A Natural History of a Disembodied Eye: The Structure of Gyorgy Kepes's *Language of Vision*[1]

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I. Introduction

In his book-length study on reforms in art education (1955), Frederick Logan examined three contributions to an evolving pedagogy in the United States. He praised the innovative research of Gyorgy Kepes, Hoyt Sherman, and Henry Schaeffer-Simmern on affective perception, and the role their research played in the illumination of modernist type art. Of the three educators, it was Kepes's *Language of Vision* that had the greatest impact on art education. According to Logan, it was the most important book of the 1940s and 1950s on the problems of sense perception and expression in contemporary art and design.[2] "Art teachers by the thousand," wrote Logan, "have through Kepes enriched the scope of their teaching by a larger understanding of what the contemporary artists are doing."[3]

Apart from Logan's triadic organization of influence, *Language of Vision* was a refreshing alternative to the largely vocationally motivated design and advertising primers common to the commercial art field in the United States.[4] Kepes's book inveighed against a vocational type education in which students were required to study problems exclusively lifted from the commercial sector. *Language of Vision* differed radically from such texts; it allied the commercial sector with modernist art, science, philosophy, and psychology. *Language of Vision* was replete with images gathered from a myriad of sources—European modernists Piet Mondarin and Pablo Picasso; American design professionals, Paul Rand and Lester Beall; Bauhaus alumni Herbert Bayer and László Moholy-Nagy; and an ample supply of student projects drawn from Kepes's course at the New Bauhaus in Chicago.

The book's amalgamation of diverse material may very well explain its appeal. No doubt, readers took for granted that Kepes intended his collection of visual source material to clarify particular points relayed from his text, thereby elucidating his theory of vision as inevitably played out in modernist art and design. This is correct, as far as it goes, which is not very far, or, in a way, not consciously intended by the author. Kepes organized his visual material in such a manner that, for the most part, the presence of particular examples of art and design appear in a random fashion. The fact that he failed

2 Frederick M. Logan, *Growth of Art in American Schools* (New York: Harper and Row, 1955), 255–257.

3 Ibid., 257.

4 See, for example, W. A. Dwiggins, *Layout in Advertising* (New York and London: Harper and Brothers, 1928); Edward D. Berry, *Fundamentals of Typographic Art: A Discussion of Page Arrangement and Its Elemental Factors* (Chicago: E. D. Berry, 1930); Douglas C. McMurtrie, *Examples of Advertising, Typography and Layout* (Chicago: Private, 1934); and Edwin H. Stuart, *Typography, Layout, & Advertising* (Pittsburgh: E. H. Stuart, 1947).

to explain, or comment on, the majority of the images exacerbates this randomness. The book's intention—to educate artists and designers—is frustrated with every turn of a page since any claim to a unified whole is undermined by this organizational disturbance.

Such a disturbance has implications for design as it has been practiced professionally in the United States since the inaugural publication of *Language of Vision.* If I take Logan at his word, that Kepes's book dominated art education in the United States immediately after World War II, then any claim that design may have on problem solving, on creating unified fields of coherence, on implementing comprehensive projects toward some greater good is damaged by the very disruption that undermines Kepes's project of unification through vision. This paper is an analysis of Kepes's *Language of Vision*[5]—the foundations of, the deployment of, and the implications of what I take to be his natural history of vision.

Kepes founded his natural history on a linguistic model of structural coherence (hence "language" of vision) that ultimately cut vision from its corporeal mooring; that is, he regarded vision as being apart from practical and physical activities. The specious unity of *Language of Vision*'s thesis masked the book's disjunctive character instantiated by its organization.[6] While a thorough study of the context in which Kepes positioned his book remains to be written, I will forego such a history. Placing Kepes within postwar design studies would produce a snapshot of a moment, no doubt important, but such a contextualization is not appropriate to my task. Rather, I intend to work my way into *Language of Vision*, digging deep into its core to unearth a potent history—Cartesian, Humanist, Realist, Positivist—that lies within its pages and its pronouncements on visual culture.

In any case, an examination of *Language of Vision*'s latent structure—a construction of a "language of vision" that negated vision in a material sense, that promised an idealized reality, and that was to be embodied in a "positive popular art," advertising—requires that I first briefly discuss the literature on physiology and the psychology cited in Kepes's book, namely the influence of Hermann von Helmholtz's alignment of mental processes with the unconscious inferences of perception and Gestalt psychology's concept of pattern formation resulting from direct experience. The former aligns with Kepes's reliance on perceptual passivity, and the latter registers with Kepes's notion of the syntactical dimension of visuality. Second, I will discuss the affinities apparent in Kepes's construction of a theory of vision and philosopher Charles Morris's semiotics, a foundation for "the main forms of human activity and their interrelationship[…]."[7] Indeed, both Morris and Kepes took their distinctly positivist views of the world from the propositional logic of the "Vienna Circle," a loose collection of logical positivists organized around Morris Schlick; a position that based its primary tenants on a belief that knowledge is achieved by an empirically

5   In addition to *Language of Vision,* books and article written by Kepes include Gyorgy Kepes, "The Creative Discipline of Our Visual Environment," *College Art Journal* 7:1 (1947): 17–23; *Graphic Forms: The Arts as Related to the Book* (Cambridge: Harvard University Press, 1949); and "Comments on Art" in *New Knowledge in Human Values,* Abraham H. Maslow, ed. (Chicago: Henry Regnery Company, 1959). Books edited by Kepes include *The New Landscape in Art and Science* (Chicago: Paul Theobald, 1956); *The Visual Arts Today* (Middletown, MA: Wesleyan University, 1960); and the influential *Vision and Value Series: Structure in Art and Science* (New York: George Braziller, 1965); *The Nature and Art of Motion* (New York: George Braziller, 1965); *Education of Vision* (New York: George Braziller, 1965); *Sign, Image, Symbol* (New York: George Braziller, 1966); *Module, Proportion, Symmetry, Rhythm* (New York: George Braziller, 1966); *Man Made Object* (New York: George Braziller, 1966); and *Art of the Environment* (New York: George Braziller, 1975).

