Abstract: Husserlian phenomenology depends upon a particular and limited set of related methodologies, which assume not merely abilities and results on the part of phenomenologists which have been severely criticized, but more profoundly, that mental contents are atomistic and independently manipulable. I will show not only that this assumption is mistaken and that questioning it undermines traditional phenomenological method, but that it leads to a paradox when turned upon itself which forces the rejection of a purely Husserlian phenomenology. More generally, any theory whose data is confined to the results of particular and limited methodologies is by that fact unable to investigate those methodologies, and is thus at best only able to function in a severely restricted realm.

I. Introduction

Husserlian phenomenology has seen itself as possessing a unique methodology which enables its members to answer to some of the most pressing questions in philosophy by either discarding or reorienting some of the most accepted claims and assumptions of the Western philosophical tradition. Starting with Husserl, phenomenology has addressed problems which it sees as resulting from these claims by recasting and in some cases denying them. Husserl spent much of his time attempting to show that much of traditional philosophy and its modern children, the scientific method and the field of psychology,
have taken pathways which inevitably result in incomplete and even problematic pictures of reality. However, there is a great deal of skepticism today about Husserl’s claims and the claims of phenomenology in general. The promise of phenomenology, to thoroughly revise philosophy and to base it on certain and clear truths, has not, by most accounts, come to pass, nor, if its numerous critics are correct, can it ultimately do so. It is my belief that for the most part, this skepticism is justified. From the beginning of the last century, roughly, the progress in sciences now termed psychology, cognition, and artificial intelligence, have, despite notable failures and shortcomings, far surpassed what Husserl thought science capable of, and the empirical disciplines now investigating various aspects of the mind encompass not merely an enormous variety of subjects, but subjects (e.g., ‘a meaningful life’) which Husserl could not conceive science as capable of studying. Further, experimental methodology in the sciences has been expanded and refined so that empirical studies can not only include such topics, but study them with unprecedented accuracy.

Phenomenology has made very strong claims about the privilege of its techniques over those of the empirical sciences. I will argue that particularly in the light of developments in Gestalt theory, the assumptions underlying the above claims lead, in fact, to a vicious circle when phenomenology itself is called on to support or defend them.

The investigation of some assumptions held by Husserl, and thus what I will term ‘classical phenomenology’ (CP), i.e., the philosophical school still holding to Husserl’s investigative procedures, reveals logical and methodological problems. When modern empirical findings about perception and cognition are applied to Husserl’s assumptions about the mind, we will find that some of those assumptions are simply incorrect. Gurwitsch, who explored investigations of this type (as well as did, for example, Merleau-Ponty and Piaget), draws heavily on the experimental findings of the Gestalt psychologists (e.g., Gurwitsch, 1964; 1966), and I will cite evidence from his studies, the Gestaltists’ modern descendents, and others in support of the above claims. According to the principles of CP, however, that latter type of investigation is at least questionable, if not simply invalid, particularly when applied to phenomenology. Yet since those investigations show quite clearly that some very basic and important

[1] I.e., that it obtains, in contrast to science, absolute certainty, apodicticity, through those techniques.


[3] And see e.g., Robertson, 1986, for a nice summary of many modern Gestalt positions.
assumptions made in CP are incorrect, we must conclude that empirical investigations are indeed relevant to CP, and that phenomenology and empiricism must be on at least an equal footing. Thus, the privileging of phenomenological methodologies is also incorrect. As a consequence of these findings, we will see that the assumption of the constancy of phenomenal components, the ‘constancy hypothesis’, which I will explicate in detail below, is without basis. CP is then faced with a severe dilemma, in that its methodologies, touted as fundamental differences between, and bases for the advantages of CP over empiricism, imply a fundamental inadequacy in phenomenology.

We do find in e.g., Spiegelberg, examples of varied conceptions of phenomenology (e.g., Spiegelberg, 1971, pp. 168–227; Spiegelberg, 1971, pp. 563–639), some explicitly espousing an empiricism which was condemned by Husserl, some faithful to the latter’s original conception. It is Husserl’s conceptions, however, that I wish to critique, because they have remained a force in the area, and because they underlie followers’ positions.

My argument will consist of the following steps:

1. In order to utilize the phenomenological method of ‘bracketing’, which is a necessary preliminary, and the ultimate validation of both the *epoché* and free variation (all of which will be further explained below), one must assume that *any* components of any experienced phenomenon are unaltered by varied and profound alterations in their accompanying contents. I would like to emphasize this point: in order to employ bracketing to carry out phenomenological methodologies, one must assume a phenomenal atomism. The reason for this is quite simple and general: bracketing alters at least one component of a phenomenal experience. In order that the other components be unaltered, they must be mutually independent.

I will term this the ‘atomistic assumption’ of CP. It will be seen that bracketing cannot function as CP requires without this assumption. In addition, CP makes the further assumption that

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[5] My argument here will distinguish between practices which restrict their investigative methodologies and those which do not. Inasmuch as a ‘phenomenological investigation’ does *not* restrict itself to methods dependent on applications of ‘bracketing’, which term I will explicate below, that variant of phenomenology, at least in the areas which are not so restricted, cannot be criticized by the argument in this paper. However, those variants *were* criticized by Husserl as ‘psychologizing’ phenomenology, for the reason that they did not privilege bracketing, which is asserted to free one from any particular experiential context (i.e., a ‘lifeworld’). There is no such single ultimate validating methodology, to take just one example, in modern cognitive psychology.
there are ‘core’ or ‘essential’ elements (or, alternatively, that
there are core elements to sets of essences, as we shall see below)
to virtually all experienced phenomena.

2. But if this atomistic picture of phenomena is true, then Husserl
and others must be wrong in their assertions (below) regarding
the gestalt nature of experiences.

3. However, modern experimental evidence and theory both
strongly support a non-atomistic conception of gestalts, and
indeed of virtually all mental phenomena.

4. If that is the case, there must be at least some incidences where the
alterations implicit in the above phenomenological methodolo-
gies do in fact alter all components, including the putative
essences, of certain phenomena.

