Ehrenfels’ conception of form qualities as distinguishable from but *dependent* upon independent sensory elements—which could be rearranged to generate different form qualities—and claimed that the identity of sensory elements is determined by the form quality in which they are configured:

The fundamental “formula” of Gestalt theory might be expressed in this way: There are wholes, the behavior of which is not determined by that of their individual elements, but where the part-processes are themselves determined by the intrinsic nature of the whole. (Wertheimer, 1925/1938a, p. 2)

According to Wertheimer, the identity of elements *as* particular elements in a Gestalt configuration is determined by their relational location within the Gestalt configuration:

“Elements” are therefore *not* to be placed together as fundaments in and-summation and under conditions involving extrinsic combinations. Instead they are determined as parts by the intrinsic conditions of their wholes and are to be understood “as parts” relative to such wholes. (Wertheimer, 1922/1938b, pp. 14–15, original emphasis)

That is, in later years, Wertheimer seems to have adopted a relational account of the identity of elements in a Gestalt configuration.

Interestingly, Wertheimer also extended this Gestalt analysis to the relational identity of individuals in communities, perhaps the most plausible example of the relational identity of elements in the Gestalt literature:

A man is not only part of his field, he is also one among other men. When a group of people work together it rarely occurs, and then only under very special conditions, that they constitute a mere sum of independent Egos. Instead the common enterprise often becomes their mutual concern and each works as a meaningfully functioning part of the whole. Consider a

group of South Sea islanders engaged in some community occupation, or a group of people playing together. (Wertheimer, 1925/1938a, p. 6)

This relational conception of individuals in a social field as analogous to elements in a Gestalt configuration was later developed by social psychologists such as Kurt Lewin (1890–1947), Muzafer Sherif (1906–1998), and Solomon Asch (1907–1996; Asch, 1952; Lewin, 1936; Sherif, 1935). Consider Solomon Asch, for example, on the relational identity of social action:

Most social acts have to be understood in their setting, and lose meaning if isolated. No error in thinking about social facts is more serious than the failure to see their place and function. (Asch, 1952, p. 61)

That is, like the elements of a Gestalt configuration, social acts lose their identity *as* social acts in isolation from their relational setting (unlike the atomic components of water or the tonal elements of a melody).

This principle of the relational identity of the elements of perception distinguishes Wertheimer's account of Gestalt configurations from the account offered by Ehrenfels. Whereas Ehrenfels had maintained a one-way dependence between Gestalt configurations and the elements from which they are configured, Wertheimer maintained that there is a *two-way* mutual dependence between them.

Now these two principles, that Gestalt configurations are distinguishable from or other than the elements from which they are configured, and that the identity of the elements of Gestalt configurations is determined by their relational location within Gestalt configurations (with one configuration being analyzable into one set of elements, and another analyzable into a different set of elements, as in case of the different elements produced when an ambiguous figure is configured as an old woman or a young woman) seem to have become the foundational principles of the Berlin School of Gestalt psychology represented by Wertheimer, Köhler, and Koffka. And the second principle is what seems to have distinguished the Berlin School from the Graz School of Gestalt psychology, represented by Stephan Witasek (1870–1915), Vittorio Benussi (1878–1927), and Alois Höfler (1853–1922) at the University of Graz, who denied that the identity of perceptual elements is determined by their relational location within Gestalt configurations. In the case of ambiguous figures, such as the Rubin vase or the old woman/young woman figure, they maintained that different perceptual configurations (as faces/vase or old woman/young woman) are configurations of the *same sensory elements*:

Between the sensory impressions, *which remain constant*, and the perception of figures, which may differ from one another,

an event X must take place, which, depending on the form it takes, will lead to the perception of totally different objects *from the same constant sensory stimulation*. (Benussi, 1914/1997, p. 400, my emphasis, cited in Fabian, 1997, p. 204)

Problems

So far so good—yet, though this may seem a *prima facie* plausible account of the two foundational principles of the Berlin School of Gestalt psychology, things are perhaps not what they seem, and there are a number of problems with this account.

