

# Gombrich on image and time

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There is a very close, indeed intrinsic, connection between the notions of image and time. Images are incomplete unless they are moving ones – unless, that is, they happen in time. On the other hand, time cannot be conceptualized except by metaphors, and so ultimately by images, of movement in space. That only the moving image is a full-fledged one is a fact that was fully recognized and articulated by Ernst Gombrich.<sup>1</sup> And of course Gombrich entertained, and argued for, a rich and well-balanced view of the relationships between pictorial and verbal representation. An antidote to the unholy influence of Goodman,<sup>2</sup> Gombrich deserves to be rediscovered, or indeed discovered, in particular in Germany, as the figure whose work, complemented by that of Rudolf Arnheim<sup>3</sup> and possibly by that of Hans Belting,<sup>4</sup> is ideally suited to providing a founding paradigm for a truly successful philosophy of images.

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<sup>1</sup> I had been unaware of this particular aspect of Gombrich's work when I wrote my paper 'The Picture Theory of Reason' (given at the 2000 International Ludwig Wittgenstein Symposium, Kirchberg am Wechsel, published in Berit Brogaard and Barry Smith, eds, *Rationality and Irrationality*, Wien: öbv-hpt, 2001), a paper in which I noted that mental imagery appears to be a matter of dynamic, rather than static, pictorial representations, that still images are, psychologically speaking, but *limiting cases* of dynamic ones, and that, with the development of twentieth-century visual culture, the same seems to have become the case with regard to pictures in the world around us, too – think of film and video. On the other hand, in that paper I referred to the Oxford philosopher H. H. Price, who in his 1953 book *Thinking and Experience* had put forward the idea that while static images stand in need of interpretation because of their systematic ambiguity, 'cinematographic' images go a long way towards being disambiguous.

<sup>2</sup> Although Nelson Goodman's *Languages of Art* was very much inspired by Gombrich, the latter, as I noted in 'The Picture Theory of Reason', had in the years following upon the publication of his *Art and Illusion* moved closer to a naturalistic account of images, coming to see in Goodman but an extreme relativist or conventionalist.

<sup>3</sup> Gombrich and Arnheim were rivals, and the former's dubious praise of the latter in his *Art and Illusion: A Study in the Psychology of Pictorial Representation*, London: Phaidon Press, 1960, 22, was reciprocated with some biting criticisms by Arnheim in several reviews he wrote of Gombrich (on *Art and Illusion*, in *Art Bulletin* 44, March 1962; on *The Sense of Order*, in *The New Republic*, 10 March 1979; and on the collection *The Image and the Eye*, in *Times Literary Supplement*, 29 October 1982). However, seen from today's perspective, the parallels in the work of the two seem to be much more important than the differences (this is the view taken also by Ian Verstegen, in his 'Arnheim and Gombrich in Social Scientific Perspective', *Journal for the Theory of Social Behaviour*, vol. 34, no. 1, 2004). Two ideas which are significantly more marked in the work of Arnheim than in that of Gombrich are the primordially of the pictorial, and the possibility of generic images; there can be no doubt that here Gombrich will gain by being supplemented by Arnheim. On the

## Discovering Gombrich

To this day, Gombrich is primarily known as the author of the book *Art and Illusion*, first published in 1960. Now although in that book, as I will attempt to show in the present paper, the beginnings of what we can call Gombrich's philosophy of images are certainly present, it was a number of studies written in the 1960s and 1970s in which that philosophy was actually elaborated.<sup>5</sup> Let me here list the ones I consider most important. 1964 saw the appearance of the essay 'Moment and Movement in Art',<sup>6</sup> of central importance to the topic of image and time. The 1965 paper 'Visual Discovery through Art',<sup>7</sup> presented by Gombrich as a taking stock once more of, and a formulating of some afterthoughts on, the issues dealt with in *Art and Illusion*, is a major step forward in dealing with the problems of pictorial realism, generic images, and visual context.

