Ian Verstegen

Is William Epstein a Gestalt Psychologist?

William Epstein has been that rare breed in psychology of a productive experimenter and a brilliant theorist. Indeed, reviewing his career, from the very beginning he was interested in addressing and reassessing fundamental problems, models and explanations (Epstein & Park 1964; Epstein 1973; 1977; 1982; Hatfield & Epstein 1985; Epstein 1993; Epstein & Hatfield 1994). As he navigated the strengthening of J. J. Gibson's research program (Gibson 1950, 1966, 1979) and varieties of Helmholtzian inference (Wallach 1976; Rock; Hochberg) he occupied a reasonable, middle ground. The question I address in this paper is whether or not it is worthwhile considering this an example of Gestalt Psychology. Certainly, Epstein did not call himself a Gestalt Psychologist, and regarded his gestures toward Gestalt thinking in the spirit of a post-school reconsideration of the positive aspects of Gestalt Theory with which he was intimately familiar through his training at the New School for Social Research and teaching at the University of Kansas. Yet, the fact that Gestalt Theory represented precisely this middle ground, as well as the fact that more doctrinaire Europeans held similar positions, suggests it might be useful to regard Epstein's production as a post-schools, reasonable approach offered in light of, and with knowledge of, the benefits of Gestalt theorizing.

I first met William Epstein (and Sheena Rogers) in 1989 at a meeting on the legacy of Gestalt Psychology in Florence, Italy. Epstein (1994) presented a paper on what Gibson and Marr would have said to Koffka in response to his question, "Why do things look as they do?" At around the same time, he had asked in the old Gestalt journal, *Psychological Research*, "Has the Time Come to Rehabilitate Gestalt Theory?" (Epstein 1988). Spending some time at the University of Wisconsin permitted me to get to know Epstein and Rogers better. This contact was precious to me as I ventured on to work with Alan Gilchrist at Rutgers and I look back fondly at this slight acquaintance with one of the great perceptual researchers of our time and offer this paper as an homage.

William Epstein has been a national treasure of perceptual research because without being doctrinaire he has persistently continued to ask tough questions and sailed a steady path through the wreckage of generations of hopeful theories. It is this steadfastness that I respectfully deal with in this paper, asking half-seriously and half-jokingly whether Epstein is really a Gestalt psychologist. The

GESTALT THEORY
© 2012 (ISSN 0170-057 X)
Vol. 34, No.2, 179-190

answer is of course, "no," but through reflecting on some facts about the discipline of psychology we can almost say "yes!" Indeed, it is Epstein's clarification of the meta-theory of Gestalt theory that allows us to see why the New School generation could not carry on in the sixties and seventies, while this very clarification has allowed it to be brought together again (Verstegen 2000, 2005).

Gestalt Theory at the New School

If you were a graduate student trained in experimental psychology at Münster, Frankfurt, Padua, or Trieste around 1960, more likely than not, you were trained in Gestalt psychology. The same could be said for students trained at the New School for Social Research in New York at the same time; the difference is that the Europeans *became* Gestalt psychologists while the Americans did not. When considering the career of William Epstein or any of his peers it is necessary to discuss this phenomenon of American academic socialization.

In the late nineteen fifties and early sixties the faculty that taught psychology and also contributed to Gestalt psychology were the following: Rudolf Arnheim (psychology of art, psychology of personality), Solomon Asch (social psychology, memory and learning), Mary Henle (social psychology), Martin Scheerer (cognitive psychology; until 1960) and Hans Wallach (visual perception). At the same time, there was the young instructor Irvin Rock (1922-1995) who had received his Ph. D. from the New School in 1952 and was an adherent of Gestalt psychology (more on him below). Rock, at least for those training in the late fifties and early sixties, was thus effectively a member of the second generation.
These psychologists trained an impressive list of graduate students. The following all had one or more of the professors listed above as dissertation advisors: John Ceraso (PhD, 1959), Sheldon Ebenholtz (PhD, 1961), William Epstein (PhD, 1959), Lloyd Kaufmann, Martin Lindauer and Carl Zuckermann (PhD, 1957) (see Ebenholtz, 2001, xxi). At the outset, it should be said that none of the following, with the exception of perhaps one, ever called himself a Gestalt psychologist. John Ceraso had the fortune to become research assistant to Solomon Asch at Swarthmore and came to know Wolfgang Köhler (who would leave in 1958) and this may have contributed to his willingness to be called a Gestaltist, but he never offered it without provocation.

