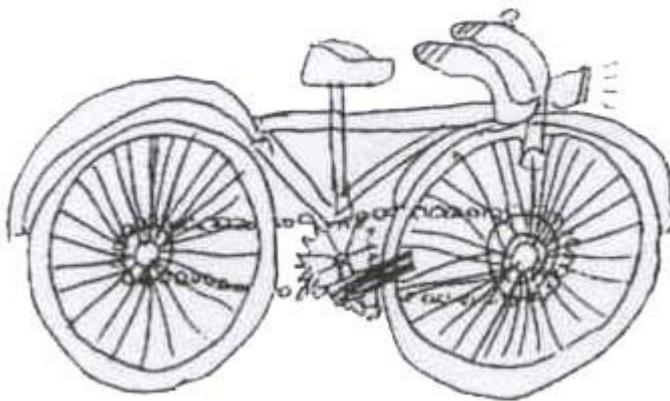


E. H. Gombrich, A Note Further to the Drawing of Bicycles, Perception, Vol. 28, 1999, pp.801 [Trapp no.1999D.1]

Professor Sir Ernst Gombrich has contributed the following note commenting on the recent editorial celebrating his 90th birthday. This included a drawing of a bicycle – which was impossible, as a chain went to the front wheels, preventing them turning corners. Here is his reply – for which many thanks.



A 'normal' drawing of a bicycle. The chain on the front wheel is impossible: How would it steer?

A Note Further to the Drawing of Bicycles

In his most generous Editorial on the occasion of my ninetieth birthday, the Editor tells of a seminar he once attended in which the inability to draw a bicycle was considered symptomatic of brain damage. Ingenious as always, Professor Gregory turned the tables on the experimenters by submitting them to the same test – in which they failed, as did other perfectly sane students used to cycling. How, he asked, would this observation tally with the tenets of *Art and Illusion*? May I reply that in a later paper, published in my *Visual Discovery through Art*, I emphasised the distinction between recognition and recall? We can all recognise a bicycle, and we can recognise it without difficulty in the drawing Professor Gregory reproduced – after all, it has all the elements we remember: two wheels of equal size, one behind the other, handlebars in front, and pedals between the wheels linked to a chain. Where the attempt went wrong was only in recalling the way the elements are fitted together – much as a child who can tell the features of face and body usually fails to join them correctly. It takes many hours in the life class to learn to do this, though we generally can notice any mistakes or distortions (by the way, has anybody yet investigated whether this applies to members of all cultures, that is, to those who are not habituated to realism in art or to photographs?).

Obviously our recall mainly fastens on what linguists call “distinctive features”, which may save the brain a good deal of storage space; it is these features which dominate our global perceptions. But in drawing, as I insisted, we must proceed by “schema and correction” or by “making and matching”. It turns out that the case of the bicycle wheel offers a useful example. The drawing reproduced in Gregory’s editorial suggests the schema of a wheel with radiating spokes, and that misconception will be found to be frequent. In fact, the spokes of a bicycle wheel do not radiate evenly from the axle but frequently cross each other. Even those of us whose brain is still reasonably intact may have to check the arrangement before drawing it.