In the lengthy study 'The Evidence of Images', published in 1969, where the tone is set by a quote from Ulric Neisser referring to Brentano, Bergson, and James, with Neisser stressing that 'the mechanisms of visual imagination are continuous with those of visual perception',<sup>8</sup> Gombrich adds substantial new material to his discussion in *Art and Illusion* of visual perception as being dependent on movement. The paper 'The Mask and the Face',<sup>9</sup> Gombrich's 1970 Thalheimer Lecture, recapitulates ideas from the chapter on caricature in *Art and Illusion*, but also represents another significant move towards coming to terms with the topic of time and image. The essay 'The Visual Image', written

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other hand, a seemingly promising avenue that might appear to lead to a better understanding of the similarities between Gombrich and Arnheim, namely the issue of their both being indebted to the work of Wolfgang Köhler, turns out to be a blind alley. Arnheim studied with Köhler and with Max Wertheimer, Köhler having earlier served as subject for Wertheimer's experiments on apparent movement, and it is obvious that Arnheim's notions about vision in general and the moving image in particular are very much rooted in the Wertheimer-Köhler Gestalt tradition. But while Gombrich actually took up a university course delivered by Köhler in Berlin in the 1930s, met the latter in Princeton after the war, and referred repeatedly to him in his writings beginning with *Art and Illusion*, the two were (some contrary allusions notwithstanding) never close, and Köhler's ideas left no real trace in Gombrich's work.

<sup>4</sup> Gombrich's occasional references to the *mask* (see e.g. his 'Visual Discovery through Art', *Arts Magazine*, November 1965, repr. in James Hogg, ed., *Psychology and the Visual Arts*, Harmondsworth, Middlesex: Penguin, 1969, 227, and esp. his 'The Mask and the Face: The Perception of Physiognomic Likeness in Life and Art', in Gombrich et al., *Art, Perception, and Reality*, Baltimore: The Johns Hopkins University Press, 1972) as well as to the 'art of makeup' as 'one of the oldest forms of visual art' (see his 'The Evidence of Images', in C. S. Singleton, ed., *Interpretation, Theory and Practice*, Baltimore: Johns Hopkins University Press, 1969) do certainly not add up to an *anthropology of images* in the sense of Belting. See the latter's *Bild-Anthropologie: Entwürfe für eine Bildwissenschaft*, München: Wilhelm Fink Verlag, 2001.

<sup>5</sup> In taking this view of the matter, I feel encouraged by a recent conversation I had with Richard Woodfield, creator of the online Gombrich Archive, Honorary Senior Research Fellow in the Department of Art History at the University of Glasgow. I am deeply indebted to Woodfield for his continuous and unflinching help in extending my knowledge of Gombrich.

<sup>6</sup> E. H. Gombrich, 'Moment and Movement in Art', *Journal of the Warburg and Courtauld Institutes*, XXVII (1964), 293–306.

<sup>7</sup> Cf. note 4 above.

<sup>8</sup> 'The Evidence of Images' (cf. note 4 above), 40.

<sup>9</sup> Cf. note 4 above.

for a *Scientific American* 1972 special issue on communication, argues for the joint exploitation of the media of word and image, but arrives at the momentous formulation that the 'real value of the image ... is its capacity to convey information that cannot be coded in any other way'.<sup>10</sup> 1972 saw Gombrich's first direct attack on Goodman,<sup>11</sup> the former's main contentions here being that 'Goodman appears to think that the eye must be strictly stationary' whereas 'no stationary view can give us complete information', and also that the pictorial technique of *perspectival representation* reflects something essentially natural and objective – it does not need to be learned to be decoded.<sup>12</sup> The second, devastating, attack came six years later, with Gombrich's paper 'Image and Code: Scope and Limits of Conventionalism in Pictorial Representation',<sup>13</sup> vindicating the common-sense idea of pictures as natural signs, and explicating the controversial concept of *resemblance* by that of *equivalence of response*.<sup>14</sup> As Gombrich here momentarily puts it: 'the images of Nature, at any rate, are not conventional signs, like the words of human language, but show a real visual resemblance, not only to our eyes or our culture but also birds or beasts'.<sup>15</sup> Finally, the paper 'The Arrested Image and the Moving Eye', published in 1980, further pursued the crucial issue of vision and mobility, stressing that the 'perception of movement is different in character from the inspection of a static scene'.<sup>16</sup>