5. But then an investigation of those same questions: a) of the exis-
tence of gestalt properties of phenomena in general (i.e., whether
phenomenal components are or are not atomistic), and/or b) of
the nature and validity of the technique of bracketing, cannot be
carried out through either the epoché or the eidetic reduction,
since both of those employ bracketing, which assumes the atom-
ism to be investigated.

6. Therefore classical phenomenological methods cannot ascertain
that there are ‘essences’ without circularity, and in fact cannot
employ the technique of bracketing in any investigation without
the same problem.

7. Further, if the above argument is valid, Husserl’s hypothesis that
phenomenology, through the discovery of the essences of phe-
nomena, can put philosophy on an apodictic and ‘scientific’ basis
is incorrect.

8. And more generally, we must conclude that any investigative sys-
tem employing methodologies which are both clearly laid out
and explicitly limited to particular techniques must run aground
on the same problem of circularity when these limited techniques
are used to investigate their own foundations.

In addition, the fact that empirical studies enabled this problem to be
uncovered emphasizes that phenomenology and empiricism must be
considered reciprocal. Such an openness to other techniques — i.e., to
any relevant past, present, or future methodologies, would release
phenomenology from the above methodological dilemma, although
by doing so, phenomenology would be subsumed under the umbrella
of the empirical study of mental (and other) phenomena.
II. A Short Historical Background

Husserl’s conception of the ideal science (indeed, of the ideal of all organized knowledge — Wissenschaft) was the classical picture, held, roughly speaking, until Kuhn’s well-known (Kuhn, 1964) critique of science, and Gödel’s notorious undecidability theorem (Gödel, 1992). Until those and similar critiques opened a floodgate of criticism towards formal conceptions of science, the structure of an ideal theory was understood to be what we normally term a hypothetico-deductive (axiomatized) system, i.e., a system employing a set of well-defined postulates and operations which are elaborated to deduce and explain its purview. Thus, Husserl states, ‘No reasonable person will doubt the objective truth or the objectively grounded probability of the wonderful theories of mathematics and the natural sciences’. (Husserl, 1965, p. 74; see also Seidler, 1977, p. 308). Popper writes, ‘… the form of a rigorous system is aimed at. It is the form of a so-called ‘axiomatized system’…’ (Popper, 1968, p. 71). One of Husserl’s primary aims, was to put philosophy on this footing. He criticized philosophy as having ‘a lack of clarity of perfection in the systematic ordering of proofs and theories’ (Husserl, 1965, p. 74), for example. Underlying this attempt to put philosophy on a comparable footing to mathematics was his conviction that one needed to establish clear, indeed, apodictic elements for philosophy, analogous to the elements of, say, Euclidean geometry, and that without such basics, philosophy would be at best unclear and at worst no more than opinion. Thus, he states, ‘One knows and approves of the mathematical style of thinking…. It is toward this style that we orient our concept of the a priori.’ (Bernet et al., 1999, p. 79).

Strongly influenced by Kant, desiring to resolve the Cartesian doubt (‘We may thus speak of a ‘Cartesian path,’… a ‘Kantian path,’ and a ‘path through descriptive, intentional psychology.’ Bernet et al., 1999, p. 66), Husserl took as his starting point one’s individual awareness. Thus comments such as, ‘It is the proper achievement of the phenomenological reduction… to keep methodically to the pure givenness of consciousness’ (p. 61) follow from that rationale. Husserl’s answer to Descartes was an ingenious one. In order that philosophy be able to treat not merely what even Descartes believed certain, viz., one’s mental contents, but their referents, i.e., actual objects, Husserl claimed to cut the Gordian knot, so to speak, by

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abolishing serious consideration of the ‘actuality’ of objects. An act of ‘bracketing’, leading to the ‘epoché’ (ἐποχή; e.g., Husserl, 1998, p. 34) was aimed at taking the intuition of actuality out of play (‘The aim hereby is to bring into view the pure, immanent, constitutive subjectivity which would be ‘left over’… even if the world did not exist…’ Bernet et al., 1999, p. 67). Husserl realized that one cannot utterly ignore or forget that some objects are ‘real’ and some are ‘mental’, but he decided that one could suspend or ignore that property and focus instead on all other characteristics (‘the idea of ‘residue’”, p. 67) of the phenomena. Thus the Cartesian doubt might be, in effect, bypassed, and certainty obtained in the ‘givenness’ of objects, i.e., in what we are presented with, whatever its origin.

Once conventional objectivity has been bracketed through the epoché, the next step is to derive, from specifics, abstractions comparable in certainty and clarity to those of mathematics. To this end, Husserl outlined the idea of the method of ‘eidetic variation’ (Levin, 1970, p. 84), or ‘essential seeing’ (Husserl, 1977, pp. 339–47), in which ‘free variation’ (p. 340) of specific phenomenal objects (tokens, in effect) was employed to arrive at (specifically, ‘all the arbitrary particulars attain overlapping coincidence… and enter, in a purely passive way, into a synthetic unity… in which the same universal is isolated as an ‘eidos’, p. 343) the commonality — or alternatively, to generate the abstraction — underlying those variations (a ‘pure generality’, p. 339), analogous to types): the ‘eidos’, or ‘essence’ of a phenomenon. As an example, one might want to find the essence of lamps. Now, in order to avoid circularity, one cannot set out to find a specific conception of that essence. Thus, spontaneity, not merely in the creation of variations, but in the grasping of some essence thus revealed, is necessary in order to avoid starting with a particular idea of an essence. If one did that, the method of arriving at essences — eidetic variation — would be invalidated, since the essence guiding the variations would itself have no generating methodology, implying either an infinite regress of essences, or simply circularity. In addition, essences must be present in all the individual phenomena. Otherwise, according to CP, one could not recognize those phenomena as such, i.e., as having that essence. Yet on the other

[7] And this is a problem, I believe, with Spader’s ‘focused variation’ (e.g., Spader, 1995, pp. 183–5), since he advocates a methodology guided by the goal of discerning a particular essence. As I argue below (see Section VI), while it must be that eidetic variation is guided to a degree by some abstract idea of an object or the direction of variation, it cannot be that this is accomplished with a concrete, specific end in mind.
hand, there has to be something guiding the variation, otherwise it would degenerate into mere association.