This may seem a trivial point, but it leads to larger questions about academic identification in the United States at the time. What someone calls someone else is a small matter. However, if there are larger reasons for the avoidance or even fear of a rubric, this is significant for scientific history. There was certainly nothing embarrassing about what the few professors were able to achieve at the New School. Each had written or edited important books in the 'fifties or early 'sixties and had written important papers in prestigious journals. Further, their students had no trouble publishing their dissertation work. What then caused

the embarrassment of the students? When their European peers were proud of their affiliations (an heir to Köhler or Koffka), why were the Americans content to ignore the affiliation?

Fortunately, Epstein can speak for himself. In his contribution to the 1989 conference *Gestalt Psychology, Its Origins, Foundations and Influence*, in Florence, Italy, he wrote:

> "My generation of graduate students in the late 1950s were, on the whole, heresay-knowers of Gestalt Psychology. What they knew they learned from secondary sources whose sources were themselves often secondary sources. This is often the way of prejudice that passes for knowledge. My personal circumstances at the time were decidedly different. With Solomon Asch, Mary Henle and Hans Wallach among my teachers I was no stranger to Gestalt psychology. Despite the efforts of these remarkable teachers, my first encounters with Gestalt theory left me cold. Kohler's *Gestalt Psychology* seemed to me out of touch with the urgent controversies, since forgotten, that filled the pages of North American Journals and his Dynamics of Psychology baffled me. My state of mind was promptly altered when Hans Wallach directed me to the segment in Koffka's Principles, titled *Why do Things Look as they Do?* Merely to recognize the question was exciting and Koffka's style of argumentation was compelling" (Epstein 1994, p. 175).

Epstein's story shows an openness to Gestalt psychology due to its familiarity at the New School but also the sinking feeling that it could not address the controversies of the day. Still, at least Koffka's discussion opened up the theory to a second chance, a core of values that seemed interesting.

If the ethos of American psychological science is eclecticism, there were many reasons to be circumspect about a Gestalt training in light of mainstream psychology. We have to understand the contemporary perception in Academic psychology of Gestalt psychology. Although this was not true at the New School, we might observe that the generation of American psychologists born after around 1910 no longer had to read German because the influence of American psychology had become sufficiently strong to ignore other, older work. I think this is significant because the perception Americans obtained of Gestalt psychology was almost wholly – as it was initially for Epstein – of Köhler's *Gestalt Psychology* (1929/1947). More of a popular exposition, it gave a simplistic view of Gestalt psychology to those who did not know the extensive experiments published in German in *Psychologische Forschung* and elsewhere.

The difference is apparent if we compare psychologists like Carroll Pratt (1894-1979) and Harry Helson (1898-1977) to others born slightly later like Fred Attneave (1919-1991) or Wendell Garner (1921-2008). Both Pratt and Helson had an intimate understanding of German psychology; they knew the intricacies of experimentation and the impressive solutions Gestalt psychologists had brought. For instance, Pratt reviewed Köhler's solution to the time error problem

and Helson knew all the literature on successive comparison that contributed to his *Adaptation Level Theory* (1965). Interestingly, we know for a fact that a part of training at the New School was the understanding of the findings of the older German literature. Thus, Irvin Rock (1937/1972) reports that as a student he and others had to read articles in German, like Erich Goldmeier's dissertation-article on visual similarity.

Attneave and Restle, on the other hand, did not feel they had to deal with Gestalt psychology as an alternative explanatory paradigm. Attneave, writing in 1950 (when Koffka's *Principles* were only fifteen years old!), called Gestalt theory the "look-at-the-figure-and-see-for-yourself" technique or, in other words, a purely phenomenological and non-experimental approach. Lack of knowledge of German (or Italian), however, did not only cut off Americans from past achievement, but contemporary achievement. Few knew of the works of Metzger, Rausch, Musatti, Kanizsa and Metelli on different aspects of visual perception. Thus in an internal mimeograph at Cornell University, J. J. Gibson calls Musatti "an almost unknown Italian" (Musatti 1975, 166).

Subsequently, Gestalt psychology had a fuzzy image within experimental psychology (Henle, 1990). This is especially ironic because at the same time Gestalt psychologists were resisting fuzziness in personality and social psychology. Arnheim (1961) wrote a critique of the concept of "feeling" and Michael Wertheimer (1978) criticized the usefulness of "humanistic" psychology. Gestalt psychology, it would appear, was caught between paradigms.