My impression is that the ideas put forward in these writings have never been fully absorbed by Gombrich's readers. Let me here give a few examples, perhaps somewhat random, but together, I believe, adding up to a picture. The prominent American film theorist David Bordwell is definitely an admirer of Gombrich. In his 1997 book *On the History of Film Style*, he speaks of Gombrich's 'scintillating career'<sup>17</sup> and sees himself as 'asking the cinematic counterpart of the question that opens E. H. Gombrich's *Art and Illusion: Why does art have a history?*'.<sup>18</sup> His earlier book *Narration in the Fiction Film*, too, is very much written in the wake of Gombrich; Bordwell here not only makes numerous references to *Art and Illusion*, stressing, mainly, the element of convention and

<sup>10</sup> E. H. Gombrich, 'The Visual Image', *Scientific American*, vol. 227, no. 3, September 1972, 87.

<sup>11</sup> E. H. Gombrich, 'The "What" and the "How": Perspective Representation and the Phenomenal World', in Richard Rudner and Israel Scheffler, eds, *Logic & Art: Essays in Honor of Nelson Goodman*, Indianapolis: Bobbs-Merrill, 1972.

<sup>12</sup> Gombrich, 'The "What" and the "How"', 133, 136 and 148.

<sup>13</sup> Delivered at a symposium in 1978, published in Wendy Steiner, ed., *Image and Code*, Ann Arbor: University of Michigan Press, 1981.

<sup>14</sup> Gombrich, 'Image and Code', 11 and 17.

<sup>15</sup> Gombrich, 'Image and Code', 21. This is the stance Arnheim refers to in his *Times Literary Supplement* review (cf. note 3 above) when he writes that here 'Gombrich rises to the defence of the visual image and its inherent truthfulness, to which even animals respond – an image shaped by simplification and abstraction, to be sure, and by the conventions of pictorial styles, but nature's message nevertheless. ... It is from this secure basis that Gombrich's future work should be able to proceed.'

<sup>16</sup> E. H. Gombrich, 'Standards of Truth: The Arrested Image and the Moving Eye', in W. J. T. Mitchell, ed., *The Language of Images*, Chicago: University of Chicago Press, 1980, 206.

<sup>17</sup> David Bordwell, *On the History of Film Style*, Cambridge, MA: Harvard University Press, 1997, 150.

<sup>18</sup> Bordwell, *On the History of Film Style*, 3.

construction in comprehending images,<sup>19</sup> but draws also on several other studies by Gombrich, in particular on the paper 'Image and Code', saying: 'There is, Gombrich points out, a continuum between natural skills and acquired ones. It seems evident that the ability to comprehend 'scientific' perspectival images is much more easily acquired than, say, the ability to read a language. Perhaps perspectival cues build upon some natural skills, such as the organisms's ability to detect surfaces and edges.'<sup>20</sup> However, his familiarity with 'Image and Code' notwithstanding, Bordwell still attributes to Gombrich the position that 'all images are inherently ambiguous'<sup>21</sup> – even though, to recall, it is in 'Image and Code' that Gombrich makes the strongest case for the position that images can function as unequivocal natural signs.

