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Reviews

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**On reflection** by Jonathan Miller; National Gallery Publications, London (distributed by Yale University Press, London and New Haven, CT), 1998, 224 pages, £25.00 cloth (\$40.00) ISBN 185709 236 8 (£15 .00 paper, from the National Gallery only, ISBN 1 85709 237 6)

This book (and the exhibition it accompanies) is a feast for the eyes and an entertaining picnic for the mind. As is quite legitimate with picnics, the author has profited from the leftovers of a recent banquet, Richard Gregory's *Mirrors in Mind* (W H Freeman, Spectrum, 1997), a fact which is fully acknowledged in the bibliography. Admittedly, the author has not always used his source with care. Thus his account of mirror reversal (page 91), accompanied by vivid diagrams, closely follows that of Richard Feynman (Gregory 1997, page 101), but he incautiously spoils it when he speaks of the "uncontroversial claim that mirrors reflect things the right way up". But a book, for example, rotated around its horizontal axis to face the mirror appears upside down (as it is) and not right/left reversed. When Dr Miller next sits down to a meal he might do well to look into a spoon, for if it is sufficiently well polished, he will indeed see himself reflected upside down in its business end. If he turns it over, he will see his image distorted but the right way up. These elementary facts of the branch of optics, called by the ancients catoptrics, are admittedly taken as read in Gregory's book, which concentrates on psychological puzzles such as the problem of how we know, without a mirror, what our face looks like. Miller discusses these enigmas with characteristic zest, since he is especially interested in our innate dispositions. Even so, he is sure to appreciate the story that circulated in France a few decades ago telling of a visit made by de Gaulle to an art exhibition: Having spotted and admired masterpieces by Titian and Rembrandt, he stops in the last room and exclaims: "Tiens! Un Picasso!" "Non, mon Général, c'est un miroir."

Joking apart, the extent to which the face in the mirror resembles us as others see us depends, as Miller knows, on its degree of asymmetry. I knew a young lady with a markedly asymmetrical hairdo, who allegedly expressed surprise that the snapshots made of her improved in likeness when they were printed the wrong way round. The most notorious problem of reversal concerns, of course, the self-portrait, in which the artist must consult a mirror. Giotto is described by a Florentine chronicler, Filippo Villani, as having done so; though, if his self-portrait ever existed, it is lost. Strangely enough, the author is inclined to doubt Dürer's explicit statement written on his juvenile self-portrait that it was done with a mirror, because it does not offer a frontal view giving "the paradoxical impression that he reproduced his own image without actually seeing it" (page 178). Here and elsewhere Miller clearly underrates the role which the visual memory plays in

drawing from a model. He is even less convincing when he says: "the right hand, which would have been executing the drawing, is disconcertingly idle, as is paralysed behind the sleeve on his left arm...it looks like a portrait drawn by someone else". What looks like the left hand in the drawing - which is indeed hidden - was of course Dürer's right hand, which moved too fast for him to incorporate it in the image. The same is true of very many self-portraits, some of which are illustrated in the book under review.

As the title indicates, much of it is taken up with examples of reflection rather than mirrors - that is, with the phenomena of lustre, gleam and highlights, which, as Miller claims, have been somewhat neglected. He is right that "a factor which influences the visibility of lustre and sheen is the curvature of the surface from which it is reflected" (page 21). It could not be otherwise, since these surfaces resemble concave mirrors which gather the light rays from a large area - witness the armour of St George (pages 13 and 109), the drinking horn (page 21) or the candelabra in the Arnolfini Portrait (pages 31 and 55). However, he is wrong when he continues: "Highlights which are thrown off from sharply-angled surfaces come and go with captivating abruptness, should either the observer or the object shift. This is why diamonds glitter or scintillate when twiddled in the incident light." The reason why polished diamonds glitter in the colours of the rainbow is again set out in Gregory's book, which also offers a diagram (Gregory 1997, page 118). Since sharply-angled surfaces represent merely an extreme case of curvature, they are particularly prone to gleam from whatever angle they are seen, as can be noticed most tellingly on the photograph of Hoogstraten's box (page 105), where the edges and ridges of the wooden framework reflect the light. Painters, and ladies who powder their noses, know that the glimmer of edges or extreme curvatures remains particularly stable.

The German poet Rainer Maria Rilke evidently shared Jonathan Miller's contagious fascination with the mysteries of mirrors when he wrote: "Mirrors: no-one as yet has described when in your essence they really are" (*Spiegel: noch nie hat man wissend beschrieben was Ihr in eurem Wesen seid*).