Thus, one might start with a particular lamp, and allow its appearance to vary, imagining it as taller, differently coloured, and so forth. As the variations increase, one will, according to Husserl, spontaneously become conscious of some central core, and/or an abstraction, i.e., an ‘essence’, which may indeed be that of lamps… or perhaps of lighting in general, or of desktop furniture. This method, then, consists of a combination of an act of introspection which is both passive (‘spontaneous’) and abstractly directed (e.g., by the ideas that one will vary a particular image, and that this image has to do with lamps), and the act of bracketing, since in order to 'pick out' the essence, one must bracket the rest, analogously to the bracketing of the 'objective' in the epoché, to find the 'residue'.

The essence also solved the problem of relating the stability of nature to the flux of phenomena in consciousness (i.e., 'how there can be a science of essentially fluid objects' Seidler, 1977, p. 316). Since these essences are derived, given the initial bracketing, without the assumption of objective existence, they are independent of that assumption, and thus the resulting system is non-empirical, analogously to mathematics. These essences, in this view, are the equivalents of something like lines or planes in geometry, i.e., abstractions from experience which can be employed as elements in intuitively true and certain (apodictic) philosophical descriptions.

The above is an extremely brief and necessarily crude summary of Husserlian rationale and methods; necessary, however, to provide the background for what follows here. There is an enormous multiplicity of assumptions behind these methodologies, virtually all of which can be cast into doubt, if not simply refuted, given empirical and philosophical advances since Husserl (e.g., Levin, 1970; Brown, 2005), but I will be concerned here with one small subset of those assumptions, involving what Gurwitsch (1964) termed the ‘constancy hypothesis’ (CH).

III. The Constancy Hypothesis

The constancy hypothesis, according to Gurwitsch, states that ‘if the same neural element… is repeatedly stimulated in the same manner, the same sensation will arise each time’ (Gurwitsch, 1966, p. 5). More explicitly,

Sense-data are not modified nor are they qualified by the sensory facts of a higher order [see above and below] which they found and
support…. In the theory of production, the constancy-hypothesis seems somehow concealed…. The constancy-hypothesis also is implied in Piaget’s theory of the schemata as arising from the assimilating and accommodating activity (Gurwitsch, 1964, pp. 90–91).

Further,

Whenever the immediate data seem to conflict with this hypothesis, reference must be made to the effects which are produced by the same stimulus if it comes in to play isolatedly… called normal…. Anomalies are explained by reference to the intervention of facts usually conceived of as belonging to a higher level — such as judgment. These anomalies originate, not in the elementary sensory data themselves, but rather in the interpretation which these data are given (Gurwitsch, 1966, p. 5).

‘Sensory data’, as Gurwitsch uses the term, are understood as the totality of apprehensions or sensory impressions, that is, the experiences of objects, of shapes, colors, of music, of sounds, and so forth (e.g., Gurwitsch, 1964, pp. 87–90). It was von Ehrenfels (1890) who first employed the term ‘Gestalt-quality’ (Gurwitsch, 1966, p. 6) to refer to these phenomena. Given the CH, however, the experienced unity, the Gestalt-quality, of those and a variety of visual phenomena, such as grouping and figure-ground effects, and aural phenomena, such as melodies, is simply inexplicable. Yet many nineteenth century psychologists, such as Helmholtz, Weber, Fechner, Müller, and others held the above viewpoint (Gurwitsch, 1966, p. 5). Thus, a musical melody, given the CH, becomes a paradoxical phenomenon, in that ‘the melody appears as a sensory or quasi-sensory impression which does not arise from any stimulus’ (p. 7). Since the CH implies that any sensory impression has a stimulus giving rise to it, the lack of a specific stimulus for the melody per se is puzzling for this conception of sensation. Gestalt-qualities solve this problem, but not, at this early stage, in a very satisfactory manner. For one thing, it is understood to be influenced by (‘conditioned by’ [p. 7]) the specific sensory impressions from which it arises, yet be basically independent of them, as, in effect, a kind of higher-level abstraction which, although a sensation, is somehow ‘quasi-sensory’ (p. 7). Its origin as a experienced phenomenon is not clearly conceived nor explained.

IV. Husserl on Constancy and Gestalts

Husserl, however, takes this conception further than the psychologists above, in his notion of the ‘quasiformal Momente’ or ‘figurale Momente’ (Gurwitsch, 1966, p. 9; Husserl, 2001, §51, pp. 291–292), which are ‘immediately perceivable wholes’ (Gurwitsch, 1966, p. 9).
Although Husserl may have formulated this principle independently, his understanding is clearly influenced by the intellectual climate of the time, so much so that his conception is very similar to that of von Ehrenfels, and virtually identical to that of Stumpf (e.g., Stumpf, 1890). Both Husserl and Stumpf held that the experience or character of unity ‘is inherent to what is perceived, is one of the sensory features of it and is part of its constitution’ (Gurwitsch, 1966, p. 9). ‘Prior to every activity of categorical thinking, the elements are given as forming a group’ (p. 9), i.e., as part of the sensation, the perceivable whole is as explicable as any other sensation; the perception of a ‘swarm’ of bees is just as much a part of the experience as the individual bees, for example. Stumpf introduced the idea of Verschmelzung in order to explain (among other things) the phenomenon of melodies, and Husserl’s corresponding conception modifies this idea to the extent of giving ‘to the concept an even wider meaning so as to restrict it no longer to simultaneous data’ (Gurwitsch, 1964, p. 78). Stumpf is careful to distinguish his concept from that of a simple fusion of components, in which the components lose their individual qualities, and conversely, when analyzed, separate back into ‘distinct simultaneous sensations’ (p. 79).

Gestalt-qualities, in this early conception, although they are caused by ‘elementary sensory facts’, correspond to ‘no objective stimuli whatever, and consequently, no excitations in the receptive sense organs, but… do not lose the character of sensory immediacy’ (Gurwitsch, 1966, p. 10). In addition, according to Gurwitsch (p. 10), Husserl did not conceive of the figurale Momente as the result of mental operations on the basic sensory stimuli. The figurale Momente were phenomena arising in particular circumstances, and no further explanation was given by Husserl of their generation, except that they ‘are a consequence… of a fusion (Verschmelzung) among the elements and the relations of these elements’ (p. 10). In summary, Verschmelzung bestows

...experienced or sensed unity upon such sense-data as enter into this relation... but, as Stumpf points out, Verschmelzung does not modify or qualify the sense-data... the sense-data... are not only unaltered by analytical discrimination, but also are experienced exactly as they would have been if they were not given in the relation of Verschmelzung (pp. 79–80).