A recent book by the renowned philosopher of science Bas van Fraassen, *Scientific Representation: Paradoxes of Perspective*, cannot but address some questions that had been at the centre of interest in Gombrich's work. Van Fraassen mentions Gombrich only once, though at the very beginning of the book,<sup>22</sup> but in an incidental context. He takes from *Art and Illusion* a passage Gombrich quotes on Phidias and Alcamenes competing with each other,<sup>23</sup> with Phidias recognizing what Alcamenes did not, that in art distortion might be necessary to achieve faithful rendering. Van Fraassen then goes on to discuss caricature and misrepresentation – a favourite topic of Gombrich's – stressing that 'likeness' or 'resemblance' are elusive notions; that resemblance is always *selective*.<sup>24</sup> But this is a blunder, one that van Fraassen might have avoided by paying closer attention to Gombrich. As the latter had shown in detail in 'Image and Code', the notion of resemblance can be derived from that of visual equivalence. It is not resemblance that is selective, but *equivalence*. Resemblance *is* selective equivalence.<sup>25</sup>

Moving over to the German scene, let me first single out Gottfried Boehm and Oliver Scholz. Introducing his 1985 talk 'Image and Time', Boehm points to his long-standing interest in the problem of time.<sup>26</sup> In the talk, he very briefly mentions Gombrich's 'Moment and Movement in Art',<sup>27</sup> and later makes a passing reference to *Art and Illusion* in a note.<sup>28</sup> When one thinks of the breadth and depth of Gombrich's work on the problems of image, movement, and time, Boehm's parsimoniousness in exploiting the former's results seems somewhat surprising. And quite odd is the way Scholz treats Gombrich in his *Bild, Darstellung, Zeichen*. He designates *Art and Illusion* as an epoch-

<sup>19</sup> David Bordwell, *Narration in the Fiction Film*, Madison, WI: The University of Wisconsin Press, 1985, 33 (cf. note 16 on page 343) and 102 (cf. note 9 on page 347).

<sup>20</sup> Bordwell, *Narration in the Fiction Film*, 107, note 24 here referring to pages 17–21 of 'Image and Code', in Wendy Steiner, ed., *Image and Code*.

<sup>21</sup> Bordwell, *Narration in the Fiction Film*, 102.

<sup>22</sup> Bas C. van Fraassen, *Scientific Representation: Paradoxes of Perspective*, Oxford: Clarendon Press, 2008, 12–13.

<sup>23</sup> Gombrich, *Art and Illusion*, 162.

<sup>24</sup> Van Fraassen, *Scientific Representation*, 18, 33, 57, and *passim*.

<sup>25</sup> Gombrich, 'Image and Code', 17 and 21.

<sup>26</sup> Gottfried Boehm, 'Bild und Zeit', in Hannelore Paflik, ed., *Das Phänomen Zeit in Kunst und Wissenschaft*, Weinheim: VCH, 1987, 1, starred note.

<sup>27</sup> Boehm, 'Bild und Zeit', 5.

<sup>28</sup> Boehm, 'Bild und Zeit', 8, note 13.

making investigation,<sup>29</sup> and lists Gombrich's work (together with the writings of Barthes and Goodman) as one of the 'initial ignitors' of the interest in pictorial representation,<sup>30</sup> but then mentions him only very occasionally, mostly in slighting terms, and with practically no reference to his post-1960 studies.<sup>31</sup>