Emblematic of the waning fortunes of Gestalt psychology at the same time were the dual apostasies of the great experimentalists Irvin Rock and Julian Hochberg (1923-), one from within the school and one from without. Rock, as noted, was trained at the New School and was considered the most prolific and brilliant American-trained researcher. Hochberg was trained with Tolman and Brunswik at California but prominently adopted a Gestalt viewpoint in his work (Hochberg & McAlister 1953).

Irvin Rock's career was marked by a respectful but spiritedly independent attitude toward Gestalt psychology. He took standard explanations in both perception and learning and memory and poked holes in them. Good examples of such independence are the experiments Rock (1957) conducted on "one-trial" learning and questioning of the theory of the change of the memory trace (Rock & Engelstein 1959). By the time Rock published *The Logic of Perception* (1983, ix) he mused that many would not recognize him anymore as he had given up on Gestalt premises.

Julian Hochberg worked on classic problems in Gestalt theory and specifically sought to update it. Most famously, with Edward McAlister he attempted a "quantitative approach to figural 'goodness,'" the first attempt at using information

theory to quantify perceptual outcomes (Hochberg & McAlister 1953). In addition, Hochberg worked on the problem of homogeneous stimulation – the *Ganzfeld* (Hochberg, Triebel & Seaman 1951) – and the influence of figural organization on perceptual lightness (Hochberg & Beck 1954), both problems issuing strongly from Berlin precedents.

Gestalt theory's weaknesses were brought to a head in Hochberg's work on figural perception. His classic work with Virginia Brooks (Hochberg & Brooks 1960, 1962) charts this ultimate disappointment. As he later recounted of a simplicity principle, "I…abandoned it in 1962" (Hochberg 1998, p. 266). The classic summation of Hochberg's disappointment was expressed in his paper at the "Gestalt" conference in Abano, Italy in 1979, in which he asked the question, "How Big is a Stimulus?" (Hochberg 1982) that is, to challenge that it is impossible to utilize a simplicity principle when unit selection itself must be specified.

These facts are important, I think, because when Epstein came into his own in the late 1950s and early 1960s, there were no compelling adherents to Gestalt psychology. Hans Wallach tended to focus on experimentation and not meta-theory, and had opened up the question of the role of past experience in perception (Wallach 1949; Wallach et al. 1953). Nicholas Pastore was an adherent to Gestalt ideas, but worked in comparative psychology. In retrospect, it is strange to realize that the most successful orthodox experimenter of a Gestalt point of view was W. C. H. Prentice, Köhler's and Asch's long-time colleague at Swarthmore. He, however, became a dean and left psychology, no longer publishing in the field after his popular article "Aftereffects in Perception" in *Scientific American* (Prentice 1962).

Epstein's Path between the Scylla of Gibson…and the Charybdis of Helmholtz

To identify with Gestalt psychology requires a perception that its mode of explanation and integration of results is compelling. Prentice had this. But without the certainty of this world view, a series of experimental results is not enough to nominate a research program. Gibson at this time could be said to have had the most hopeful promise. Partly based on Gestalt precedents, he made more aggressive claims than the Gestaltists, affirming that stimulus relationships alone were responsible for perception.

Although Gibson's theory was in its ascendency in the late 1950s, students like Epstein at the New School were also challenged by "New Look" psychology from the other end of the theoretical spectrum. Staunch opponents of past learning in perception, Wallach and his students had demonstrated the effect of memory on the three-dimensional perception of a flat stimulus. This led to greater precision about the nature of perceptions and judgments and the nature of memory traces.

While Pratt (1950) and Pastore (1956) had resisted the role of past experience on perception, a new circumspection crept in with Rock and Zuckerman's (1957) review, and Epstein's (1964) own follow-up.

In this spirit, Epstein & Rock (1960) took the notion of "set," which had been put to flagrant use by "New Look" psychologists, and sought to gain some precision in its usage. Against the major alternative explanation, "expectancy," they countered that recency was more salient, and argued that many examples of distortions of perception were really forced judgments, ending with a command to be more specific about the kinds of memory traces that might be involved, as urged by Wallach (1949; Wallach et al. 1953). Similarly, in his study of the influence of known size on judgments of space, Epstein (1963) found that only in monocular conditions with a well-known object – a 10-cent dime – could memory influence a judgment.

