

THE JUDGEMENT OF THE EYE: THE METAMORPHOSES OF GEOMETRY—ONE OF THE SOURCES OF VISUAL PERCEPTION AND CONSCIOUSNESS

by Jürgen Weber. Springer-Verlag,
Vienna, Austria and New York, NY,
U.S.A., 2002. 200 pp., illus. Paper.
ISBN: 3-211-83768-X.

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Of the many books that have recently explored relationships among art, perception and geometry, Jürgen Weber's *Judgement of the Eye: The Metamorphoses of Geometry—One of the Sources of Visual Perception and Consciousness* stands out. In this recently published work, Weber effectively brings his background in science together with his life as a sculptor, painter and art educator. Overall the book acquaints the reader with the extensive research program that evolved as Weber studied a number of questions of interest to him. As he explains at the beginning, the book is "essentially about what forms say to us, what information they convey about their very existence, how we understand their language. How does their expression come about?"

To its credit, the book offers a good survey of visual perception and an adequate sense of how one might balance art, neurophysiology and perceptual psychology. Weber has obviously studied a number of areas related to vision and art. Most impressive is the way he uses several neurological case studies in the beginning of the book to set the stage for his inquiry into expression and perception. Gestalt psychology and the work of a number of gestalt psychologists are also well stated. Weber surveys the work of gestalt (form) psychologists such as Köhler, Koffka and Arnheim to convey the history and distinctions of this movement. As he explains, these psychologists were the first to state that geometric forms played a decisive role in visual perception and recognition. His efforts to

relate gestalt psychology to the Lie Transformation theory are a bit hard to follow. Nonetheless, Weber does convey that this second movement followed a completely different path. Essentially, those who worked with the Lie theory of continual transformation groups (e.g. Hoffman, Dodwell) attempted to relate the simple geometrical forms produced by the visual cortex with environmental phenomena.

Perhaps Weber's greatest contributions to the work of the gestalt psychologists and Lie theorists are the experiments he conducted with his students. Some mentioned in this book include asking them to respond to basic shapes and drawings, to reproduce shapes from memory as well as identification, and to complete tasks that included 2D, 3D and rotated shapes and surfaces. Weber, moreover, does not restrict his work to static shapes. He also asks about movement and how Euclidean forms might undergo a geometric metamorphosis. This allows him to compare historical art and traditions such as Egyptian and Greek art.

Several aspects of the book, however, undermine its effectiveness. Although much of the discussion encourages the reader to look closely and thus aids perceptual understanding, the format of the book works against it. The carefully chosen images effectively illustrate ideas about shape, memory, how we see and how art is made. Yet it is difficult to interrelate the text and images due to the book's structure, which relegates the images to a separate section at the back. The 83 pages of 501 primarily black-and-white images could have easily been integrated into the body of the text. In my opinion, the decision to print these images separately makes them difficult to use, particularly since pages with images contained 6 to 8 pictures of various shapes and sizes. Indeed, the need to keep turning pages to locate the appropriate images was distracting, and about halfway into the book I found I had lost patience when I needed to search through a page full of images to find the number mentioned in the text. I would have also liked a longer index and a more extensive bibliography. Hoffman, for example, is mentioned frequently throughout the book, but I failed to find a single text by him listed in the bibliography.

In summary, Weber impressively brings his work as an artist and art educator together with a number of disciplines outside his field. Asking how

we see, why we do not see what appears on the retina, and how we see additional information such as the mood contained within a facial expression (among other things), Weber effectively asks good, important questions about perception. He ably succeeds in aiding the reader to look closely at what is seen. The book, as a result, is successful in extending scientific theories into the world of practice and expression.

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