In the contemporary German reception of Gombrich, a definitely exceptional role is played by Klaus Sachs-Hombach, who in his book *Das Bild als kommunikatives Medium* provides an illuminating and balanced picture of the former's results. Gombrich's real contribution to a theory of images, stresses Sachs-Hombach, consists in his showing that resemblance and cultural conditioning both play a role in pictorial perception.<sup>32</sup> Gombrich is not a conventionalist in the sense of Goodman, but nor does he believe that aiming at resemblance necessarily involves the attempt to set up an illusion.<sup>33</sup> According to Gombrich, it is significant that images created by nature will fulfil their function without displaying perfect likeness. As Sachs-Hombach puts it: 'the success of imitations – and of the various forms of mimicry in the animal and plant world – does not at all depend on the images being as naturalistic as possible; on the contrary, it is schematized representations that are, as a rule, the most suitable, with a rough rendering of size and form, displaying some essential species-specific characteristic'.<sup>34</sup> Man-made images, too, might well carry definite meanings by themselves – without the help of conventions; this is especially true when it comes to moving images. 'With the temporal dimension of film', writes Sachs-Hombach, 'there occurs a disambiguation of what is represented – dispelling many uncertainties, and leading to a more immediate, perception-like, recognition of pictorial content'.<sup>35</sup> In Gombrich's work, Sachs-Hombach clearly suggests, meaning, image, and time are closely bound up with each other.

## Word and image

While recognizing the communicative potential of images, Gombrich is fully aware, as I indicated earlier, of the role of *language* in pictorial representation – of the complex interrelationships between word and image. In *Art and Illusion*, he was fond of talking of the 'linguistics of the visual image', or the 'language of art',<sup>36</sup> but this was but a metaphoric way of expressing himself: what he had in mind were the vocabulary and

<sup>29</sup> Oliver R. Scholz, *Bild, Darstellung, Zeichen: Philosophische Theorien bildlicher Darstellung*. 2nd, completely rev. ed., Frankfurt/M.: Klostermann, 2004, 2.

<sup>30</sup> Scholz, *Bild, Darstellung, Zeichen*, 4.

<sup>31</sup> The single exception is a reference, in note 51 on page 168, to Gombrich's 1961 essay 'How to Read a Painting'.

<sup>32</sup> Klaus Sachs-Hombach, *Das Bild als kommunikatives Medium: Elemente einer allgemeiner Bildwissenschaft*, Köln: Herbert von Halem Verlag, 2003, 135–139.

<sup>33</sup> Sachs-Hombach, *Das Bild als kommunikatives Medium*, 194

<sup>34</sup> Sachs-Hombach, *Das Bild als kommunikatives Medium*, 268, referring to Gombrich's 'Visual Discovery through Art', in Hogg, ed., *Psychology and the Visual Arts* (cf. note 4 above), 226–227.

<sup>35</sup> Sachs-Hombach, *Das Bild als kommunikatives Medium*, 229.

<sup>36</sup> Gombrich, *Art and Illusion*, 7.

grammar, if you like, of *pictorial schemata*, acquired graphic formulas.<sup>37</sup> The real issue of image and word is the one Gombrich introduces at the beginning of *Art and Illusion* with the reference that it was his early, joint research with Ernst Kris 'into the problem of caricature' which first confronted him with 'the question of what is involved in accepting an image as a likeness'.<sup>38</sup> The problem of likeness in caricature is of course just a special case of the problem of likeness in images: in portraits, but also, say, in landscapes. Trivially, two-dimensional pictures, whether line drawings, paintings, or photographs, colour or black-and-white, are not at all like what they represent. However, as Gombrich points out, there are ways to create, and to discern, certain *identities*, or equivalences, that do indeed pertain to the image and its object. 'The invention of portrait caricature', he writes, 'presupposes the theoretical discovery of the difference between likeness and equivalence.'<sup>39</sup> Or, more generally: 'All artistic discoveries are discoveries not of likenesses but of equivalences which enable us to see reality in terms of an image and an image in terms of reality. And this equivalence never rests on the likeness of elements so much as on the identity of responses to certain relationships.'<sup>40</sup> It is here we find the germ of the idea that will surface in its fully developed form in the paper 'Image and Code', in 1987. Equivalences meet the eye, but the pictorial information they convey might not be interpretable in the absence of verbal pointers such as labels and captions.<sup>41</sup> Only with its label added will Constable's painting of Wivenhoe Park 'tell us a good many facts about that country-seat in 1816';<sup>42</sup> only together with the caption 'What have you done with Dr. Millmoss?' will the drawing by James Thurber ('with much charm and humour') recount its sad message.<sup>43</sup> And only the combination of drawing and text creates the specific experience provided by the Töpffer variety of the 'picture story', a precursor of the comic strip.<sup>44</sup> However, the often crucial role of verbal explanations