Husserl’s conception is in this regard virtually identical to Stumpf’s. That is,
... that the elements happen to fuse with one another and form a group whose unity is immediate and perceptual does not mean that they undergo any modification whatever; in their fusion, they do not differ from what they would be if they were taken in isolation (Gurwitsch, 1966, p. 10, my Italics).

The constancy-hypothesis is an intrinsic aspect of the above conceptions, and we might employ the above quotation as a paradigmatic definition of mentalistic atomism. Thus, there are at least two problems in the above. First, the group quality, or Gestalt-quality, when it arises, remains in some sense apart from the fusion which generates it, and further, the fusion itself does not alter the character of the fusing elements; the components of the sensory totality are thus atomistic. Second, the Gestalt-quality is an abstraction from sensations, giving rise to a phenomenal type duality, i.e., the result of fusion is a type of experience different in kind from other sensations. For my purposes, the second problem is relatively minor, but the first will have devastating consequences for phenomenological methodologies.

One can find support for this atomistic conception throughout Husserl’s works. Thus, in The Idea of Phenomenology, Husserl claims that one can visualize colours, and that they can ‘be reduced through the exclusion of all transcendent significance’ (Husserl, 1970, p. 54), but that nonetheless ‘perception posits existence, but it also has an essence which as content posited as existing can also be the same in representation’ (p. 55, my Italics). The mutual independence of phenomena is affirmed.

V. Initial Consequences: Refinement of the Gestalt Conception

One further problem was to account for the organization of sensations without postulating some organizer which is independent of those sensations. Thus, any faculty or processes which stand outside, i.e., which are of different type (‘higher-order’ [Gurwitsch, 1964, p. 90]) than the sensory faculties, and which organize or structure them entail one or more of several possible problems. That organizing faculty might originate in the intellectual properties of schemata, as Piaget (according to Gurwitsch) would have it, in the abstractions of the figurai Momente of Husserl, or indeed in the processes which isolate aspects of order from a largely chaotic sensory stream, as James hypothesized. But whatever the answer may be, such a faculty, separate from sensation, leads to a radical differentiation of organizing schema or principles from the sensations they operate on, and a
subsequent atomistic phenomenalism. The result is one of three problems: (a) embracing of the constancy hypothesis and a false dichotomous typology of sensation, (b) to a regress of organizing hierarchies, or (c) to the problem of the transience, i.e., the lack of stability, of such organizational processes (Arvidson, 1992, p. 57), since, once applied, only sensation might maintain them, except that they are not sensation.

The next development of Gestalt psychology, however, implies the answers to both of these problems. The school of Graz, and the work of von Meinong, Benussi and others initially developed and formulated the refinement of Gestalt theory termed ‘production’, i.e., ‘a mental operation, an intellectual activity of a certain kind which resembles the act of grouping parts into a whole’ (Gurwitsch, 1966, p. 13). Descriptions of this process, published by Benussi (1907), and von Meinong, (1899), sound surprisingly modern; and von Meinong could serve as a model for the present movement to ‘naturalize’ phenomenology by uniting philosophy and psychology.

Thus, whether a sensation’s components are ‘abstract’ or not, they are all experienced equally as aspects of that sensation. The experience of a melody corresponding to or generated by a sequence of notes is as much an aspect of that sensation as the experience of the notes themselves. Given this insight, the Gestalt-quality cannot be conceived as phenomenally separate from any other aspect of the experience, nor can it be conceived as a type or kind which is different from that of sensation. But it still must be acknowledged as different in some respect, and this respect is now conceived of functionally. Upon Köhler’s (e.g., Köhler, 1913; 1962) abandonment of the constancy-hypothesis, ‘all features displayed by perception must be treated on the same footing’ (Gurwitsch, 1964, p. 91), and they are dependent on ‘a plurality of variables’ (p. 95), which include internal ones. The is the very modern conception of an interaction between sensory input and higher-level processes, where both modify the other, resulting in a unified sensory experience. Implied by this interdependence are several consequences. First, there are generative higher-order mental processes which are dependent on neural processes. Second, there are components of sensations which are dependent on these generative mental processes, implying that sensations are more than ‘qualified by’ higher-order aspects, they partake of them. But further, a percept, depending on both external and internal

And see e.g., Gong et al., 2008, on how face recognition refutes the constancy hypothesis (although they do not explicitly use that latter term).
conditions, varies as a unified whole, a ‘homogeneous entity’ (Gurwitsch, 1964, p. 95). This conception takes the radical, post-Husserlian step of denying an atomistic mentalism. When this step is taken, sensations per se cannot be asserted to be atomistic in the sense that Husserl would have wanted. Gestalt components are modified by manipulations of any aspects, either higher-order or sensory aspects of an experience. We may still find, as late as the 1950s, contemporaries of Gurwitsch attempting to defend weakened conceptions of the CS by vague references to the relatively new field of ‘information theory’ (e.g., Hochberg, 1957). But even such attempts as these had to acknowledge the failure of atomism: ‘The attempt to return to the restricted (and once presumably physiologically identifiable) ‘atomistic’ units of pre-Gestalt days seems hopeless’. (Hochberg, 1957, p. 83).

VI. The Modern Conception of the Gestalt

Koffka, Köhler, Gurwitsch, and others worked out these ideas from the early part (circa 1929) until the middle (circa 1960) of the last century. One might well ask how well they have stood the test of time. Is Gestalt psychology still taken seriously as an experimental paradigm? If so, have its ideas changed significantly? It is well known that many of the neurophysiological ideas of Gestalt psychologists were primitive and largely incorrect (e.g., Köhler, 1971, pp. 237–51; Koffka, 1963, p. 62). But what of the general principles as I describe them above, relating to the unity of experiences, the existence of experienced phenomena resulting from high-order, i.e., functional processes, and the indistinguishability of those latter experiences from other sensations?