In his "An Examination of Gibson's Psychophysical Hypothesis" of 1964, written with John Park, Epstein sought to combine experimentation with meta-perceptual issues. The main challenge was to see if there are cases where stimulation is sufficient to yield spatial layout and the constancies. In the case of the reduction of cues to slant, for example, constancy suffered. A few years later, in "In the Eye of the Beholder: Competing Theoretical Formulations of Visual Perception," Epstein was more equivocal, granting advantages to both direct and constructivist approaches (Epstein 1979). By emphasizing that these were "metatheories," he noted that these explanatory frameworks were not in direct competition and that one would have to directly address deeply held assumptions about perceiving in order to make meaningful comparisons (c.f. Epstein 1977).
Meanwhile, Rock was busy investigating whether or not the relevant elements in perception were phenomenally covarying or raw stimulus. Thus, with Sheldon Ebenholtz he found that perceived size (Rock & Ebenholtz 1959) – and with Leonard Brosgole, grouping (Rock & Brosgole 1964) – was based on phenomenal variables. This research led to the identification by Hochberg (1974) and Epstein (1982) of "percept-percept" couplings. These were potentially damning to Gibson because they were co-varying *phenomenal* variables. The fact that a phenomenon, like perceived depth, was based also on perceived size, was hard to jibe with a stimulus-based account of perception. In 1982, Epstein emphasized the affinity of Gibson to Watson's behaviorism.

Epstein's paper was eventually collected in the volume, *Indirect Perception* (Rock 1997), but Epstein and the younger Alan Gilchrist did not necessarily share the explanatory apparatus of the volume's looming presence, Irvin Rock. Epstein was clearly impressed by this research but his merit was to have seen the inadequacy of a simple blanket term, "inference," that accounted for Rock's results. Indications of a lack of satisfaction with inferential explanation can be found in his joint paper with Gary Hatfield (1985) on the minimum principle, as well as his restrained

gesture toward Gestalt psychology in "Has the Time Come to Rehabilitate Gestalt Theory?" (1988). In the first paper, Epstein and Hatfield (1985) argued that, contrary to Hochberg's disappointment with the notion of a minimal principle, all perceptual theories presupposed one or another version of it.

Indeed, in the second paper, significantly published in *Psychological Research* (the successor to the original Gestaltist journal *Psychologische Forschung*), Epstein (1988) argued that massively parallel computational systems, with no executive, were precisely the kind of theory advocated by Gestalt theory without invoking a reasoning subject. In other words, Parallel Distributed Processing (PDP) might be a way to continue Gestalt commitments (Rumelhart & McClelland 1986). Given that, Rock and Gibson still had major shortcomings. For Gibson's part, while he had done much to explain the theory of information, he still had not elaborated the theory of perception. This first was a genuine advance but the second – apart from vague metaphors ("pick up") – was little more than silence. As for Rock, the explanatory complex of unconscious inference only has plausibility if it supposed that there is no potential information in stimulation; given that the optical input is equivocal, it is left for something to decide between outputs. However, for Epstein "inference" implies a homunculus rather than an automated response.

Epstein's appreciation of the relative merits of different positions was enhanced by his collaborations with his wife, Sheena Rogers. While some might describe Epstein's reassessments of Gibson to be a 'conversion' based on Sheena's good influence, Epstein is still undoctrinaire in two important papers – significantly published in Italian journals or books associated with "experimental phenomenology" – and his position can be described as a pragmatic appreciation of those aspects of explanation that are worth pursuing.

In his paper "On seeing that thinking is separate and on thinking that seeing is the same" (1993), Epstein considered the question of whether perception is like thinking. Noting a number of different approaches according to which perceiving is thinking (Helmholtz, Gregory, Rock), perceiving and thinking are two different styles of thinking (Brunswik), perceiving and thinking are different (Gibson) and perceiving and thinking are different but homologous (the Gestaltists), Epstein first notes that there are several domains in which reasoning is never invoked. Nevertheless, in the fact of constancy phenomena, which include one-many relationships, Epstein notes a potential problem. But it is a problem only if we grant once again that there is no relationship between distal environment and optical structures. Admitting that "very little progress" has been made here (738), he points out that Gibsonian theory can specify "contingent regularities" in the environment, and if that is the case then the visual system could pick these regularities up as a system that is "rule-instantiating without being rule-following."