<sup>37</sup> 'Everything points to the conclusion', writes Gombrich, 'that the phrase 'the language of art' is more than a loose metaphor, that even to describe the visible world in images we need a developed system of schemata' (*Art and Illusion*, 76). What Gombrich here means is clear – he applies a metaphor, even if not a 'loose' one – but still it is instructive to look at another passage in *Art and Illusion*, where he makes a reference to Hogarth, in whose view the artist 'should "learn the language" of objects and "if possible find a grammar to them".' To which Gombrich adds: 'In other words, [the artist] should stock his mind well with what we called "schemata" ' (*Art and Illusion*, 295). This is the sense in which, in the concluding passage of the chapter on caricature, Gombrich says: 'Wherever the artist turns his gaze he can only make and match, and out of a developed language select the nearest equivalence' (*Art and Illusion*, 303).

<sup>38</sup> *Art and Illusion*, ix.

<sup>39</sup> *Art and Illusion*, 290.

<sup>40</sup> *Art and Illusion*, 292.

<sup>41</sup> Cf. esp. *Art and Illusion*, 59–60, 64 and 77.

<sup>42</sup> *Art and Illusion*, 252.

<sup>43</sup> *Art and Illusion*, 302. For Thurber's drawing, see [http://web.mac.com/arnold\\_zwicky/millmoss.gif](http://web.mac.com/arnold_zwicky/millmoss.gif).

<sup>44</sup> *Art and Illusion*, 284–285. The passages Gombrich here quotes from Töpffer are instructive:

There are two ways of writing stories, one in chapters, lines, and words, and that we call 'literature', or alternatively by a succession of illustrations, and that we call the 'picture story'. ... The picture story ... has always exercised a great appeal. More, indeed, than literature itself, for besides the fact that there are more people who look than who can read, it appeals particularly to children and to the masses... With its dual advantages of greater conciseness and greater relative

notwithstanding, images also have to speak for themselves. In the 1962 preface to the second edition of *Art and Illusion*, Gombrich stresses that 'the undeniable subjectivity of vision does not preclude objective standards of representational adequacy', and points to 'the dissatisfaction which certain periods of Western civilization felt with images that failed to look convincing'.<sup>45</sup> Here, the invention of 'the art of perspective' aiming at a 'correct equation' was a major step forward.<sup>46</sup>

Gombrich returns to this last topic in the paper 'Visual Discovery through Art'. It is not at all the case, he writes, that mathematical perspective represents 'only ... a "convention", a fortuitous code that differs from the way we really see the world'. As he puts it: 'we know very well when a picture looks "right". A picture painted according to the laws of perspective will generally evoke instant and effortless recognition. It will do so to such an extent that it will in fact restore the feeling of reality.'<sup>47</sup> The felt need leading to the invention of perspective in the 15th century was of a religious nature: the demand for 'the plausible narration of sacred events. ... The closer the code came to the evocation of a familiar reality the more easily could the faithful contemplate the re-enactment of the story and identify the participants.'<sup>48</sup>

The issue of word and image very much takes centre stage in Gombrich's essay written for the 1972 *Scientific American* survey on communication. 'Ours is a visual age', Gombrich here writes by way of introduction. 'We are bombarded with pictures from morning till night. ... No wonder it has been asserted that we are entering a historical epoch in which the image will take over from the written word. In view of this claim it is all the more important to clarify the potentialities of the image in communication, to ask what it can and what it cannot do better than spoken or written language.'<sup>49</sup> Images are inferior to language when it comes to logical relations, tense, and modality. As Gombrich puts it, 'the visual image ... unaided ... altogether lacks the possibility of matching the statement function of language'.<sup>50</sup> To be understood fully, the image has to be embedded in cultural conventions and complemented by verbal guides. 'The chance of a correct reading of the image', writes Gombrich, 'is governed by three variables: the code, the caption and the context. ... Jointly the media of word and image increase the probability of a correct reconstruction.'<sup>51</sup> Gombrich prints the mosaic of a dog found at the entrance of a house in Pompeii. The mosaic has the inscription *Cave Canem* ('Beware

