

## INTRODUCTION

In general, one would expect philosophers to be enthusiast about scientists who contribute new findings and new views on age-old questions. Recently, philosophers interested in the issue of the epistemological status of colors and their descriptive use in art could add to the literature that they consult, books like Semir Zeki's *Inner Vision: An Exploration of Art and the Brain* (Oxford University Press, 1999) and Margaret Livingstone's *Vision and Art: The Biology of Seeing* (Abrams, 2002). Both authors belong to the twentieth century pioneers in the neurophysiological study of vision. Obviously, one should welcome their willingness to bring their findings to bear upon representational art, thereby updating the knowledge of relevant audiences with recent discoveries, but also facing the challenge of tackling tricky issues in epistemology. While eagerly accepting their new scientific findings and insights, philosophers are less eager to subscribe to the epistemological consequences that scientists associate with these findings. This applies in the first place to Mia Gosselin's contribution for this issue.

In a complete monograph on the notion of color in science and art (*Pictorial Art as a Natural and Cultural Phenomenon. The Role of Facts, Conventions and Creativity in the Interpretation of the Colours of Pictures*) which unfortunately is too large to be included here and is prepared for a separate publication, Gosselin demonstrates her acquaintance with a whole range of recent developments in the area of color perception. Despite her obvious appreciation for these findings, she cannot agree with the epistemological meaning ascribed to them. In the discussion included here, which is a part of the monograph, she takes a stand on the issue of nominalism and realism with respect to the perceptual attributes for which Zeki has traced part of the neurophysiological mechanisms. While Zeki's scientific contribution is impressively mature, Gosselin finds his philosophical interpretation remarkably naïve. However, one can understand Zeki's enthusiasm,

partly on historical grounds. David Marr ended his pivotal 1982 book on "Vision" (San Francisco, Freeman) with an interview that included some discussion of painters. His suggestion was that various painters or painting schools pick out a stage or segment in a linearly organized sequential process of composing a percept. Impressionists might be primarily preoccupied with the blobs and stripes of 2D while a postimpressionist like Cézanne would organize his canvas in terms of the oriented surfaces of 2.5D. At the 3D stage, or even beyond, could figure movements like cubism with representations of a structural formula for assembling a perceptual object. The way in which AI and life scientists assimilate such painting schools into their analytic schemes suggests that in terms of discovery, the painters were ahead of the scientists. They explored units of analysis in simulations using dashes of paint rather than the linguistic symbols by which scientists express their theories. Zeki's reports are similar to Marr's, locating or suggesting in the brain the computational modules in which reside some of the units of analysis that particular painting schools have used to decompose their subjects. Zeki is fascinated by these fundamental invariants and sees them as the expression of an ever recurrent strategy of organisms to detect an immutable world behind changing appearances. Gosselin sees a source of great confusion in the objectification of these invariants into platonist ideas that artists in particular would try to express as fundamental truths. "Empiricists are the natural allies of neurobiology, not rationalists or idealists" she says, thereby promoting Occam's nominalism as superior to an obsolete idealism. But even if truth ultimately resides in individuation, its computation depends on the general categories revered by Zeki. Noticing that in his empirical reports Zeki takes away some of the "occultness" with which the brain produces the "natural signs" by which nominalist Occam represents aspects of the world, one realizes that he is more a friend than a foe for Gosselin.

Among the specific color issues dealt with is the traditional philosophical problem of spectrum inversion seen in a new way by Erik Myin. As he sees it, the spectrum inversion thought experiment exploits one of the main reasons why color has been considered a 'secondary' quality, namely that the color sensation (the way it feels to see red) is arbitrary with respect to the color stimulus (light with such and such physical characteristics). By starting with lightness perception instead of full color perception, he tries to offer reasons for the different viewpoint

that at least lightness experience is not arbitrarily related to the stimuli that lead to it. He then suggests how a treatment of hue as a specific kind of lightness might lead to the same conclusion with respect to color.

Although the importance, both historically and systematically, of the seventeenth century distinction between primary and secondary qualities is commonly recognised, there is no consensus on its exact nature. Apparently, one of the main difficulties in its interpretation is to tell the constitutive from the argumentative elements. In their contribution, Tim De Mey and Markku Keinänen focus on the primary-secondary quality distinctions drawn by Boyle and Locke criticising, more specifically, MacIntosh's analysis of them. On the one hand, MacIntosh attributes too many different primary-secondary quality distinctions to Boyle and Locke. On the other hand, he forbears to attribute a particular primary-secondary quality distinction to them, which, at least in the case of Boyle, differs genuinely from his main distinction between the mechanical affections of matter and all of matter's other qualities.

In a careful methodological analysis Tom Seppalainen shows that the link between color subjectivism and what he calls "good sciences" is less solid than it appears. How could color subjectivism win, he asks, if all the participants in the color ontology debate are naturalists with good sciences on their side? The apparent reason is that subjectivism is premised on the opponent paradigm which follows a reductive looks-like methodology that matches common ontological intuitions. To undermine its ontological appeal, he argues against its scientific merits in order to show that color subjectivism does not gain support from this type of neurobiological reductionism.

Color is the painter's chief asset. The city of Ghent harbours with Jan (and Hubert?) Van Eyck's Ghent altarpiece one of the pivotal paintings in the history of art. Besides its intriguing iconography, its splendid colors constitute one of its most outstanding features. Ghent University has already devoted a DVD<sup>1</sup> to the iconography, and more is in the make with respect to perspective and optics. However, among the many colorful panels of the Ghent altarpiece are also some in grisaille. Jan Van Eyck is one of the early initiators of this mainly Flemish custom

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<sup>1</sup> The Ghent University DVD on the Ghent altarpiece is entitled "De Visione Dei" and available through art book publisher Mercator, Antwerp; see [www.flwi.rug.ac.be/DeVisioneDei](http://www.flwi.rug.ac.be/DeVisioneDei).

of having part of a polyptych done almost monochromatically. It would provide a complementary exploration of the status and function of color if an explanation could be found for this remarkable restriction imposed upon himself by a painter who is so obviously capable of handling color. Could there be a hint of the painter for the philosopher and the scholar of perception? A tentative answer is explored with illustrations in "full color".

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