6   Gyorgy Kepes, *Language of Vision* (Chicago: Paul Theobald, 1944).

7   Charles W. Morris, *Foundation of the Theory of Signs,* Rudolf Carnap Otto Neurath, and Charles W. Morris, eds. Vol. 1, *International Encyclopedia of Unified Science* (Chicago: University of Chicago Press, 1938), 136.

verifiable observation of natural phenomena.[8] Accordingly, scientific progress and all that it availed enabled a greater incidence of penetrating the indiscriminate veil that obscured the "present and invisible world." Third, I will explore a resolute humanism undergirding Kepes's *Language of Vision.* Here Kepes assumed an evolutionary model in which human-type being and humanist idealism were ostensibly linked. Finally, I will conclude with an account of the problems inherent to a natural history of vision, namely how it was that Kepes could reconcile his ontogenetic-humanist proclivities—his natural history—with what he took to be an advanced form of visual culture—contemporary advertising.

II. Kepes's Aesthetic Program

Kepes's philosophical interests defined natural history in accord with the philosopher Alfred North Whitehead, whom he cited frequently in *Language of Vision.* Whitehead posited that nature is an organism united in its parts and irreducible to its distinct qualities as such. Furthermore, nature also evinces a teleological process, channeling its transformations towards a single goal.[9] A natural history thus is an investigation of that organism, its united components, and its development. Such an examination charts the vicissitudes of the system in question. Kepes slightly differed from Whitehead's "thorough going-realism," a belief that material objects exist independent of our perception of them and, paradoxically, any knowledge of those objects is perceptually or experientially dependent. Augmenting Whitehead's propositions, Kepes insisted on a melioristic epistemology—the betterment of the world through an ongoing accumulation of knowledge.

Language of Vision's principal thesis stated that our vision of the world is alterable; that is to say, the way we see the world changes as we further refine our visual means. And the mutability of vision itself endorsed the possibility of a revised world, or a re-vision of the world. Without making any specific or practical claims, Kepes suggested that a resolution of social and psychological disharmony was predicated on humankind's natural capacity to organize discrete elements into a whole. This synthetic activity would harmonize the chaos of a world not yet unified, but naturally inclined to being so. As each whole formed through perceptual mediation, however, further levels of the unformed world would become apparent; therefore, vision would have to be constituitively refocused into a new vision and thus a new form of life, or "a new vital structure-order." [10] The implication was that the history of visual art and design was a history of the world being made over in an ongoing movement toward an ideal state. *Language of Vision* flagged the most advanced stage of that movement, and those artists and designers working from its example contributed to an ultimate goal by re-visioning the world through the production of new visual art and design.

8   Peter Galison, "Aufbau/Bauhaus: Logical Positivism and Architectural Modernism," *Critical Inquiry* 16 (Summer 1990): 709–752. Galison discusses parallel and interrelated developments of the Vienna School's logical positivism (namely Carnap and Neurath) and the Bauhaus. He reveals the correspondence between Bauhausian notions of building coherent forms from primary shapes and colors and the logical positivist creation of logical propositions from singular components of raw experience. See also, Laszlo Moholy-Nagy, *The New Vision: Fundamentals of Design, Painting, Sculpture, Architecture*, Daphne Hoffmann, trans. (New York: W. W. Norton, 1938) and *Vision in Motion* (Chicago: Paul Theobald, 1947). In any case, Kepes joined Moholy-Nagy in Berlin in 1930 and therefore missed Carnap's visit to the Dessau Bauhaus. Nevertheless, he was certainly acquainted with Morris, who was a follower of the Vienna School and who was affiliated with the New Bauhaus in Chicago, where Kepes taught between 1937 and 1943.

9   Alfred North Whitehead, *Process and Reality: An Essay in Cosmology* (Cambridge: The University Press, 1929).

10 Kepes, *Language of Vision*, 12.

The genesis of Kepes's natural history of vision started with base mark-making, and worked to precipitate coherent communication. This evolution was exemplified by two images that bracket the book's content. In the case of the frontispiece, the random, but still comprehensible, agitated lines, squares, and triangles are the product of a controlled but primitive hand (not pictured). These marks were, for Kepes, the rudimentary elements of picture making, and were foundational to the education of artists and designers. When combined to constitute a variety of patterns, the marks collectively take on a quality and a meaning distinct from the quality and meaning of each individual mark. This was made apparent in Kepes's choice of an illustration for the back end-paper, Jean Carlu's "PRODUCTION. America's answer!" (1942). Here the mechanic's gloved hand bolts the type to the poster's background. The image itself is emblematic of the effort that Kepes expended in keeping the details of his text "bolted" to any corresponding details in each image. The trope of mechanical engineering was (and is) a familiar one: in philosophy, Wittgenstein's Bilder—the deliberate construction of a model or picture—or Rudolf Carnap's Aufbau—the propositional construction of logic; in art and design, the later Bauhaus's appeal to pure functionality—the artist as builder. The key, for Kepes, lay within the premise that a coherent whole could be built from base components. The management of these base components was a matter of evolutionary sagacity (or astuteness) and the ostensible mutability of environment.

"To function in his fullest scope," Kepes wrote, "man must restore the unity of his experiences so that he can register sensory, emotional, and intellectual dimensions of the present and invisible whole." [11] Indeed, it is my contention that, the fundamentally synthetic (and philosophically idealist) nature of Kepes's notion of coming into wholeness—or integration—theorized a new society predicated on the refinement of vision at the expense of the corporeal, the material. The structural organization of *Language of Vision* instantiated this point. Beginning with the plastic organization of internal and external forces, continuing with multiple modalities of visual representation, and concluding with the vitality of symbolic forms, the physical ground of vision receded as each section of *Language of Vision* proceeded in its frustrated pedagogical intent.