The first is that the Berlin Gestalt psychologists did not often press the relational identity claim explicitly. More often they were concerned to simply affirm the primacy of Gestalten over the sensational elements from which Ehrenfels and others supposed they were composed: whatever reality such elements possessed was held to be parasitic upon Gestalten, both constitutionally and dynamically. Sometimes they argued for this thesis directly, as when they claimed that we grasp Gestalten before we grasp the elements from which they are supposed to be composed, as in Wertheimer's claim that "Such structures (Gestalten) are no less immediate than their parts; indeed one often apprehends a whole before anything regarding its parts is apprehended" (cited in Koffka, 1915/1938, p. 377). Sometimes they argued for this thesis indirectly, by denying that such supposedly independent sensory elements (Ehrenfels' "independently presentable elements") are objects of experience, maintaining that these so-called elements are dependent theoretical abstractions derived from Gestalt configurations (Köhler, 1913/1971; Koffka, 1915/1938).

The second problem is that commitment to the second principle has one notable consequence: it undermines Ehrenfels' transposability argument for the "distinguishability" of Gestalten. Wertheimer recognized that his advocacy of the relational identity of the elements of Gestalt configurations conflicted with Ehrenfels' (1890/1988) account of a Gestalt quality as "a positive content of presentation bound up in consciousness with the presence of complexes of mutually separable (i.e., *independently presentable*) elements" (p. 90, my emphasis). He consequently suggested that the identity of the tones of a melody is given by their relational location within the melody:

Is it really true that when I hear a melody I have a sum of individual tones (pieces) which constitute the primary foundation of my experience? Is not perhaps the reverse of this true? What I really have, what I hear of each individual note, what I experience at each place in the melody is a *part* which is itself determined by the character of the whole. What is given me by the melody does not arise (through the agency of an auxiliary factor) as a *secondary* process from the sum of the pieces as such. Instead, what takes place in each single part already depends upon what the whole is. The flesh and blood of

a tone depends from the start on its role in the melody: *A b* as leading tone to *c* is something radically different from the *b* as tonic. It belongs to the flesh and blood of the things given in experience [*Gegebenheiten*], how, in what role, in what function they are in the whole. (Wertheimer, 1925/1938a, p. 5)

One may reasonably doubt Wertheimer's claim here. It seems that we can still recognize the tone *b* as the tone that occurred as the leading tone or as the tonic. Its identity as that particular tone would seem to remain independent of its different positions in different melodies. Carl Stumpf (1848–1936), a fellow musician, was sensitive to his former student's point that a musical tone sounds different in different melodies, but insisted that the same tone then has a different significance: the role or function of the tone has changed, not the identity of the tone itself (see Smith, 1988).

What is more to the point is that if Wertheimer was correct on this matter, if the identity of tones is relational in nature and depends upon their relational location within melodies, then it would undermine Ehrenfels' original proof of the claim that Gestalt qualities are distinguishable from or other than their constituent elements based upon the transposability of Gestalt qualities, because then *any* elements combined into the *same* melody would be the *same* constituent elements, by virtue of their relation to the other elements in the Gestalt configuration. Their identity, like the identity of the Gestalt quality, would remain invariant throughout the purported transposition—a simple consequence of the presumed two-way mutual dependence between Gestalt qualities and elements. (Note that this would not hold for the proponents of the Graz School of Gestalt psychology, who maintained that different perceptual configurations are produced from the *same* sensational elements, thus preserving the transposability argument).

Moreover, it would seem that if the second principle of the Berlin School holds, then it casts doubt upon the first principle: for if the identity of constituent elements is determined by their relation to other elements in a Gestalt configuration, then although the Gestalt configuration may be distinguishable from or other than the elements considered individually, there is no obvious sense in which a Gestalt configuration could be distinguishable from or other than the complex of related elements (although the complex could of course have properties that are not an aggregative combination of the properties of the elements, as in the case of the properties of juries and jurors).