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clarity, the picture story, all things being equal, should squeeze out the other because it would address itself with greater liveliness to a greater number of minds.

<sup>45</sup> E. H. Gombrich, *Art and Illusion: A Study in the Psychology of Pictorial Representation*, 2nd ed., London: Phaidon Press, 1962, xi.

<sup>46</sup> Gombrich, *Art and Illusion*, 1960, 217, cf. also 279.

<sup>47</sup> Gombrich, 'Visual Discovery through Art', 1965 (cf. note 4 above), 222.

<sup>48</sup> Gombrich, 'Visual Discovery through Art', 223–224.

<sup>49</sup> Gombrich, 'The Visual Image' (cf. note 10 above), 82.

<sup>50</sup> Gombrich, 'The Visual Image'.

<sup>51</sup> Gombrich, 'The Visual Image', 86. To which Gombrich adds: '[the] mutual support of language and image facilitates memorizing. The use of two independent channels, as it were, guarantees the ease of reconstruction.'

of the Dog'). Without the inscription, Gombrich points out, the message intended to be communicated by the mosaic would be unclear.

On the other hand, images can carry information no verbal description will provide, images as natural signs easily possess a kind of primordial power, 'organisms are "programmed" to respond to certain visual signals in a way that facilitates survival',<sup>52</sup> images *affect* us. This way of looking at the issue becomes especially pronounced in the paper 'Image and Code'. The Pompeii mosaic is here again reproduced, with Gombrich emphasizing that in order to understand that the dog depicted looks menacing, we do not have to learn specific stylistic conventions; and that, in particular, 'we do not have to acquire knowledge about teeth and claws in the same way in which we learn a language'.<sup>53</sup> Indeed, even animals respond to images. As Gombrich, arguing against Goodman, puts it: 'Images have always been used to attract or frighten animals. What else is a decoy duck or the angler's bait than an image securing the reaction of another creature? ... the fish which snaps at the artificial fly does not ask the logician in what respect it is like a fly and in what unlike.'<sup>54</sup>

Towards the end of the paper 'Visual Discovery through Art', Gombrich returns to the ambiguous duck/rabbit figure he had discussed in *Art and Illusion*. We can prompt alternate readings, he notes, depending on captions, i.e., on verbal descriptions, 'but it might be even more effective to impose one of these readings through visual means'. As he puts it, though he has not made experiments, he would predict that one could 'bring about a transformation merely by changing the visual context', either *spatially*, by drawing a typical duck or rabbit habitat around the ambiguous figure, or *temporally*, by showing a subject 'a series of pictures', of ducks or rabbits, 'before projecting the ambiguous image'.<sup>55</sup> The idea of a series of pictures, of images changing temporally, is paramountly important – and one which takes me to the remaining two sections of the present paper, the sections on image and movement, and on movement and time.

## Image and movement

As I indicated earlier, the intrinsic connections between vision and movement have been of central interest to Gombrich throughout his career. In *Art and Illusion* he pointed to 'the total ambiguity of one-eyed static vision',<sup>56</sup> stressing the importance 'the test of

<sup>52</sup> Gombrich, 'The Visual Image', 85.