III. The Fiber of Vision

Physiology and psychology were two integral aspects of Kepes's understanding of vision. On this he wrote: "The dynamic tendency to integrate optical impacts into a balanced, unified whole acts within the field of the physiological and psychological makeup of man." He continued to explain that the "restoration of equilibrium in the human organism" rested on the immediacy of "optical impacts." The procedure of picturing the world back to the sensing subject realized a good percentage of this equilibrium. But, in

11   Ibid., 13.

Kepes's analysis, there were perceivable limits to both vision and picture:

> Just as limitations of the picture-surface serve as the necessary frame of reference in the transformation of the optical impacts into spatial forces, so the characteristics of the physiological and psychological mechanisms serve as the conditioning factors in experiencing forces of integration, that is, transforming spatial forces into plastic forces.[12]

Thus, a conception of the world was one-part presentation (things in- and of-the-world) and an equal part representation (things in- and of-the-world pictured). Both should have struck the sensing subject with the same sensorial charge. "Visual representation operates by means of a sign system based upon a correspondence between sensory stimulations and the visible structure of the physical world." [13] To harmonize both ends of the representational scale was the ultimate goal.

Kepes drew this particular component of his theory of vision from Hermann von Helmholtz, whose *Physiological Optics* (1867) he cited, and who maintained that aesthetic principles were environmentally conditioned. Any perception of objects in the world was, as Helmholtz submitted, a matter of memory and built from the sensing subject's ongoing engagement with the world. Helmholtz based his theory on the presumption of symmetrical relationship between sense nerves and sensations. Holding to a "Cartesian perspectivalism," or a geometrically arranged monocular vision, Helmholtz maintained the passivity of the eye, favoring the mind as the organ of image construction. Through a process of unconscious inference, a sensing subject arranged sensations into images of external objects in the world. Helmholtz maintained that sensory impressions were signs for properties of the external world, the meaning of which were acquired through experience. Accordingly, for Helmholtz, sensory experience depended on a priori conditions for correlating manifold sensations.[14]

From Helmholtz's perspective, a vision of the world was contingent and based on the internal history of the sensing subject in the world.[15] Correspondingly, the historical development of representation unfolded, for Kepes, as a gradual triumph of vision in relation to advances in the production of two-dimensional picture surfaces: "The visual assimilation of space time events [as pictures]." [16] Architectural historian Sigfried Giedion established a similar concept of representation based on a definition of "space-time" in art, whereby artists "sought to extend the scale of feeling, just as contemporary science extends its descriptions to cover new levels of material phenomena." [17] In other words, artists advanced beyond single-point perspective, and opted for an extension of pictures in line with temporal and spatial extensions—a literal unfolding of both time and space. As a result of this advance, artists adopted

12 Ibid., 34

13 Ibid., 67.

14 Hermann von Helmholtz, *Helmholtz on Perception* (New York: John Wiley & Son, 1968).

15 On the historicist aspect of Helmholtz's theories, see Gary Hatfield, "Helmholtz and Classicism: The Science of Aesthetics and the Aesthetics of Science" in *Hermann von Helmholtz and the Foundations of Nineteenth Century Science*, David Cahan, ed. (Berkeley: University of California Press, 1993).

16 Kepes, *Language of Vision* , 66.

17 Sigfried Giedion, *Space, Time and Architecture: The Growth of a New Tradition*, 4th ed. (Cambridge: Harvard University Press, 1963 [1941]), 432.

varied and multiple models of representation. This version of the development of vision led Kepes to propose an ever more exacting configuration of the world, to know the world from all sides as it were. Kepes's "new standard of vision," however, fragmented the world, taking it apart at its joints and recomposed it into a picture.[18] "[T]his historical challenge," as he referred to it, "calls him [the painter and the graphic designer] to assimilate the new findings and to develop a new sensibility, a new standard of vision that can release the nervous system to a broader scale of orientation." [19]

Kepes's "strange esoteric jargon," as one critic referred to his writing, obscured the pragmatic valence of visual acumen.[20] While he never once remarked explicitly on the distinction between image and picture, Kepes followed a line of thought which maintained that images were trace elements of sensory perception: the raw data of experience. (Here he closely followed Helmholtz.) Kepes's atomistic view—discrete parts adding up to a whole—held that the accumulation of images gave way to picture making, to painting, to sculpture, to photography, and to graphic and industrial design. And as pictures became part of the external environment, they too were capable of image generation and thus led to more pictures. Simply put, vision yielded image, and image yielded picture. Image was not picture, but both were representational.

In addition to Helmholtz's influence, Kepes's notion of a unified vision borrowed directly from the experiments of gestalt psychology. Gestalt psychology, notably practiced by Kurt Koffka and Wolfgang Köhler, took as a psychological fact that things do not always appear as they actually exist in the world. We make inferences from appearances. Perceptual illusion should be taken as being real, as being phenomenally verifiable. And the problem for gestalt psychology was to explain why things appear precisely as they do.

In general terms, gestalt psychology focused on the phenomenal nature of perceiving the wholeness, or "gestalten," of a pattern's structure, or an organized pattern from which properties exist apart from the isolated parts. To do so, the discipline rejected the atomistic views, or the reduction of complex phenomena to aggregate forms that are mechanistically combined, of nineteenth-century physical sciences and humanistic psychologies. Specifically, Koffka was skeptical of a representation theory of perception, that ideas (or images) are constructed replications of the external objects of the world. Unlike Helmholtz's theory, in which sensations are not copies but signs of the world, gestalt psychology preferred a phenomenological method, whereby contingencies were eliminated and only appearance was maintained as an object of study.[21]

As it was understood, Kepes's appropriation of gestalt theories contradicted his reliance on Helmholtz's nineteenth-century optics. Kepes resolved the tension, however, by collapsing a more or less metaphysical assumption apropos the physiology of sense

18 Kepes, *Language of Vision* , 67.

19 Ibid.

20 Anonymous, "Principles of Composition," *London Times Literary Supplement*, September 1951. Kepes found this review "devastating." See Letter from Kepes to Paul Theobald, 27 November 1951, Paul Theobald Papers, Art Institute of Chicago, Chicago.