In light of this point, one might wonder just how strongly committed the Berlin Gestalt psychologists were to the second principle, to the relational identity of the “elements” of Gestalt configurations, and question the empirical support for the principle. Consider, for example, Koffka's claim about the “*parts*” of any “*organized whole-process*”:

We may in fact place the *experiencing* of Gestalt presentations squarely beside that of *creating* Gestalten; to sing or play a

melody, dash off a sketch, write etc., are not cases where one sings or plays *tones*, or where one draws or writes *strokes*. The motor act is an *organized whole-process*; the many individual movements can be understood only as *parts* of the process which embraces them, and it is indeed only thus that they attain their particularity. (Koffka, 1915/1938, p. 377, original emphasis)

This certainly looks like a relational account of the elements of a Gestalt configuration, but it is as empirically doubtful as Wertheimer's relational account of the elements of a melody. For we can and do sing or play tones without singing or playing melodies, and we can and do draw strokes without drawing a sketch and so on, and these *reidentifiable* tones and strokes can be transposed to form different melodies and sketches. Or consider the familiar “grouping principles” of Gestalt psychology, such as similarity and proximity. The lines, circles, and crosses that are dynamically configured by Gestalt principles of proximity and similarity (and which do seem to be dynamically configured by Gestalt principles of proximity and similarity) can be identified as lines, circles, and crosses *independently of* and *in isolation from* these Gestalt configurations, and can be transposed to form different Gestalt configurations.

Analogously, Köhler's (1918/1938) account of transposition learning showed that different stimulus elements could be employed to constitute the same learned relationship (of darker or larger) between stimuli. Chickens and chimpanzees that could be trained to peck a single stimulus—a colored card or circle—when pecking was reinforced with food, could also be trained to discriminate between different shades of colored cards (or circles of different diameter) by being rewarded with food when they chose the darker card (or larger circle). When they were then presented with a new card darker than the original darker card (or new circle larger than the original larger circle) when paired with the original darker card (or original darker circle), they would choose the new darker card (or larger circle). One stimulus element remained the same from the first to the second trial, and one stimulus element changed, but the animals learned to respond to the invariant relation transposed from the first to the second condition. The stimulus elements (colored cards and circles) were identifiable independently of their relation to the other stimulus elements (other cards and circles), whereas the relation between the elements remained invariant, much like the relation of a melody to its tonal elements.

Lazareva (2012, p. 97) aptly describes these experiments as follows:

Köhler reported that chickens (and, in the subsequent experiments, apes) selected the novel shade on over 70% of trials, indicating a preference for “relationally correct” stimulus. Köhler called this behavioral result transposition—just as the notes of musical melodies do not change their relation to each other when the melodies are moved or

transposed to different keys, the learned relation remains intact when new stimuli are substituted.

That said, it should be granted that some perceptual phenomena do appear to fit the relational identity thesis. The phenomenal mode of appearance of colors does appear to depend upon the context in which they are perceived, as “surface,” “volumic,” or “film” colors (Katz, 1911/1935).

Wundt and the Relational Identity Principle

Although it may be doubted that the Berlin Gestalt psychologists were (or were all) committed to the relational identity principle, there was at least one famous psychologist who was.

At first sight, Wundt seems to have been committed to both of the supposedly foundational principles of Gestalt psychology, at least in *Outlines of Psychology* (1897). According to Wundt’s “law of psychical resultants” (also known as the “principle of creative resultants”), the attributes of psychological configurations are distinct from the mere aggregation of the attributes of the elements from which they are configured. According to Wundt, psychological configurations such as the perception of a musical chord or the understanding of a sentence have configurational properties that cannot be reduced to the mere aggregation of the properties of their elements, such as tonal elements or words:

Every psychological compound shows attributes which may indeed be understood from the attributes of its elements after these elements have once been presented, but which are by no means to be looked upon as the mere sum of the attributes of these elements. A compound clang is more in its ideational and affective attributes than merely a sum of single tones. In spacial and temporal ideas the spacial and temporal arrangement is conditioned, to be sure, in a perfectly regular way by the cooperation of the elements that make up the idea, but still the arrangement itself can by no means be regarded as a property belonging to the sensational elements themselves. (Wundt, 1897, p. 321)

According to Wundt, the law of psychical resultants is an expression of the principle of creative synthesis, via the central control process of apperceptive synthesis:

Not only do the elements united by apperceptive synthesis gain, in the aggregate idea that results from their combination, a new significance which they did not have in their isolated state, but what is of still greater importance, the aggregate idea itself is a new psychical content that was made possible, to be sure, by these elements, but was by no means contained in them. (Wundt, 1897, p. 321)

It is true that Wundt did not often use the term “Gestalten” to describe the products of apperceptive creative synthesis, and that the German term “Gibilde” that he usually employed is often translated as “compound.” However, Blumenthal (1975, p. 1084) notes that terms such as “creation,” “product,” “structure,” “formation,” “system,” “organization,” “form,” and “figure” are superior English translations for Gibilde, which indicates that Wundt was referencing the same type of psychological configurations as the Gestalt psychologists.

