

# Foreword

## for a sixty-year-old triangle

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The 1954 is a quite productive year of Kanizsa's scientific life, at the start of his career as Director of the Institute of Psychology of the University of Trieste, spanning more than two decades. Besides being the year of publication of two influential papers, on the influence of contour gradient on color appearance (Kanizsa 1954a) and on contrast and assimilation (Kanizsa 1954b), it marks the time of his participation in the tenth meeting of Italian psychologists in Chianciano Terme.

Together with other members of a selected group of new full professors of psychology attending the meeting, Kanizsa was welcome as an active and enthusiastic scientist in the address delivered by Mario Ponzo, president of the *Italian Society of Psychology* and universally known for the visual illusion that brings his name, first demonstrated in 1911, a couple of years before Kanizsa's birth. In the same address Ponzo presented psychology as the "salt of science", because of its ubiquitous presence in all expressions of human creativity and its capability of preserving the meaning of scientific problems.

We might be skeptic about the validity of such a metaphor for psychology as a whole. But we must recognize that it is appropriate for most of Kanizsa's discoveries in the Fifties; in particular, for the ingenious invention of the illusory triangle, first published in a compact but tasty paper included in the proceedings of the Chianciano meeting (Kanizsa 1954c). Here, the 1954 paper on "phenomenal margins in the absence of stimulation discontinuities" appears for the first time in English, to celebrate the sixtieth anniversary of a demonstration that has attracted increasing attention in all disciplines shaded by the umbrella of vision science, having played the role – among other things – of cover image for Marr's *Vision* (1982).

The 1954 paper anticipates most arguments fully developed in the extensive article published in the following year (Kanizsa 1955) and available in English as Chapter 4 of Petry and Meyer's book on illusory contours (Petry & Meyer 1987) together with the theoretical revision about the role of regularity in completion phenomena (Kanizsa 1987). Notably, the 1954 title (featuring "phenomenal margins in the absence of...") is better than the 1955 title, which included the expression "quasi-perceptual margins", later rejected as inappropriate (Kanizsa 1979).

However, the "quasi-perceptual" label appears also in the 1954 text and finds its justification in the process that led to the discovery of the illusory triangle: Kanizsa used as a basic construct the continuum from arbitrary top-down imagination and thinking to constrained bottom-up perception. Many lines between points can be imagined, but this does not make them phenomenally present; whereas stimulus conditions (shape truncation) and organizational forces (the tendency to completion) can produce a kind of phenomenal presence that was called quasi-perceptual not to weaken its degree of evidence but to emphasize the absence of the normal counterpart of a perceptual margin; i.e., a local discontinuity in stimulation.

Furthermore, the 1954 paper contains a well-formed demonstration that form improvement is the basic process leading to the emergence of shapes bounded by illusory contours. The theoretical argument is developed through the comparison of Figures 4 and 5. According to Kanizsa, amodal completion of stimulus elements (made phenomenally incomplete by careful truncations) provides the driving force for scission of a homogeneous stimulus field into an occluding shape and an occluded background. As remarked by van Lier and Gerbino (2014), the "amodal datum" had been introduced as a phenomenological notion only a few years earlier by Michotte and Burke (1951) and the idea that amodal complements may be the result of a completion process – though present within the Michotte's school (Glynn 1954) – was still at an embryonic stage.

As a translator, I hope that scholars interested in the development of scientific ideas will appreciate this little paper and the determination of its author to discover at least one of the missing links between perception and cognition; a determination propagated over our annual *Trieste Symposia*.

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