21 See especially Kurt Koffka, *Principles of Gestalt Psychology* (New York: Harcourt, Brace, 1935). For a history of gestalt psychology's development and cultural influence see Mitchell G. Ash, *Gestalt Psychology in German Culture, 1890–1967: Holism and the Quest for Objectivity* (New York: Cambridge University Press, 1995).

perception into a realist concept of the psychology of sense perception. (It may very well be that the two were not incommensurable. Rather, the distinction lay between the strict methodologies of physiology and psychology.) No doubt, Kepes's book was *realist* in its intent. As Giedion observed in his introduction to *Language of Vision*, Kepes revealed how the "optical revolution" constructed a mid-century "conception of space and the visual approach to reality."[22] Indeed, Giedion's "space-time" theory explained how a conventional view of reality was mistaken because it could not conceive of a spatial dimension necessarily linked to a temporal dimension: space and time collapse and unfold reality. As I stated above, the process of unfolding does damage to the world by dismantling it and reconfiguring those parts into a picture of the world, one that is seemingly more accurate, more real. Both Kepes and Giedion agreed that reality was a "more real world than the real behind the real" (to cite Kepes's quotation of Andre Breton's theory of "surrealism").

To get at the real behind the real required the construction of a "language of vision"—a visual equivalent to syntactical modes of representation. Kepes privileged the mind's work over sensory work; he adopted a language of vision whereby discrete units were assembled and disassembled and reassembled to more exactly configure the world. In fact, such a view undercut vision, releasing the eye from the material body that paradoxically must be the site of a realist approach to vision.

IV. Model Language

A generative and universal structure of language lay at the very core of Kepes's *Language of Vision.* In fact, Kepes elaborated his thesis on an analogy that bridged the gap between pictorial modes of representation and a syntactical model of language:

> Just as the letters of the alphabet can be put together in innumerable ways to form words which convey meaning, so the optical measures and qualities can be brought together in innumerable ways, and each particular relationship generates a different sensation of space. The variations to be achieved are endless.[23]

Accounting for the infinite varieties of space was less a matter of the materiality of the optic array and its physiology, as J. J. Gibson concluded.[24] Rather, per Kepes's observation, the apprehension of spatial order, of the world in its full blown dimensionality, was by and large the apprehension of a symbolic order and its formalization, hence "language" of vision. Kepes's analogy implied that the quality of a picture was a consequence of something other than mere sensation, other than the physiological fiber of vision. Therefore, Kepes registered spatial order, things in the world arranged and rearranged, fitting together in innumerable combinations, in the same

22 Gideon, "Art Means Reality," introduction to *Language of Vision* by Gyorgy Kepes (Chicago: Paul Theobald, 1944), 7.

23 Kepes, *Language of Vision* (1944), 23.

24 James J. Gibson, "The Information Available in Pictures," *Leonardo* 4 (1971): 27–35. Modern painters, as Gibson understood Kepes to have asserted, do more than inform the sensing subject through their pictures. Rather, artists reconfigure vision by developing a new visual grammar. Countering Kepes's symbol theory of pictures, Gibson defined a picture as "*A surface so treated that a delimited optic array to a point of observation is made available that contains the same kind of information that is found in ambient optic arrays of an ordinary environment.*" (31) Therefore, pictorial quality is available through experience. Pictures are objects of the "phenomenal visual *world.*" What is in the world is what is perceived. Depicting the world as one sees it was not, for Gibson, a matter of pictorial convention, like the syntactical conventions of language or grammar.
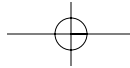
manner as he registered the order of letters that construct a word and the order of words that construct a sentence and so on—a structural syntax. In this sense, representation was less a matter of perceptual constancy, and thus one part of the phenomenal world. Rather, it was a matter of symbolic convention and its multifarious permutations.

In a letter to his publisher, Paul Theobald (11 February 1944), Kepes wrote that the suggested edits to *Language of Vision* were so extensive that he required a retyped manuscript.[25] There is no way of knowing who solicited the edits, and I can only speculate as to the actual extent of the suggested revisions. They were, if truth be told, substantial enough to warrant the labor and the expense of a revamped text (which Theobald begrudgingly approved). I am certain, however, that the analytic philosopher of language, Charles Morris, played a significant role in the book's rewritten form and its espousal of a symbolic theory of vision. In the first place, Kepes acknowledged Morris's contribution as a reader of *Language of Vision.* In the second place, the book's most coherent section was the chapter entitled "Towards a Dynamic Iconography," which drew exclusively from Morris's linguistic theories.[26] In the third place, once the edits were made and the manuscript was retyped, Kepes spent much of his time designing the book, rather than attending to its textual content.[27] He also was less then capable of adequately proofreading the final draft of *Language of Vision.* As Kepes expressed to Theobald, his English was too poor for him to embark on such a task with any proficiency.[28] I conclude from these three factors, if only hypothetically, that Kepes's involvement in the conceptualization and writing of *Language of Vision* was integral from the beginning. But, toward the final stages of the book's production, Morris's contribution, if not essential, was certainly significant.[29]

Morris constructed the core of his semiotics from Ludwig Wittgenstein's and Rudolf Carnap's theories of propositional logic. From Wittgenstein's *Tractus*, Morris forged a position that all propositions are the truth function of "elementary propositions," or whatever can be minimally asserted. He then combined this with Carnap's conception of elementary experience to create a formal semantic theory, whereby all meaningful propositions are reducible to propositions about experience. As an applied methodology, Morris's semiotics conceivably could explain the multitude of concepts integral to the production of culture.