An anti-atomistic position must of course be supported with data, and that data, by now, is extensive (e.g., Grossberg, 1976; Grossberg, 1976; Grossberg et al., 1997; Grossberg, 1999; and see below). Gurwitsch does so with a very simple example, that of two dots seen side-by-side, against a uniform background. Although we know that we can, or have just, seen the two dots as the ends of a short line segment and simultaneously see them merely as a pair against a uniform background, we do not simultaneously see a pair of dots against a background and see those dots as the ends of the line segment. Just as important is that all of these systems, whichever is perceived, present themselves as the unity of figures against grounds, where the figure is seen as structured in some manner, and the ground as significantly less structured. Gurwitsch asserts that this general characteristic, the
figure-ground structure, is universal not only in visual but in all ‘perceptual phenomena’ (Gurwitsch, 1964, p. 112). In fact, virtually the same principles, now hypothesized as instantiated in distributed neural networks, are routinely invoked, and the term ‘gestalt’ is still employed to refer to such unified perceptual, and even cognitive, experiences (e.g., Herrmann et al., 2003; Lehar, 2003; Novick and Sherman, 2003; Tversky et al., 2004; Gerlach et al., 2005; Colzato et al., 2006; Vidal et al., 2006; Huang et al., 2007; Bolte and Goschke, 2008). It is now accepted as fact that the visual modality of the CNS, to take one example, employs both local and top-down neural processes which result in the generation of complex and unified experienced patterns. These patterns can occur, as visual experiences, even in the total absence of visual stimuli corresponding to them, as Gurwitsch anticipated. It has been established, for example, that people can clearly see, i.e., have the visual experience of, figures and outlines of figures which ‘fill-in’ between isolated points, and that this experience is not abnormal, but can be induced in human subjects at will. The analysis of certain ‘illusory contour’ figures which are actually generated from the filling in of absent contours is still actively being researched (e.g., Maertens and Pollmann, 2007; Maertens and Pollmann, 2005; Mendola et al., 1999; Lesher, 1995; Shipley and Kellman, 1992). This class of phenomena so clearly provides support for the Gestaltists’ claims that I would like to elaborate on it somewhat.

Lesher provides multiple drawings in his article which clearly evoke these phenomena in a reader. Briefly, he states that ‘an illusory contour is defined as the percept of a clear boundary in regions where there is no corresponding luminance gradient’ (p. 280). One of the simplest drawings is that of four circles arranged at the corners of a nonexistent (i.e., not drawn) square. If the circles are unbroken, we merely see, in effect, four rather large dots. If, however, the circles have right-angled wedges cut out of them at the locations on which the corners of a square would rest if such a square were actually present, and the circles are close enough, virtually all observers literally see a square, while simultaneously being aware that there is actually no square drawn on the page. There are many other illusory contours which can be induced (see the literature above). Both Lesher and Grossberg (Grossberg and Mingolla, 1987), and others, have created theories modeling the neural bases of these effects. We are, therefore,

not dealing with pure phenomenology nor with merely observational empiricism here, but with full-blown, theoretically and empirically-based, extensively researched confirmation of Gestalt contentions that (a) the constancy-effect does not hold, (b) that our perceptions are not simply of ‘real-world’ stimuli, that (c) higher-order effects are experienced as immediate, clear, and reproducible aspects of sensations, and that (d) those sensations are thoroughly wholistic.

The effect of gestalt grouping on such basic visual phenomena as persistence and extinction of figures and contours is also established (e.g., Ward et al., 1994); Humphreys’ summary of much of the literature on visual binding and grouping (Humphreys, 2001) indicates that there are multiple types of processes involved, ranging from low-level grouping resulting from local processes on the retina, to high-level processes involving the interaction of stimuli and conscious attention. Peterson and Kim (2001) still employ the ‘Rubin vase-faces display’ (p. 330), to illustrate figure-ground effects, and state that ‘grounds are not shaped by any contours they share with figures; they appear to simply continue behind the figures near those contours’ (p. 329).

Although I have concentrated so far on visual perception, it is not merely in that modality that Gestalt theory may be employed. There is active research on the relationship between music and Gestalt theory, for example. Shepard claims that gestalt grouping principles are involved in music perception (Shepard, 1999); Dowling has hypothesized that melodic contours are musical gestalts in conjunction with scales (Dowling, 1994). That is, he found that not only were melodies heard as unitary experiences, but altering the key in which they were heard changes our ability to remember them (e.g., p. 186). Contour, interval sizes, scale and rhythm form a gestalt which characterizes a melody despite some degree of alteration of those parameters (e.g., pp. 180–2). Terhardt (1987) goes so far as to suggest that music is processed in hierarchical nested gestalts (e.g., pp. 160–1). The Gestalt concept is applicable not only to the visual, but to other perceptual modalities. Thus, Tsur has recently investigated the figure-ground relationship in music as it relates to other arts, such as poetry (Tsur, 2000).

Nonetheless, atomism is a strongly held conception in several fields. Artificial intelligence (AI) is one field where practitioners must strongly defend atomistic ideas of virtually any sort of mental processes, in at least the sense that logical elements should be well-defined and unaltered in any context, and when combined with other elements (e.g., Hinzen, 2006, p. 28). If that were not the case, then the relevance of the digital computer to model those processes would be
questionable, since digital computers are intrinsically atomistic. In addition, much of modern philosophy of mind and linguistics attempts to employ formal logic to model and to describe mental processes, and that also requires, by and large, atomism in the above sense. There are many examples of atomistic treatments of mental processes, perhaps the best—in the sense of most cited, most theoretical elaboration, most modeling, and most experimentation—is Anderson’s AI model: ACT-R (Anderson, 1992). Since digital computers are atomistic, cognitive theories modeled on those computers are best expressed and conceived atomistically, and Anderson’s ACT-R system is a wonderful example of how such a theory is driven by the substrate upon which it is modeled. In the context of this model, Anderson and his collaborators make the explicit assertion (e.g., Anderson, 1992; 1993; Anderson and Lebiere, 1998) that both the processes and elements of thoughts are atomistic. Anderson and his colleagues—to their credit—go further than many AI modelers, and test their programs with experiments on human subjects. However, given that one conceives of thought as atomic, what type of experiments, and subjects, would one want to employ in order to support such a conception? Surely tests based on mathematics and logic, and operations using well-defined and separate components would be the ideal, and in fact this is precisely the kind of data which Anderson and his colleagues collect, using college undergraduates in mathematics and computer science programs, in order to support their model (e.g., Anderson and Lebiere, p. 26, 47).