The term “compound” also suggests John Stuart Mill’s (1806–1873) chemical analogical account of the formation of complex ideas (Mill, 1843/1973–1974), which Wundt repudiated:

J. S. Mill’s discussion in which the mental formation is conceived as a “psychic chemistry” leaves out its most significant aspect—the special creative character of psychic synthesis. (Wundt, 1902, p. 684, cited in Blumenthal 1975, p. 1083)

As Wundt noted, although no one can derive a priori the properties of chemical compounds such as water from their atomic components hydrogen and water, it may be the case that the properties of water can in fact be theoretically derived from the properties of hydrogen and oxygen in combination, whereas this is not the case with respect to psychological configurations. And Wundt’s denial of the analogy led him in the direction of the second supposedly foundational principle of Gestalt psychology:

The allusion to chemical synthesis is a conspicuous example of our present subject matter. No one can foresee the attributes of water in those of oxygen and hydrogen, although no one doubts the one is formed from the other. This example, however, is actually not representative because chemical dynamics possibly, and indeed quite likely, will show that the qualities of the compound are derived from its components. But in my view the psychic synthesis is the opposite; *it is possible to know the qualities of the components only as they derive from the resultant according to the general character of psychological laws.* (Wundt, 1887, Vol. 2, p. 41, cited in Blumenthal, 1985, p. 33, my emphasis)

Wundt claimed that the elements of psychological configurations are not atomic elements that can be isolated in the fashion that hydrogen and oxygen can be isolated and identified independently of their combinatory constitution of water. On the contrary, as Wundt (1880–1883) emphasized in his *Logic* (Vol. 1), the “constituents of mental processes have a fleeting identity or existence and owe their identity to the larger contexts or configurations to which they belong” (Blumenthal, 1985, p. 32).

This led Wundt to provide a clear statement of the second principle of Gestalt psychology. According to Wundt’s

“law of psychical relations,” (also known as the “principle of psychological relativity”), which he also considered an expression of the principle of creative synthesis, the identity of the elements of psychological configurations is determined by their relational location within psychological configurations:

Every single psychical content receives its significance from the relations in which *it stands to other psychical contents*. (Wundt, 1897, p. 324)

Blumenthal (1985, p. 39) claims that this law or principle

. . . describes mental processes as having their existence and identity only as part of larger configurations of experience. Whereas the first principle has to do with emergent qualities in the synthesis of experience, the second refers to the apperceptive (i.e., attentional) analysis of experience, showing that any item of mental analysis has meaning or identity only as it is related to some context. In Wundt’s psycholinguistics, for instance, words can have meanings only as a function of their membership in a sentence (either stated or implied), and the uttered sentence is a representation of a larger underlying mental context (*Gesamtvorstellung*).

As Wundt himself put it in the third (1912) edition of *Völkerpsychologie*,

Although definitions may differ when grammarians, logicians and psychologists describe the universal characteristics of sentences, there is agreement on one point. That is that a sentence is some sort of linking of a succession of words or concepts. But this common assumption is the very one that cannot stand up under a more rigorous examination of grammatical as well as psychological definitions. Its questionable nature is perhaps more apparent in psychological analyses than grammatical ones. A sentence can certainly be conceived as an association of words. But whether it is also a simple association of separate concepts is very questionable in view of the fact that *it is clearly impossible to describe individual sentence parts as independent concepts*. This is especially so when we attempt to refer pure formal sentence features to concepts. (Wundt, 1912/1970, pp. 20–21, my emphasis)

Yet, if Wundt really did hold that the identity of the elements of perception and cognition is determined by their relation to other elements in a perceptual or cognitive configuration, as the meanings of words are supposedly determined by their relation to other words in sentences,² then it would seem, as in the case of the Berlin Gestalt psychologists, to undermine his first principle that perceptual and cognitive configurations are distinct from the elements from which they are configured. However, Wundt, unlike the Berlin Gestalt psychologists, did not claim that such configurations are “distinguishable from” or “other than”

such elements related to each other in perceptual or cognitive configurations. What Wundt claimed was that such configurations have a significance or properties that are not contained in their elements (have significance or properties that their elements do not), which is entirely consistent with the recognition that such configurations are *nothing other than those elements so configured*.