In addition to Wittgenstein and Carnap, Morris drew on such diverse sources as Ernst Cassier, Edmund Husserl, G. H. Mead, and Charles Peirce. He developed a theory based on the pragmatic belief that signs play a vital role in the formation of human behavior and human culture. In "Science, Art and Technology," Morris proposed that a theory of signs assist in gaining "insight into the essentials of human culture." [30] Significantly, Morris defined

25 Letter from Kepes to Theobald, 6 October 1943, Paul Theobald Papers, Art Institute of Chicago, Chicago.

26 Recently, Howard Singerman addressed Kepes's influence on art education in the United States. Singerman remarked on the constructivist import of Kepes's book. Accordingly, vision *structures* the world, but vision is itself structured to a significant extent. Singerman attributed a "structural linguistics," similar to the Saussurian model, to Kepes's Bauhausian "language of vision." This association requires further explication, however, for there is ample proof to view the linguistic turn of the Bauhaus to be more in accord with the structural logic of logical positivism. See Singerman, *Art Subjects: Making Artists in the American University* (Berkeley: University of California Press, 1999), 78, 89. A study produced prior to Singerman tracks the developments and revolutions in art education from the Renaissance to the present. In this study, Kepes is only briefly mentioned, and his *Language of Vision* is ignored. See Carl Goldstein, *Teaching Art: Academies and Schools from Vasari to Albers* (Cambridge and New York: Cambridge University Press, 1996). Also, see S. David Deitcher, "Teaching the Late Modern Artist: From Mnemonics to the Technology of Gestalt" (Dissertation, The City University of New York, 1989).

27 Letter from Kepes to Theobald, 11 February 1944, Paul Theobald Papers, Art Institute of Chicago, Chicago.

28 Letter from Kepes to Theobald, 15 March 1944, Paul Theobald Papers, Art Institute of Chicago, Chicago.

29 See also Charles Morris, "Man-Cosmos Symbols" in *The New Landscape in Art and Science,* Gyorgy Kepes, ed. (Chicago: Paul Theobald and Co., 1956).
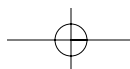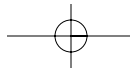
human culture as a "web of sign-sustained and sign-sustaining activities."[31] Objects that are produced as a result of these activities posses additional meaning once linked to additional objects. Morris asserted that

> The use of certain properties of things as clues to further properties, and the functioning of behavior of subsidiary spoken or written languages correlated both with human activities and the things upon which the activities are directed, are distinctive features of human activity.[32]

Thus, language, commonly used and expressing the primacy of experience, forms a "matrix" from which all further specialized discourses flourish. There are three specialized discourses according to Morris: scientific, artistic, and technological.[33] These primary forms of discourse interrelate to create secondary forms of discourse that have greater cultural implications than their primary sources. "All three primary forms of discourse," Morris wrote, "are simply the development of three basic functions found in everyday language, which permits making statements [science], presenting values [art], and controlling behavior [technics]."[34]

The laws of natural organization that Morris applied to discourses likewise were applied to visual signs by Kepes, but with a slight twist. According to Kepes, prior to the formation of a new vision, there was a necessary process of disintegration of conventional systems of meaning—organization. As examples of radically disintegrative practices, Kepes supplied the image/text experiments of Dada and the surrealist's dialectic of the conscious and the unconscious of surrealism. The mechanical conversions of surrealist automatic writing targeted the order of traditional modes of writing. The manifest disorganization of automatic writing, and its ungrammatical novelty, functioned as an affront to reader expectations. The intention, however, was to restore a new order via the shock of bizarre randomness which would result in a transformation of sorts, or what Kepes termed "reintegration." The process of reintegration was operative in aesthetic perception as the complex play of unifying all component parts of the new picture and its "connected tissue of references." An ongoing procedure of disintegration and integration fueled a dynamic iconography—an ever-evolving symbology and an advancement of the tripartite primary discourses.

Both Kepes and Morris assumed that the order of things necessarily crystalized into ever sharper and more coherent patterns of meaningfulness. *Language of Vision* naturalized order and meaning by giving both over to the mind exclusively. Within the constructed narrative of this final chapter of *Language of Vision*, Kepes effectively cut the eye from the body. Here a disembodied eye, the mind's eye, assembled the fragments of the world and performed the imminent transformations essential to the semiotic process. The

30 Charles W. Morris, "Science, Art, and Technology," *Kenyon Review* (Autumn 1939): 409–423. For a more philosophically technical version of these same points, see Charles W. Morris, "Esthetics and the Theory of Signs," *The Journal of Unified Science (Erkenntnis)* VIII (1939/40): 131-150. The main text, from which these two are derived, is Charles W. Morris, *Foundation of the Theory of Signs*, Rudolf Carnap, Otto Neurath, and Charles W. Morris, eds., Vol. 1, *International Encyclopedia of Unified Science* (Chicago: University of Chicago Press, 1938).

31 Morris, "Science, Art, and Technology," *Kenyon Review* (Autumn 1939): 409.

32 Ibid.

33 Ibid., 413–418.

34 Ibid.
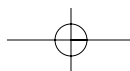
35 Letter from Henry Dreyfuss to Kepes, 18 August 1970, Gyorgy Kepes Papers, Archives of American Art, Washington, DC.

36 Letter from Dreyfuss to Kepes, 31 August 1970, Gyorgy Kepes Papers, Archives of American Art, Washington, DC.

37 Letter from Adelbert Ames, Jr. to Kepes, 4 April 1947, Gyorgy Kepes Papers, Archives of American Art, Washington, DC.

38 The Gyorgy Kepes Papers holds three letters from the Dartmouth Eye Institute. The second was dated 30 April 1947 and the third was dated 15 March 1948. Of the three, the first letter is specifically relevant to the concerns of this paper.