One of Epstein's most recent papers, written with Sheena Rogers (Epstein & Rogers 2003), makes peace with the Helmholtzian and Gibsonian traditions. Reviewing his earlier conviction that percept-percept couplings are a crucial challenge to the ecological approach, now "increasingly sympathetic to the Gibsonian position," he sought with Rogers to clarify what exactly is entailed by the argument about percept-percept coupling. In the case of the coupling of percepts of depth and motion, they note that the true constructivist position "goes beyond the data" in that it does not note a correlation but a causal relation between the two: "perceived depth is the causal antecedent of perceived motion" (97). In the end, Epstein and Rogers admit that they have not resolved the problem of percept-percept coupling that they wish "would go away," and substituted a way of talking. But this constant searching, which has always characterized Epstein's work, represents a true explanatory clarification.

Gestalt Meta-theory

At the end of this paper on percept-percept coupling, Epstein notes that he is not sure if Gibson's followers, or for that matter PDP adherents, will have the precise theory to survive into the twenty first century. What he is most impressed by are the meta-theoretical commitments to information in sensation and theorizing a non-ratiocinative approach to determining perceptions. In effect, Gibson represents new possibilities unappreciated while PDP represents the newest approach to a non-executive decision process. In "Has the Time Come to Rehabilitate Gestalt Theory," Epstein precisely isolates these meta-theoretical elements in Gestalt theory as of most interest to him:

> "A decision rule which specified what needed explaining, an attitude toward stimulation summarized in the warnings against the 'experience error,' a rejection of serial symbol processing or the sequential inductive reasoning associated with thought as a paradigm for perceptual processing, a determined rejection of the ghost-in-the-machine in favor of a self-organizing process which had no place for a central executive and finally a commitment to the notion that the only plausible candidate process is the one that is natural for the machine in which it must be realized, the human brain (p. 2)."

Here, the priorities are the explanation of perception and behavior without recourse to a central executive and the need to naturalize this process. Writing with Gary Hatfield, Epstein (Epstein & Hatfield 1994) elaborated on this meta-theory, forced by a discussion of the approach to the mind and body in Gestalt theory. Noting the interesting adherence to both phenomenal realism and materialist reduction, they concluded that Gestalt theorists are committed to the ineliminability of experience and what can be called (in contrast to strong naturalists) "programmatic reductionism," that is they insist on perception as the ultimate explanandum and are not overly wedded to the neuron doctrine but do see reduction as an eventual necessity.

This meta-theory was precisely what did not exist in 1960. And in terms of the structure of the academy in America it would have had to exist for there to be more adherents of Gestalt-theoretical psychology. Interestingly, a similar process occurred in Italy, but with a much more unified and organic result. When Köhler's brain model especially began to appear to be too much baggage for Gestalt theory, theorists started to articulate a core of experimental phenomenology to their theory, an exhaustive variation of sensory phenomena that could or could not be attached to larger Gestalt commitments (Verstegen 2005). Although it would be easy to exaggerate the differences between Italian and American academic life (Zanforlin 2007), the effect of continuity is clear.

I have concluded that Epstein is a "Gestalt-theoretical" psychologist based on the meta-theoretical commitments he himself defined. During the late fifties and early sixties to be a Gestalt psychologist was to embrace a rather narrow platform. Young students at the New School needed a theory that responded to a number of new challenges, like the "New Look" and Gibson. Furthermore, apart from Wallach no Gestalt-trained psychologists were interested in specifying further the nature of memory traces.

Perhaps it is permissible to conclude with some general comments on the socialization of knowledge. To the Gestalt-aware researcher working circa 1960, there were two kinds of theory: one that did not explain anything (inferentialism) and one that explained too much (Gibson). But in retrospect this is not how things look any longer. Now, we see the physicalist inheritance of Gibson that limits the overall intellectual breadth of American offerings half a century ago. Logical positivism was more or less embraced if misunderstood because its physicalism and anti-metaphysical outlook was congenial to American scientists. To seriously investigate a process of self-organization, as did the Gestaltists, would require a metaphysical and realist outlook. Instead, to the Americans a Gestaltist was little different from a panpsychist. This clash of cultures would not even permit the elucidation of meta-theoretical commitments. This took decades and is a signal contribution of William Epstein.