Assume for the sake of argument that Wundt was correct in maintaining that the meaning of individual words (or concepts) is determined by their relation to other words in a configured sentence. The sentence itself has a meaning different from the meaning of the individual words, but the meaningful sentence is nothing more than the individual words related to each other in the configured sentence. As the poetry group is nothing more than the members related to each other as members of the poetry group, despite the fact that the poetry group has properties that none of the members can or do have. Wundt’s holistic principle is only committed to the view that perceptual and cognitive configurations have properties distinct from the properties of the elements that relationally compose them, not that they are different from these elements so related. Consequently, although Wundt was clearly committed to the second principle of the relational identity of the elements of perception and cognition, he does not appear to have been committed to the principle that perceptual and cognitive configurations are “distinguishable from” or “other than” or “different from” their perceptual and cognitive elements so configured.

Were it not for this fact, one might be inclined to suppose that Wundt was the first Gestalt psychologist, and indeed something close to this claim was advanced by early European critics of the Berlin Gestalt psychologists, who disputed the originality of their foundational principles (most notably by Wundt’s Italian protégé Frederico Kiesow, 1929), and has been more recently promoted in the work of the Wundt scholar Arthur L. Blumenthal (1975, 1985, 1997), who (as demonstrated above) has documented Wundt’s clear commitments to both holism and relationalism.

However, the above discussion does illustrate why the two holistic and relational principles were in conflict for the Berlin Gestalt psychologists but not for Wundt, by distinguishing a *deflationary* form of holism that is committed only to the principle that configurations/wholes have properties that their elements do not (Wundt) from the *inflationary* form of holism that is committed to the principle that configurations/wholes are somehow distinguishable from or other than or different from their related elements. Confusingly, the familiar claim attributed to Gestalt psychologists that “the whole is more or greater than the sum of its parts” can be interpreted either way.

Before closing this section, it is worth noting that the first deflationary form of holism (advocated by Wundt) about Gestalt configurations is consistent with both an

atomistic and relational conception of the elements that comprise them. Thus, the H_2O molecule has properties not shared by its atomic components, which can combine with other atomic components to form different molecules (HCl and CO_2), and juries have properties not shared by their relational components (individual jurors), even though the H_2O molecule is nothing more than hydrogen and oxygen atoms covalently related, and a jury is nothing more than the jurors related to each other in the jury (with the qualification noted earlier).

Concluding Thoughts

In this concluding section, I address a critical question raised by the foregoing analysis, which is suggestive of some possibilities not previously addressed, and relate the issues concerning relationalism and holism in Gestalt psychology to recent developments in theoretical psychology and a perennial question in social psychology.

A critical question raised by the foregoing analysis is that if the second supposedly foundational principle of the Berlin School of Gestalt psychology, that the identity of the elements of Gestalt configurations is determined by their relation to other elements in Gestalt configurations, really is inconsistent with the first supposedly foundational principle of the Berlin School of Gestalt psychology, that Gestalt configurations are distinguishable from or other than or different from the elements that compose them, then why did the Berlin Gestalt psychologists and consequent historical interpreters not pick up on this, as they do not appear to have done? There appear to be no references or discussion of this problem in the works of Petermann (1932/2014), Smith (1988), or Ash (1988), for example, or in any of the many histories of psychology that contain a section or chapter on Gestalt psychology (as they all do). This is real puzzle, and I confess that I find it as puzzling as anyone, since I have long championed the second relational principle as one of the rare instances in the history of psychology of a conception of psychological states and processes not committed to atomism or an atomistic foundation (Greenwood, 1989, 2004, 2015). In my own case, I suspect the answer is that I just took the first principle for granted and never questioned the relation between the two until recently. And this may be true of some others.

Yet, part of the answer may also lie in the fact that most of the original work of the Berlin Gestalt psychologists and subsequent scholarship has focused on the denial of atomic elements of psychological configurations, the insistence on the primacy of the configurational whole over the parasitic elements, and/or the dynamical organizational theory and its neurological underpinnings, at the expense of the fundamental ontology of Gestalt “wholes.” Given these foci, theorists may have neglected the question of exactly how non-atomistic elements relate to configurational wholes.