Nonetheless, it might still be considered surprising, given the gestalt data above, that even in the restricted contexts of their experiments Anderson et al. indeed find that subjects employ clearly separable objects and processes in their thinking, and that this type of operation is reasonably well modeled with ‘atomic components’. Why is this the case at all, if the gestalt conception is correct? To answer this we must turn the paradigm around, and ask how it is that one might go from gestalts to atoms; in other words, we may ask whether it is possible to create bounded and stable gestalts, which operate, in many contexts, effectively as atoms. The answer is that it is quite possible to do this, and to discover and model their instantiations in neural dynamics and in cognition (e.g., Grossberg, 1994, p. 67, p. 81, p. 112–3; Schyns et al., 1998; Freiwald et al., 1999; Roelfsema, 2006; Craft et al., 2007). Given this literature—and these are very few of

many examples — one might wonder at the seeming lack of awareness on the part of the atomists that their position describes what are effectively boundary conditions on the gestalt analyses. There is certainly nothing wrong with experimenting at extreme parameters or values so long as they are recognized as such, but that is not generally the case in the literature espousing — or merely implying — atomism.

VII. Implications for the Constitution of Phenomenal Objects and Phenomenological Methods

Let us now turn to one specific issue in Husserl’s thought, that of the constitution of phenomenological objects. I am taking his term ‘constitution’ (*konstitution* — e.g., Zahavi, 1992, p. 120; Sokolowski, 1964) to refer both to the dynamic processes of generation and/or formation of unified objects; one might conceive it, temporally, as the unification of a variety of experienced phenomena (‘primal apprehensions’: Sokolowski, 1964, p. 540) into a single phenomenon with discernable components. Thus, we may say that an object is constituted actively as it is apperceived (e.g., Zahavi, 1992, p. 113), or that we may investigate the more-or-less static constitution of some given perception.

Inasmuch as it is possible to speak of Husserl having a clear position on the nature of the components of phenomenal experience, given the changes in his thought as he matured, he was always an atomist of some type. In fact, this is a necessary implication of his positions on the *epoché* and the method of variation. I would like to re-emphasize this point: in order to employ bracketing to carry out phenomenological methodologies, one must assume atomism.

Since the *epoché* is a technique designed to take the component of ‘objective existence’ in certain phenomenal objects, viz., the experience of an object as an objective entity, and set it aside (‘bracket’ it), in order to discover the ‘pure’ phenomenological perspective on that object, that ‘objective’ component is, if not eliminated, at least altered. There is no way around this; whatever conception one has of ‘bracketing’ necessitates that something phenomenal has to be different after that act. Implicit in this is the assumption that in *all other ways* that object will be *unchanged* by that alteration. If that latter is not the case, the operation of bracketing is useless as far as CP is concerned. That implies either (1) that an object’s components must be unaltered by the change in any other component, or (2) that the component of objectivity is somehow radically different from other components, in that it alone is independent: i.e., it alone can be bracketed without
altering any other components. But Husserl never claims that this component is different in that respect, and in fact, he does explicitly maintain that phenomenal objects are unchanged in all other respects after bracketing (e.g., see the quote above from Gurwitsch, 1966, p. 10). That latter position is actually necessary if he wants types of bracketing to be able to vary, as they do between the *epoché* and the method of variation, for example.

The logic is the same when applied to the method of free variation (eidetic variation), the methodology claimed to enable the discovery of an object’s essence. Here there is another type of bracketing, which proceeds through a more general shifting, changing, and alteration of the object’s components (e.g., Ihde, 1977; Husserl, 1995, pp. 70–1). What is bracketed here, i.e., put out of play during the variations, is some sort of abstract idea of the object, which must be present in order to guide this process (and see Section II above). Otherwise, ‘variation’ would merely be free association. In addition, despite what can be remarkable changes in a phenomenal object as a result of these variations, the ‘core’ and/or ‘essence’ must be unchanged through the possibly radical addition, subtraction, and alteration of the components of a wide variety of gestalts. More specifically, it is an implicit assumption of Husserl’s that the various exemplars of an essence retain at least the common essential components unaltered by their phenomenal context. But how could this be, unless that essence, and indeed all the components, were independent of each other in the above sense, i.e., unaltered by various combinations and interrelationships? For if the essence or core components of phenomenal objects were altered by variations in the other, non-essential, components, then there would be in fact no essence. CP would be faced with problems in both the discovery of essences and with claims concerning the foundations of Husserl’s metaphysics: phenomenology would not be able to discover the essences of objects, and his answer to the Cartesian dilemma would be groundless. The *basis of Husserl’s metaphysics, and of*

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[11] I might note that Sloman (see below) has developed a methodology for measuring both subjects’ volitional alterations of components of gestalts and some of the effects of those alterations on the gestalt. Sloman’s work provides additional evidence that, contrary to Husserl’s claims, altering components alters the whole.

[12] And this alteration of some, independently (so claimed) of other components, analogously to the *epoché*’s putative alteration of a single component independently of others’, is another reason why I term this process a type of bracketing.

[13] Unless the essential components were different — intrinsically, or perhaps as a result of their being parts of the essence — in this respect from the others, neither of which Husserl ever claims.
his claims of phenomenology’s uniqueness and profundity, rest on a pervasive atomism.