Summary

This paper is an analysis of William Epstein's exemplary theoretical and experimental work over several decades. It places emphasis on the way in which Epstein consistently pressed the relevant issues relating to the foundations of perceptual theory. By navigating the poles of Gibsonian realism and Helmholtzian inferentialism, Epstein was able to come up with a personal version of adequate perceptual theory, which was accomplished by articulating the kind of meta-theory that he found lacking. Looking back at the lack of success of Gestalt psychology beyond the New School for Social Research where Epstein was trained, I see this as a signal accomplishment for perceptual theory regardless of whether or not Epstein is a "Gestaltist."
Keywords: Gestalt psychology, Gibson, Helmholtz, Meta-theory.

Zusammenfassung

Diese Beitrag ist eine Analyse der jahrzehntelangen exemplarischen theoretischen und experimentellen Arbeit von William Epstein. Ein besonderer Akzent liegt auf der Art und Weise, wie Epstein immer wieder die relevanten Fragestellungen in Bezug auf die Grundlagen der Wahrnehmungsforschung vorangetrieben hat. Indem er die Pole des Gibson´schen Realismus und des Helmhotz´schen Inferentialismus ins Auge fasste war es Epstein möglich, eine eigene Version einer vollwertigen Wahrnehmungstheorie vorzustellen, die er mit der Ausformulierung derjenigen Art von Meta-Theorie ergänzte, die er bis dahin vermisst hatte. Mit Blick zurück auf den fehlenden Erfolg der Gestaltpsychologie über den Rahmen der New School for Social Research, in der Epstein ausgebildet wurde, hinaus, sehe ich dies als ein Zeichen der Errungenschaft für die Wahrnehmungsforschung an, unabhängig von der Frage, ob Epstein nun Gestaltpsychologe ist oder nicht.

Schlüsselwörter: Gestaltpsychologie, Gibson, Helmholtz, Meta-Theorie.

References

Arnheim, R. (1961): Emotion and Feeling in Psychology and Art, in Henle, M. (ed) (1961): *Documents of Gestalt Psychology*. Berkeley and Los Angeles: University of California Press.

Attneave**,** F. (1950): Dimensions of similarity. *American Journal of Psychology*, 63, 516-556.

Ebenholtz, S. (2001): *Oculomotor Systems and Perception.* Cambridge.

Epstein, W. (1963): The Influence of Assumed Size on Apparent Distance. *American Journal of Psychology*, 76, 257–265.

Epstein, W. (1964): Experimental investigations of the genesis of visual space perception. *Psychological Bulletin*, *61*, 115-28.

Epstein, W. (1973): The process of taking-into-account in visual perception. *Perception*, 2, 267-285.

Epstein, W. (1977): What are the prospects of a higher-order stimulus theory of perception? *Scandinavian Journal of Psychology* 18, 164-171.

Epstein, W. (1979): In the Eye of the Beholder: Competing Theoretical Formulations of Visual Perception. *Psychological Studies* 24, 82-97.

Epstein, W. (1982): Percept-percept couplings. *Perception* 11, 75-83.

Epstein, W. (1993): On seeing that thinking is separate and on thinking that seeing is the same. *Italian Journal of Psychology*, *20*, 731-747.

Epstein, W. (1994): "Why do things look as they do?": What Koffka might have said to Gibson, Marr and Rock, in Poggi, S. (ed.), *Gestalt Psychology: its Origins, Foundations and Influence*, 175-189. Florence, Olschki.

Epstein, W. & Rock, I. (1960): Perceptual set as an artifact of recency. *American Journal of Psychology*, *73*, pp. 214-28.

Epstein, W. & Park, J. (1964): An Examination of Gibson's Psychophysical Hypothesis. *Psychological Bulletin*, 62, 180-96.

Epstein, W. & Hatfield, G. (1994): Gestalt Psychology and the Philosophy of Mind. *Philosophical Psychology* 7, 163-181.

Epstein, W. & Rogers, S. (2003): Percept-percept couplings revisited. In Savardi, U. & Mazzocco, A. (eds.), *Figura e sfondo* (pp. 93-106). Padua: CLEUP.

Hatfield, G. & Epstein, W. (1985): The status of the minimal principle in the theoretical analysis of visual perception. *Psychological Bulletin, 97*, 155-186.

Henle, M. (1990): Some Neo-Gestalt Psychologies and their Relation to Gestalt Psychology, in Rock, I. (ed.), *The Legacy of Solomon Asch: Essays in Cognition and Social Psychology*, 279-291. Hillsdale, NJ: L. Erlbaum.