39 Letter from Panofsky to Kepes, 11 November 1958, Gyorgy Kepes Papers, Archives of American Art, Washington, DC. Panofsky wrote to inform Kepes that he could not contribute to the latter's special issue of *Daedalus.* Apparently, Panofsky was not adequately conversant with contemporary art. Writing parenthetically, he qualified, "The only contribution I could make would be, as I told you at the Cambridge dinner, a brief report on Betsy, the painting ape," implying that contemporary art was on par with art made by an ape.

40 After attending the 1957 conference of the American Federation of Art, H. W. Janson reported that a critic stated that he could not "distinguish Betsy's work from abstract expressionism, the dominant trend in present-day painting." See H. W. Janson, "After Betsy, What?" *Bulletin of the Atomic Scientists* XV: 2 (February 1959): 68.

41 I do not doubt that Panofsky took ape painting very seriously. The development of primate mark making is well documented. Nevertheless, animal behavioral scientists have yet to identify coherent images in ape drawings and/or paintings. For primate painting see Desmond Morris, *The Biology of Art: Study of the Picture-Making Behavior of the Great Apes and Its Relationship to Human Art* (London: Methuen, 1962) and Thierry Lenain, *Monkey Painting,* Caroline Beamish, trans. (London: Reaktion, 1997).

implications were that only a mind, an intellect of the human kind, could achieve such a goal. And this mind, this disembodied mind's eye, was unencumbered, unfettered from the weight of the body and from the gravity of the earth. It raised itself above all else so that vision itself would be unencumbered—free.

V. "Keep Your Eyes Peeled"
In a letter to Kepes (18 August 1971), designer Henry Dreyfuss commented on the ongoing production of his "symbol sourcebook." Providing no great detail on the book's contents, Dreyfuss queried Kepes on a section entitled "Color Symbology." Dreyfuss was well aware of Kepes's interest in the semantic nature of color and how color-coding could be used to signify aspects of the world, such as a factory pipe painted red to denote that it contained hot water, for example.[35] Or, taking an example from Dreyfuss's book, red denotes temperature when applied to a graphic representation of a thermometer: Hot! In a follow-up letter, Dreyfuss lamented the lack of such examples, writing: "You would think color would be used more often this way, but I can find very little evidence of it."[36] Concerned that his book would remain incomplete on this point, he concluded his letter with, "Keep your eyes peeled." In other words, Dreyfuss hoped that Kepes would continue the designer's quest for similar instances of the concrete symbolic value of color.

Aside from the letters' contents, Dreyfuss's vernacular—"eyes peeled"—would have held a positive affinity for Kepes in both its literal and metaphorical senses. And this affinity also points to the underlying tension between the material and the metaphysical in *Language of Vision.* First, in the literal sense, "eyes peeled" would have taken on a clinical inflection for Kepes. As early as 1947, three years after the initial publication of *Language of Vision,* Kepes was in contact with the Dartmouth Eye Institute in Hanover, New Hampshire.[37] In the first of several exchanges of correspondence, Kepes received collateral material that related to a demonstration the author had apparently attended on "the origin and nature of visual sensations."[38] Of the eight attached documents, "Some Demonstrations Concerned with the Origin and Nature of Our Sensations (What We Experience): A Laboratory Manual" stands out. The Dartmouth paper elucidated the Institute's clinical demonstrations on the physical source of vision, literally peeling the eye so as to reveal its fibrous properties.

Second, in the metaphorical sense, "eyes peeled" would have connoted the vigilance or the alertness of verticality and the unencumbered line of sight that such a posture would have suggested to Kepes. Dreyfuss's colloquialism capitalized on a practical notion that one should strip away that which clouded vision, clearing all the debris that obscured the world. And clear-sightedness necessarily accompanied an upright posture, for to be on-the-look-out, to remain ever alert, would have meant to see from a somewhat

42 In the introduction to his *Meaning in the Visual Arts*, Panofsky recounts the final days of Immanuel Kant. The story goes that, when visited by his physician, Kant raised himself from his chair to greet the good doctor, refusing to retake his seat until the doctor had taken his. Once the doctor had acknowledged the philosopher's civility by taking his seat, Kant followed suit and said, "'The sense of humanity has not yet left me.'" For Panofsky, bodily comportment and humanism were the same, both connoting "man's proud and tragic consciousness of self-approved and self-imposed principles [...]." See Panofsky, "Introduction: The History of Art as a Humanistic Discipline" in *Meaning in the Visual Arts* (Chicago: The University of Chicago Press, 1982), 1. I would like to thank Aron Vinegar for bringing this passage to my attention.

43 Kepes, *Language and Vision* (Chicago: 1944), 14. Beginning in his early twenties, Kepes was a committed social activist. In 1928, he joined Munka, a Hungarian art and political action group. From all accounts, however, Kepes's radical political activities waned by the time he arrived in the United States in 1937, after moving first to Berlin and then London. He did, nonetheless, receive a citation from the U.S. State Department for wartime support activities. See Gyorgy Kepes Papers, Archives of American Art, Washington, DC.

44 The gestalt psychologist, Wolfgang Köhler, as part of the Prussian Academy Study of Science, conducted experiments on anthropoid apes on the Island of Tenerife. As a part of his assignment, Köhler studied gesture, language, and perception in the apes, determining their place on a developmental scale. The apes were subjected to a series of tests in which they would have to overcome a variety of obstacles to obtain food, usually bananas. Köhler observed that his apes, "Sultan" especially, showed signs of genuine intelligence and insight. See Wolfgang Köhler, *The Mentality of Apes*, Ella Winter, trans. (New York: Vintage Books, 1956 [1917]).

45 Kepes, *Language of Vision* (Chicago: 1944), 96–97.

elevated vantage point. To do so would entail the attainment of a distinctly human-type posture.