Although many would no doubt agree that perceptual configurations are distinguishable from or other than or different from mere sums of elements, the question seems to have been left open whether such configurations are distinguishable from or other than or different from the related elements in the configuration. Of course a melody is not simply a summing of notes, but that leaves open the question of whether the melody is distinguishable from or other than or different from the related elements in the melody.

There is another possibility, already canvassed, that the Gestalt psychologists were not really committed to the second relational principle. Some of their examples indicate that they were not: the “grouping” principles of similarity and proximity and Kohler’s transposition experiments presuppose atomistic elements that can be reidentified in different configurations. Yet, it also seems clear that they sometimes were, as in Wertheimer’s claim about the relational identity of the notes in a melody, and most clearly in his treatment of social communities, and Koffka’s claim that we do not play tones in a melody or draw lines in a sketch. More radical claims are also possible: that they sometimes were and sometimes were not, that some were and others were not, or that they had no fixed view about the relation between parasitic elements and configured wholes.

Whatever the explanation, there are other possibilities worth considering. It may be the case that the elements of some (psychological or social or physical) configurations are relational in nature and others are not. For example, it may be that the elements of perception (and perhaps cognition) are atomistic in nature, while preserving the organizational dynamism of Gestalt theory (as with Ehrenfels and the Graz school), whereas (at least some) social phenomena, such as juries and social groups, are relational in nature. Or, perhaps some psychological phenomena are relational in nature and others not. However, it is doubtful if these possibilities were ever contemplated by the Berlin Gestalt psychologists. While they rejected the atomism of earlier psychological theorists, they retained the universality of their theories. Wertheimer, Köhler, and Koffka seem to have been convinced that the dynamical principles of Gestalt psychology extend to all psychological, social, and natural phenomena, a view they propounded with almost imperialistic fervor, behaving in some cases, in the words of Michael Sokal (1984), like “intellectual missionaries, spreading a new gospel” (p. 1257).

Returning to the two principles themselves, there has been much recent talk of “relationalism” (Gergen, 1994, 2009) and “relational ontology” (Benjamin, 2015; Slife, 2004) in theoretical psychology, and holism about social entities has seen a strong revival in the contemporary interdisciplinary enterprise that is “social ontology” (Gilbert, 1989; Tollefsen, 2015; Tuomela, 2013). Gergen’s brand of relationalism is an extension of his social constructionism,

which denies the theoretical entities of psychology. Consequently, it is hard to represent his work as committed to relationalism about the elements of perception or social life, although he does champion a plausible developmental account of how selves (or strictly, notions of selves) develop out of our relations with others. So-called relational ontology is much closer to the mark, insofar as it rejects atomism and individualism, maintaining that *all* entities are constituted by their relation to other things:

From a strong relational perspective, all things, including all practices, have a shared being and a mutual constitution in this sense. They start out and forever remain in relationship. Their very qualities, properties, and identities cannot stem completely from what is inherent or “inside” them but must depend on how they are related to each other. (Slife, 2004, p. 159)

Yet, while a shift from ontological atomism/individualism to relationalism in theoretical psychology is to be welcomed as a breath of fresh air in a discipline still dominated by atomism/individualism, the moral of the above discussion of Gestalt psychology also applies. Why should we be so intellectually imperialistic to assume that all phenomena—natural, psychological, and social—are relational (or atomistic) in nature? If some natural phenomena such as chemical elements (H) and compounds (such NaCl) are atomistic in nature, and others, such as quarks, magnetic poles, and the masses of individual bodies (according to post Einsteinian physics) are relational in nature, why not accept that the same may be true of psychological and social phenomena? Perhaps some forms of perception and cognition are configurational (such as computational schemas) and some aggregative/associative (such as summative connectionist networks), and perhaps some intentional actions such as oath-taking are social relational in nature (presupposing a social context) and others such as acts of suicide to avoid unbearable pain are atomistic/individualistic in nature (not presupposing any social context).

