Mirror and canonical neurons are not constitutive of aesthetic response

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The alleged neural basis of empathic responses to artworks is only of marginal relevance for aesthetics and for cognitive theories of art, contrary to Gallese and Freedberg [1].

The activity of the mirror neuron system (MNS) has been claimed to provide the neural underpinnings for several mental capacities, including, but not limited to, imitation, mindreading, language understanding and concept formation. According to Gallese and Freedberg [1], MNS or so-called ‘canonical’ neurons (or both) are crucially involved in our aesthetic appreciation as well. The claim concerns both the representational content and the vehicle of artworks. There are empathic responses to the representational content of artworks in which actions, objects and sensory interactions (e.g. human bodies being touched or wounded) are displayed; and responses to vehicles (e.g. paint on canvas, sculpted surfaces) in which the gestures of artists are readable from the traces they left (e.g. brushwork). The idea is presented as a major step forward in a landscape of aesthetic studies where the only cognitively relevant aspects of art are ‘dismembered’ ones, and as new support for neglected or forgotten studies in which empathic or bodily effects were taken to have a major role in aesthetic appreciation.

The proposal is, however, open to the charge of irrelevance to the issues of aesthetic experience and of what constitutes artworks. Already the choice of artworks to be discussed, such as the Michelangelo, Goya, Caravaggio and Pollock quoted in ref. [1], is open to objection: all the works are both famous, so as to suggest and emphasize the importance of this issue for art; and mostly gory, so as better to nail the empathic point. Moreover, the examples are not used specifically. In the case of empathic responses to content, witnessing the corresponding nonartistic real-life scenes, say, of a man trying to escape from a mould of clay, of genital mutilation or of a finger probing an open wound, is expected to arouse relevantly similar responses as those provoked by the artistic examples. In the case of somatic responses to the vehicle, the perception of nonartistic handwriting (itself mentioned in ref. [1]) is documented to have the requested somatic effects that are so telling in the Pollock and Fontana examples. Activation of MNS or of canonical neurons is thus not sufficient for aesthetic appraisal or judgments that something is an artwork. Nor is such activation necessary. Purely conceptual artworks are unlikely to activate the requested motor responses; but artworks they are, and we can appraise them aesthetically.

Two comments:

(i) The question that is relevant to a theory of art is whether empathic response is constitutive of aesthetic response tout court. This is clearly an issue to be addressed before, and independently of, establishing the possible neural underpinnings of empathic response.

(ii) In the case of responses to the vehicle, a promising avenue is open to empathic accounts, considering the nonmarginal corpus of drawings (see Box) and calligraphy in the whole of artistic production (as opposed to the relative marginality of Pollocks and Fontanas).

References