Such an evolutionary confluence of opticality and verticality was made apparent in an exchange between Kepes and the eminent art historian, Erwin Panofsky. Sometime in the later half of the 1950s, Kepes and Panofsky attended a dinner in Cambridge, Massachusetts.[39] During the course of this event, Kepes and Panofsky discussed ape paintings. It seemed that Panofsky was concerned with similarities between Betsy, the painting ape's recent activities, and contemporary art practices.[40] Panofsky might have thought primate mark-making to be semiotic in structure, and that the marks were signs of a sort.[41] He may not have considered, however, marks made by primates as being representational in the semantic sense that paintings were representational (they might not be symbolic). If Panofsky considered ape paintings and contemporary art to have been analogous, then contemporary art's lack of semantic structure would have posed serious problems for the iconographer/iconologist. The dribbled and poured paint of a Jackson Pollock may very well have struck Panofsky as regressive, as sub-human, as ape-like. Crouching artists bent over puddles of paint did not square with the uprightness of a humanist tradition that most appealed to Panofsky, a tradition that, in part, equated bodily comportment with principles of self conduct.[42]

Nor would such a bodily posture befit Kepes's notion of artistic and social advancement. (His example of ink blots exemplified a turn away from naturalistic representations and toward the plasticity of thinking, of the mind as it were. I don't believe, however, that this example embodied a "proud and tragic consciousness...") As Kepes wrote, "Visual language thus must absorb the dynamic idioms of the visual imagery to mobilize the creative imagination for positive social action, and to direct it toward positive social goals."[43] Indeed, Kepes had hoped that the visual arts had developed beyond mere stooping and grubbing, transcending the ground plane. The artist's unseemly posture, his or her carriage oriented towards the earth, rendered him or her visually incapacitated.[44] Under these circumstances, the artist could not see what was before him or her, only what was below. Admittedly, Kepes linked primitive representational naiveté to an unfiltered view of the world. Void of the burden of Western pictorial convention, the primitive artist was connected to the world, rendering his art semiotically potent. While Kepes preferred the reduction of pictorial convention that resulted in a direct mode of communication, what he attributed to primitive picture making, he in no way condoned an affected primitivism in art but rather a refined directedness.[45] Most certainly, a perceived disorder of the contemporary art scene was contrary to what Kepes had proposed as art's natural course: That is, visual expression, predicated on a comprehension of the dynamic structure of visual imagery, was invaluable in readjusting
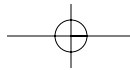
human patterns of thought and action as a dynamic process towards progress. Kepes was optimistic on this point.

Optimism notwithstanding, not long after his Cambridge dinner, a disillusioned Kepes broached an alarming predicament in the arts. In his article, "Comments on Art," (1959) he wrote:

> The present human situation resembles that of a lost child. [...] We are incapable of absorbing the new landscape, with its wealth of new sensations; therefore, we cannot reinforce ourselves with the joys of light, color, and forms; the rhythm of sound and movement essential to healthy growth.[46]

The contemporary artist, like the lost child (and Betsy), was unable to meet Kepes's evolutionary demands. Art suffered from a crippling point-of-view.

Seeing the future as a "new landscape" suggested that Kepes based his linguistic theory of pictorial representation, his language of vision, on a natural history of vision: an evolution from primate activity to human activity and beyond where the horizon of progress was available to those beings who stood upright and looked straight-ahead-those who kept their eyes peeled.[47]

VI. Conclusion

To summarize, a new vision, as Kepes had it, depended on an active relationship between disparate items that were reconciled in the mind as image, a physio-mental syntax of sorts. Following Whitehead and Morris, Kepes located meaning in relations between distinct things, not in the things themselves. Furthermore, the integration of "meaningful signs," according to Kepes, was indicative of a natural human compulsion towards order and uprightness. All one had to do was to read a culture's accumulation of meaningful signs—mediating and reflecting human action—to apprehend the manifold of human activity. And Kepes located a bevy of meaningful signs—both pictorial and linguistic—in contemporary advertising and its attention-grabbing character.[48]

Kepes wrote, "If social conditions allow advertising to serve messages that are justified in the deepest and broadest social sense, advertising art could contribute effectively in preparing the way for a positive popular art, an art reaching everybody and understood by everyone." [49] For Kepes, the key to advertising's impact was its communicative immediacy. Advertising art was free from restriction, it did not feel the weight of art history, nor of institutional practice. As Kepes explained:

> Advertising art, unhandicapped by traditional consideration, was free to develop a visual presentation in which every figure is pictured in the perspective which gives the strongest emphasis to its connectedness in a meaning.[50]

46 Gyorgy Kepes, "Comments on Art" in *New Knowledge in Human Values*, Abraham H. Maslow, ed. (Chicago: Henry Regnery Company, 1959), 86–87.

47 The book that directly followed *Language of Vision, The New Landscape in Art and Science,* took Kepes's goal to the extreme by collecting a vast array of micro- and telephotographic images, the stark beauty of "Grain Boundary Migration in Arc-Melted Hafnium" for example. This "photomicrograph" is emblematic of Kepes's search for an idealized order. Science and advances in optics gave him the means to penetrate the filth and disarray of the world as he saw it. See *The New Landscape in Art and Science* (Chicago: Paul Theobald and Co., 1956).
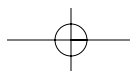
48   In his "Attention and Modernity in the Nineteenth Century," Jonathan Crary remarked on a move away from a Kantian transcendental vision toward what he refers to as "attention." The shift from transcendental vision to attentive vision, or the philosophical notion of distraction replaced by a physiological notion of intense regard, marked the sensing subject's regulation and management. The attentive viewer was a construction, one that arose from a discourse on optics and vision. Crary's argument assumes that attention and sensory perception were constructed from discourse—from "texts and techniques" rather than from a hard-wired physiological capacity. Crary argues that the emergent industrial economy that produced products for consumer consumption was directly related to this epistemic shift. Attention was focused on those products that were for sale. By following Crary's line of argumentation, one could claim that Kepes's *Language of Vision* was yet another example of a text constructing vision—literally pointing to what it is that we are to see in the world and turning our attention toward consumer products for consumption. Admittedly, *Language of Vision* promoted a discourse on vision that was commensurate with a post-war industrial economy. Nevertheless, the question remains as to whether Kepes's text literally formed vision materially, or whether his text broadened the parameters of what was acknowledged as a way of seeing the world. And yes, that world was deluged with merchandise. See Jonathan Crary, "Attention and Modernity in the Nineteenth Century" in *Picturing Science Producing Art*, Caroline A. Jones and Peter Gallison, with Amy Slaton, eds. (New York and London: Routledge, 1998).