This brings me to my final point, which returns us to the first principle of the Berlin Gestalt psychologists. There is currently a resurgence in holistic theories about social entities within the contemporary interdisciplinary enterprise that is social ontology (Gilbert, 1989; Tollefsen, 2015; Tuomela, 2013). Such theories maintain that social acts such as walking together, and social groups and corporations, are social collectivities not reducible to individuals walking in parallel or collections of individuals, and reprise Durkheim’s (1895/1982) famous claim that social groups are “not equal to the sum of [their] parts” (p. 128) and distinct from “mere sum[s] of individuals” (p. 129).

Similar claims were also promoted by early 20th social psychologists such as William McDougall (1920), who maintained in *The Social Mind* as follows:

Since, then, the social aggregate has a collective mental life, which is not merely the sum of the mental lives of its units, it may be contended that a society not only enjoys a collective mental life but also has a collective mind . . . (p. 7)

These claims were famously dismissed by Floyd Allport (1924) as the “group fallacy” in social psychology, which supposedly consisted of the error of attempting to explain “in terms of the group as a whole, where the true explanation is to be found only in its component parts, the individuals” (p. 60), setting the stage for an individualistic century in the discipline (at least in North America, and arguably beyond).

Yet, McDougall (1920) misrepresented his own position by talking about the “group mind,” and it is worth quoting in full his more careful statement of the claim that social groups are distinct from mere sums of individuals (or units):

For the collective actions which constitute the history of any such society are conditioned by an organization which can only be described in terms of mind, and which yet is not comprised within the mind of any individual; the society is rather constituted by the system of relations obtaining between the individual minds which are its units of composition. Under any given circumstances the actions of a society are, or may be, very different from the sum of the actions with which the several members would react to the situation in the absence of the system of relations that render them a society; or, in other words, the thinking and acting of each man, insofar as he thinks and acts as a member of society, are very different from his thinking and acting as an isolated individual. (pp. 9–10)

McDougall was using the term “society” in the archaic sense of any social group, such as Catholics or Democrats (as opposed to society in general), and he was making a distinction between those collections of individuals constituted by systems of relations that constitute them as a social group (shared beliefs and attitudes, and the orientation of their thought and behavior to the represented thought and behavior of other individuals in the group), and those collections of individuals *not* bound by such systems of relations, such as the random crowd in the square on a weekday night, or category groups such as “all males in the state of Oklahoma between the ages of 21 and 25” (Newcombe, 1951, p. 38; cf. Asch, 1952, p. 260).

Like perceptual and cognitive configurations, social groups are distinguishable from or other than or different from a mere collection of individuals or units, but they do not appear to be distinguishable from or other than or different from collections of individuals related to each other in the right sort of social ways (Greenwood, 2004). So, it would seem that a deflationary form of holism best applies to social groups, which can readily accommodate the relational nature of their members (such as Democrats and Catholics).

Finally, it is perhaps worth considering the somewhat heretical hypothesis that the Berlin Gestalt psychologists held a similar deflationary view about the holism of perceptual configurations: that they only meant to claim that perceptual configurations are distinguishable from or other than or different from a (mere) sum of elements, but not that they are distinguishable from or other than or different from the elements related in the configuration. If this were the case, then the two foundational principles of the Berlin Gestalt psychologists could be brought to consistency, irrespective of whether the second principle is given an atomistic (as in Ehrenfels and sometimes in Köhler) or relational (plausibly in Wertheimer) interpretation. Whether or not the Berlin Gestalt psychologists would have accepted this reading is of course an open question, and one that may be seriously doubted.

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Notes

1. The transposability of form qualities had been noted earlier by Ernst Mach (1866/1959) in *The Analysis of Sensations* and by Johann Herbart (1776–1841) in *Psychology as a Science* (1824–1825/1968), although neither appealed to transposability as proof that form qualities are “distinguishable from” or “other than” the elements from which they are composed (Heider, 1970).
2. This is not to endorse Wundt’s claim that word meanings (or cognitive representations of them) are relationally determined by their role in sentences (or cognitive representations of their role in sentences), a claim that is prima facie as implausible as Wertheimer’s claim that the identity of tones is relationally determined by their position in melodies. The meaning of the word “dog,” for example, does not appear to vary in the sentences “the dog chased the cat,” “the child

was afraid of the big dog,” and “the dog enjoyed the walk in the park.” Yet, the claim is not incoherent, and has had some cogent defenders (see, for example, Bennett, 1976).

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