One might object that if this were not the case, then the intuition or experience of identity would have no basis. But on the contrary, there is no need to assume that different experiences brought under the rubric, say, of redness must be identical; they could be similar, albeit not identical. If this is true, then the intuition of identity and the intuition of similarity would seem merely to differ in degree rather than type; and if that is true, then there is no necessity, again, for essences. Experiences felt as similar might be related, for example, as Wittgensteinian families. There may be no central overlap, thus no ‘core’ at all for a variety of related experiences (see also Levin, 1970, fn. 70, p. 184–5). In fact, there is now strong experimental evidence (e.g., Sloman et al., 1998; Sloman and Ahn, 1999; Gennari et al., 2002; Sloman and Malt, 2002) that there is no ‘core’ or central set of components to many concepts. Further, Rips points out that an ‘interaction view’ (e.g., Rips, 2001, p. 846–8), allows for natural kind membership with no essential properties at all. In this viewpoint, ‘an object’s membership in a natural kind depends on whether the object instantiates the laws for that kind’ (p. 847).

Further, the ‘intuition of sameness’ may remain relatively constant throughout the possible variations of that experience, whether or not that intuition is accurate, even about itself. Such inaccuracy in our intuitions is not uncommon; the literature, for example, on various types of anosognosias is rife with such intuitions, all incorrect (e.g., Bisiach and Vallar, 1988; McGlynn and Schacter, 1989). That is, it is quite possible to dissociate the intuition of identity from the experience of identical components, and from the knowledge of identity. Thus, altered sufficiently, one perspective on something may not have any components identical to the perspective with which one started, although we may experience the intuition — quite apart from its accuracy — that it is the identical tree.

Now, the above arguments directly address one notion of essentialism, involving common components which are then sequestered, so to speak, to realize an essential set of such components. Yet one might maintain that in fact what is occurring is not that there are common, core components to individual perspectives or individual exemplars, but that what occurs is that an essence arises, or is generated from the variant but similar components of the various exemplars. In this conception, the essence is a component which arises more-or-less spontaneously from the exemplars, yet is in a sense independent of them, in that it is not present in any particular exemplar,
although it requires a set of them to arise. There are two problems with this viewpoint. First, the idea that a component is in fact an ‘essence’, i.e., an essential component or aspect of some object, implies that it must be experienced any time one experiences the object. Otherwise one could not claim it ‘essential’, nor hold the position that identity of exemplars depends upon this essential component being present in all exemplars. Second, given atomism, in order for identity to remain constant, the essences generated in related set of acts of eidetic variation must overlap. We are faced with the same situation, at the level of essences, that we were at the level of exemplars, viz., we must assume that there are core components which do not vary in different contexts, where each context here is an essence rather than an exemplar. Thus, if we take this step up in abstraction, and consider the superset of sets of essences of the same objects, generated over time and over subjects, we must arrive at a state in which the regress stops. At this level, one must concede that different exemplars of the same essence must have common components. A set of essences must, to support an atomistic phenomenological position, manifest just the common component which the previous conception of essentialism demanded in the sets of particular exemplars.

One might object to the whole argument above to the effect that in fact essences do have to be identical; that the multiple essences, in the above sense, of a particular tree, or even more strongly, of numbers and other formal objects, e.g., fiveness,14 whatever the exemplars giving rise to it, must, as essences, be identical with each other. A claim like this, however, takes us back to the gestalt, and the inescapable weight of decades of data (and for more such, see Brown, 2005) demonstrating that alterations in one component will alter other components, however ‘essential’ one considers them.

VIII. Implications: the Paradox

What then of the constitution of objects? Husserl has no real answer to the issues above. It was, in fact, these problems that were some of the driving forces behind Gurwitsch’s (Gurwitsch, 1964; 1966) reformulation of phenomenology, and that motivated his embracing Gestalt psychology. Mirvish (1995), puts this problem into a historical perspective, noting, as did Gurwitsch, that Husserl’s approach contains assumptions carried over from introspectionist psychology. Although Mirvish realizes that these imply Husserlian atomism, i.e., that the

[14] And see, e.g., Burr and Ross, 2008, for data supporting the existence of such intuitions.
alteration of a concept, e.g., by bracketing, must leave the remainder of that concept (the ‘residue’) intact, he does not work out the further implications of that inference for CP. Merleau-Ponty, however, does realize some of these consequences (Merleau-Ponty, 2001). Toadvine, in his characterization of Merleau-Ponty’s critique of Gurwitsch, states:

Merleau-Ponty suggests that eidetic analysis falsifies transcendence by transforming it into relations between essences. ... The relations between things within the perceptual field, and the relation between theme and field, cannot be accounted for in terms of noematic structures. Perceptual identity is based on a carnal grasping of the whole perceptual field; it is not based on a synopsis within consciousness of previously separate elements. ... The essence is not a positive element. ... The unity of the thing is of a piece with the unity of the entire field. ... Hence the eidetic method is in reality an idealistic variant of the constancy hypothesis. [my Italics] (Toadvine, 2001, pp. 199–200).

But the importance of this paradox goes beyond Merleau-Ponty’s realization of the eidetic method’s reliance on the CH, and Husserl’s consequent atomism. It cuts to the heart not merely of phenomenology, but of any introspective methodology, necessitating an openness to alternative investigative methods which was anathema to Husserl, Titchener, and others.

Specifically, phenomenological investigation necessitates two different classes of acts. One might be termed ‘introspection’, in that phenomenologists must be aware of the contents of their experiences. Another is commonly termed ‘bracketing’, an act consisting of a suspension of various types of phenomenal components, where ‘suspension’ is not a well-defined term. These two, in different combinations and applied to different contents and acts, are required for phenomenological investigations. Thus, ‘free variation,’ as I have said above, consists, in brief, of introspection on the alterations (whose generation entails other acts) of related contents, of which all but the commonalities are bracketed. Without both introspection and that bracketing, free variation would be impossible, whatever else it entails. Now let us turn phenomenological method on itself. In order to answer the questions of what ‘introspection’ refers to, and what ‘bracketing’ refers to, we must apply those acts to investigate themselves. Let us assume that we can indeed both bracket and introspect.