Hochberg, J. (1974): Higher-order stimuli and inter-response coupling in the perception of the visual world, in MacLeod, R. B. & Pick, Jr., H. L. (eds.), *Perception: Essays in honor of James J. Gibson*, 17-39. Ithaca, NY: Cornell University Press.

Hochberg, J. (1982): How big is a stimulus? in Beck, J. (ed.), *Organization and Representation in Perception*, 191-217. Hillsdale: L. Erlbaum.

Hochberg, J. (1998): Gestalt Theory and its legacy: Organization in eye and brain, in attention and mental representation. In Hochberg, J. (ed.), *Perception and Cognition at Century's End* (pp. 253-306). New York: Academic.

Hochberg, J. & Triebel, W. & Seaman, G. (1951): Color Adaptation under condition of homogeneous visual stimulation (Ganzfeld). *Journal of Experimental Psychology* 41 (1951): 153-9

Hochberg, J. & McAlister, E. (1953): A Quantitative Approach to Figural 'Goodness.' *Journal of Experimental Psychology, 46*, 361-364.

Hochberg, J. & Beck, J. (1954): Apparent spatial arrangement and perceived brightness. *Journal of Experimental Psychology*, 47, 263–266

Hochberg, J. & Brooks, V. (1960): The Psychophysics of Form: Reversible Perspective Drawings of Spatial Objects. *American Journal of Psychology*, *73*, 337-54.

Hochberg, J. & Brooks, V. (1962): The Psychophysics of Pictorial Perception. *Audio-Visual Communication Review*, *10*, 22-54.

Mack, A., Tang, B., Tuma, R., Kahn, S. & Rock, I. (1992): Perceptual organization and attention. *Cognitive Psychology, 24,* 475-501.

Musatti, C. (1975): Stereokinetic phenomena and their interpretation. In Flores d'Arcais, G. (ed.), *Studies in Perception: Festschrift for Fabio Metelli* (pp. 166-89). Milan: Martelli.

Pastore, N. (1956): An examination of an aspect of the thesis that perception is learned. *Psychological Review*, *63*, 309-16.

Pratt, C. C. (1950): The role of past experience in visual perception. *Journal of Psychology*, *30*, 85-107

Prentice, W. C. H. (1962): Aftereffects in perception. *Scientific American, 206*, 44–49.

Rock, I. (1957): The role of repetition in associative learning. *American Journal of Psychology*, *70*, 186-193.

Rock, I. (1983): *The Logic of Perception*. Cambridge: MIT Press.

Rock, I. (ed.) (1997): *Indirect Perception*. Cambridge: MIT Press.

Rock, I. & Ebenholtz, S. (1959): The relational determination of perceived size. *Psychological Review*, 66, 387-401.

Rock, I. & Engelstein, P. (1959): A study of Memory for Visual Form. *American Journal of Psychology*, 72, 221-9.

Rock, I. & Brosgole, L. (1964): Grouping based on phenomenal proximity. *Journal of Experimental Psychology*, *67*, 531-8.

Rumelhart, D. & McClelland, J. (1986): *Parallel distributed processing.* Vol. 1 : *Foundations.* Cambridge: MIT Press.

Verstegen, I. (2000): Gestalt Psychology in Italy. *Journal of the History of the Behavioral Sciences* 42, 31-42.

Verstegen, I. (2005): Mona Lisa's Smile: The Place of Experimental Phenomenology within Gestalt Theory. *Gestalt Theory* 27, 91-106.

Wertheimer, M. (1978): Humanistic psychology and the humane but tough-minded psychologists. *American Psychologist*, 33, 739-745.

Zanforlin, M. (2004): Gestalt theory in Italy – Is it still alive? *Gestalt Theory*, 26, 293–305.

Zuckerman, C. & Wallach, H. (1968): Wolfgang Köhler. In Sills, D. (ed.), *International Encyclopedia of the Social Sciences*. New York: MacMillan & Co.

Ian Verstegen, (b. 1969) is Director of Graduate Studies at Moore College of Art & Design. He is an art historian specializing in the early modern period and also writes on aesthetics and philosophy. He is the author of Arnheim, Gestalt and Art: A Psychological Theory (2005) and editor of Maurice Mandelbaum and American Critical Realism (2009).

Address: Moore College of Art & Design, 20th and the Parkway, Philadelphia, PA 19103, USA.

E-Mail: ianverstegen@yahoo.com