49   Kepes, *Language of Vision* (Chicago: 1944), 221.

50   Ibid., 98.

51   Walter Dill Scott, *The Psychology of Advertising* (New York: McBride, 1932), 43–53.

52   René Girard, "Mimetic Desire" in *Things Hidden Since the Foundation of the World* (Stanford: Stanford University Press, 1987), 294–298.

A "positive popular art" was unschooled, primitive in its conception—in its directness—but not in its execution. As I stated earlier, in no way did Kepes mean to suggest that his "new structure order" was analogous to the regressive tendencies of an affected primitivism in art, hence "new." Indeed, Kepes' examples of advertising art were the very instantiation of technological sophistication in terms of image production. Photographic montage, image transparency, breadth of scale, line contrast, color saturation, and fidelity of reproduction were all put in the service of commerce. In drawing attention, the advanced technics of advertising art then were capable of engaging an audience on the level of visual experience, where, Kepes believed, meaning resided. Accordingly, visual experience was the key to effective communication because knowledge itself was built from the discrete units of what was gathered from the optical array.

Yet, a positive popular culture would have to come at a price. As Kepes sought to reveal the "structural laws" of an expanded sensory field's manifestation in experience, and to unveil its "social meaning," he inadvertently revealed the repressive nature of an evolved sensory field, a transition from the embodied eye to the disembodied eye. What was the social meaning of an expanded sensory field, a field dominated by vision? If advertising were the most advanced form of pictorial representation, the apex of human communication, then it would have to repress a great deal. Indeed, advertising showed its audience a horizon of possibilities through an accumulation of capital, or revenue-producing assets, that regulated perception. Those possibilities were predicated on what one theorist observed to be "interest incentives" based on personal welfare.[51] The underlying structure, however, was a logic of desire whereby advertising ritualized cultural assimilation. It offered images that capitalized on a human propensity for mimesis, for assimilating that which one desired but could never acquire.[52]

The ever-present, unattainable future that advertising presented to Kepes, however, was contrary to his belief in the primacy of visual experience and its connectedness to meaning. After all, the groundwork of post-war American advertising was to suspend direct experience, if for only a moment, thereby substituting it with a commodity form. The underlying logic in *Language of Vision*—an imminence of order, a world—finding cohesion rather than a cohesive world in-and-of-itself-confirmed the social meaning of an evolved sensory field dominated by vision. And desire born from economic ideology accommodated Kepes's naturalist approach to a social history that was analogous to a natural history of vision. It also exposed the metaphysics undergirding Kepes's so called positivism.

In "The Creative Discipline of Our Visual Environment" (1947), Kepes clarified the underlying bias of *Language of Vision* by summoning forth a "healthy vision" free from the toxic mess of the

world, from the filth of the body. He referred to men who were not "fully" men due to distorted vision. He also denigrated the sensual body and its proximity to other bodies. Healthy vision required that the eye disengage from the body, to rise above the ground, and to dominate its surroundings. Kepes made this point explicit when he wrote, "A visual control of the environment, guided by [...] healthy vision would give man not only a healthier, sounder physical setting, but also what is as important, it would increase his stature." [53] I take Kepes to have meant "stature" in its literal sense: the height of a human body.

Such a gain in height, in vertical carriage, was not to be, however. Twelve years later in "Comments on Art" (1959) Kepes complained that the world still suffered from rapid decay. Industrial and technological progress had not supplied a nurturing environment for visual acumen nor social progress. Instead, Kepes saw a world that "shocks and numbs our sensibilities." [54] He continued, "... our gestures and facial expressions mount up to grotesque, formless aggregates lacking sincerity, scale, and cleanliness." He claimed that our physical comportment was deformed, and that we lacked "cleanliness" due to the body's stupefaction. Suffering a regression, we were getting closer to the ground. "Our distorted surroundings, by distorting us, have robbed us of the power to make our experience rich and coherent." [55] While optical adroitness entailed loss of visual static, of complexity, of contradiction, and of palimpsestic depth due to an accumulation of all unnecessary fragments, constructions of the world would forever be sullied, tainted by the brutishness of contemporary culture.

The wholeness that Kepes desired, the unrealized aggregate form, did not result in a positive social goal. In the final analysis, he was unable to reconcile the appearance of the world and the world as it exists materially. Kepes's rhetoric appealed more to hygiene than logic: idealized clarity, not realized clarity. His theory of visual representation, a language of vision, could not accommodate the possibility that the physiological fiber of sight—the way we see—remains stable and is not essentially contingent—as is what we see. Kepes's theory of vision fell into the gap that kept the way and the what of vision at some distance. I do not believe that Kepes claimed any great mystery; rather, he inadvertently underscored the fact that a strict theory that explains the way we see does not necessarily disclose the meaning of what we see. Kepes preferred the latter of the two; and his preference resulted in a symbolic world at the expense of a material world.

53 Gyorgy Kepes, "The Creative Discipline of Our Visual Environment," *College Art Journal* 7:1 (1947): 19.
54 Gyorgy Kepes, "Comments on Art" (1959), 90.
55 Ibid.