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[15] The criticisms of this practice are so numerous and varied that it would necessitate a paper merely to enumerate them. See, e.g., Spiegelberg, 1971, for a few of these, and Brown, 2005, for others. I will nonetheless assume here that one can in fact perform the act of ‘bracketing’, perhaps learning by trial and error through apprenticeship to a phenomenologist.
without necessarily knowing explicitly in what those acts consist (to avoid circularity at the outset). Now, we ask two questions: (1) are we really introspecting and bracketing, as phenomenologists should, and (2) does bracketing irrevocably alter the results of introspection, as I would claim from the anti-atomistic arguments above? How can one answer these questions without assuming the answers beforehand? Whether or not we are (1) performing the acts correctly, we have no others by which to validate that performance. If (2) bracketing does alter the content of experiences, we have no alternative method with which to compare its results, to check whether there is such an alteration. Such questions cannot be answered if we are atomistic phenomenologists, i.e., Husserlians, through empirical studies, because then phenomenology would, first, be guilty of 'psychologizing', and second, because the methods of phenomenology would not then be employed. But if either or both of the above methods were utilized to investigate this general issue of independence, then the phenomenologist would be caught on the other horn of the dilemma: assuming what one is attempting to show. For those methods rely, as we have seen, precisely on the hypothesis that would be investigated: atomism, the independence of components.

One might conceivably reply that classical phenomenology can comfortably rest on circularity. This might be true of Heidegger’s variant of phenomenology, but can it be maintained for Husserl? I do not think this can be true. Husserl states, ‘As [mental acts] are essentially related to one another, they display a teleological coherence and corresponding connections of realization, corroboration, verification and their opposites... They logically bring together acts...’ (Husserl, 1970, p. 60). Husserl is employing, at least in part, logical criteria as fundamental relationships in the constitution of objects. How then could he have accepted circularity in his methodological criteria?

**IX. Conclusions: Phenomenology, and Other Methodologies**

In summary, we have seen that in order to utilize the phenomenological methods of the *epoché* and/or the method of free variation, one must assume that there are ‘core’ or ‘essential’ elements to virtually any experienced phenomenon which are unaltered by, in the latter case at least, varied and profound alterations in their surrounding contents. But if this atomistic picture of phenomena is true, then the extensive data regarding the profound and essential interconnectedness of mental contents must be incorrect, which seems very unlikely at this point. But then there must be at least some incidences where the
alterations implicit in the above phenomenological methodologies do in fact alter all components, including the putative essences, of certain phenomena. Thus, theory and methodology based on Husserl’s atomism must be not merely practically difficult, but theoretically incorrect.

I would like to emphasize that this is not merely a claim about atomism, as I (and, e.g., Merleau-Ponty) make above, nor is it mere skepticism, e.g., doubts as to determining the methods’ accuracy, as Pietersma (1979) and many others have pointed out. The problem here results from a more profound cause: that Husserlian phenomenology *limits its most fundamental and necessary methods* to those two classes of acts. The implications of such methodological restriction are more far-reaching than only the area of phenomenology. One can apply the same logic to any investigative arena’s methodology which attempts to be both well-defined and self-limited. In such cases, if that methodology is turned upon itself to verify that it is, or is not, constructed so as to produce particular results, one is faced with the problem of verifying a method with no recourse except to apply that method in the verification process. This cannot be done without circularity.

Let us take linguistics as another possible example. Suppose that the sole criterion for deciding whether an utterance was ‘well formed’ and/or ‘meaningful’ was one or two linguists listening to that utterance, making intuitive judgments based on their presumed expertise as ‘competent speakers’ — and as such, they must assume, able to judge well-formedness — of the language. Now, how do other linguists, employing that intuitive criterion, decide whether the original linguists do in fact possess that expertise? They can only make the same judgment about the utterances of the first set of linguists. Aside from problems with the notion of ‘intuition’ as a methodology (e.g., Alexander and Weinberg, 2006; Devitt, 2006; Weinberg, 2007; Barnett, 2008; Bolte and Goschke, 2008; Knobe and Nichols, 2008; Tersman, 2008), it is clear that relying solely on this judgment is endless or circular, since one must either keep asking more linguists as to the judgment of the last set, and so on, or one must find oneself asking the original set about the ability of the set judging them. In linguistics, however, the criteria for arbitrating utterances is normally opened to

[16] If the first set are studying, e.g., English slang, and if we assume that some slang, at least, is uttered by competent slang speakers, then can we assume that academics — most linguists — are indeed competent speakers of this particular slang ‘dialect’, whether or not they have been judged competent in some agreed-on manner at academic English? If not, can other academics intuitively judge their slang competence? Can slang speakers?
other types of methodologies, avoiding the circularity encountered above in phenomenology.

The same type of critique can be leveled at any other form of introspective practice, whether it be phenomenological, psychological (e.g., Titchener, 1901; Titchener, 1909), or religious (e.g., Buddhist meditative practices: Ross, 1960; Watts, 1964; Koestler, 1966), if such is confined to a singular methodology. The lesson is clear: investigative systems capable of self-investigation must be open-ended in their verification procedures.\textsuperscript{17}

Given the above we might well ask, first, what is to become of Husserl’s approach and his results? Second, what is to become of phenomenology in general? Whatever may become of Husserlian phenomenology, I do not believe that a naturalized phenomenology need be abandoned. As far as empirically-oriented introspectionists are concerned, one can accept many of Husserl’s, and Gurwitsch’s, insights into the structure of experienced phenomena and to consciousness as a whole. We must admit that there is no best, ultimate, methodological ground, on pain of circularity (and for a similar conclusion, see, e.g., Lakatos, 1999, p. 88, and perhaps Lakatos, 1997, p. 202). Thus, introspection, various types of bracketing, and even free variation become techniques which are additions to the huge array of introspective techniques and various methods of investigating first-person experiences already employed by psychology, cognitive science, linguistics, and consciousness studies. Why not completely absorb phenomenology into psychology, in that case?

The answer to that is that indeed phenomenology should be so absorbed, but explicitly. That is, there are many areas of investigation which employ introspective techniques and results under the rubrics of ‘attention’, ‘empirical linguistics’, ‘questionnaires’, without explicitly acknowledging that these are in fact utterly dependent on the introspective accuracy of both investigators and subjects. Those areas must clearly and explicitly acknowledge that they employ introspective techniques. Doing that will not merely enable them to call upon the expertise of competent introspective practitioners, but also allow them to refine those techniques in standard laboratory settings.

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\textsuperscript{[17]} It is hard to resist mentioning a possible Gödelian connection in this regard.


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