<sup>53</sup> Gombrich, 'Image and Code', 20. Referring to John M. Kennedy's *A Psychology of Picture Perception: Images and Information* (San Francisco: Jossey-Bass, 1974), Gombrich, some pages earlier, makes the remark:

the widespread view has recently been challenged that the conventional elements in photographs bar naive subjects such as unsophisticated tribesmen from reading them. At any rate it appears that learning to read an ordinary photograph is very unlike learning to master an arbitrary code. A better comparison would be with learning the use of an instrument. It is quite possible that many tribesmen who are handed a photograph will not know at first what to do with it, or how they are expected to look at it, but I assume their reaction would be similar if they were handed a pair of binoculars. You have to learn to use it. ('Image and Code', 16)

<sup>54</sup> Gombrich, 'Image and Code', 20.

<sup>55</sup> Gombrich, 'Visual Discovery through Art', 235.

<sup>56</sup> Gombrich, *Art and Illusion*, 330.

movement' has when it comes to dissolving uncertainties in our visual field. 'Whenever we do not quite trust our eyes or want additional information', he wrote, 'we shift our head slightly and watch the relative change of position.'<sup>57</sup> The illusion created by a still life tends to disappear as soon as we move; in the elimination of false visual guesses, movement, our own and that of objects, plays a vital part.<sup>58</sup> Images can strike us as unnatural when the aspect of movement is missing. 'What we experience as a good likeness in a caricature, or even in a portrait', wrote Gombrich, 'is not necessarily a replica of anything seen. If it were, every snapshot would have a greater chance of impressing us as a satisfactory representation of a person we know. In fact only a few snapshots will so satisfy us. We dismiss the majority as odd, uncharacteristic, strange, not because the camera distorts, but because it caught a constellation of features from the melody of expression which, when arrested and frozen, fails to strike us in the same way the sitter does. For expression in life and physiognomic impression rest on movement no less than on static symptoms'. By contrast, 'the snapshot ... arrests movement and fixes it for ever'.<sup>59</sup> The challenge for art, then, is to create, in static images, the suggestions of movement, to catch, as Velázquez did in the *Hilanderas*,<sup>60</sup> 'the so-called "stroboscopic effect", the streaking after-image that trails its path across the field of vision when an object is whizzing past', an effect the suggestion of which today 'belongs to the commonplace language of the cartoonist or comic-strip artist. There is hardly a picture narrative in which speed is not conveniently rendered by a few strokes which act like negative arrows showing where the object has been a moment before'.<sup>61</sup>

Gombrich had a great deal of respect for the psychologist J. J. Gibson. In the preface to *Art and Illusion*, he acknowledged his indebtedness to the latter's 1950 book *The Perception of the Visual World*; in the paper 'The Evidence of Images', he comes to terms with Gibson's *The Senses Considered as Perceptual Systems*, published in 1966. Gibson's work, Gombrich here suggests, 'has initiated what may be called a Copernican revolution in the study of perception'. But Gombrich is reluctant to accept Gibson's 'radical separation between the interpretation of pictures and the perception of the world'. Gibson might, for instance, be right in assuming that 'in walking or driving along a road we would have information of a very different order from what the snapshot gives us, and that we thus could perceive the invariant shape of the road, the houses, and the texture of the road without ambiguity'; however, Gombrich objects, it is 'not sure how far our capacity to process this information would ever go'. But he of course wholeheartedly endorses Gibson's basic position, according to which 'visual

<sup>57</sup> Gombrich, *Art and Illusion*, 232.

<sup>58</sup> Gombrich, *Art and Illusion*, 234, 179 and 277.

<sup>59</sup> Gombrich, *Art and Illusion*, 292–293.

<sup>60</sup> See e.g. <http://www.uprb.edu/tapiz/tapiz@lared001/plastica/hilanderas.jpg>.

<sup>61</sup> Gombrich, *Art and Illusion*, 191–192. The phrase 'negative arrows', on page 192, refers back to what Gombrich wrote on the previous page:

It appears that if you show an observer the images of a pointing hand or arrow, he will tend to shift its location somehow in the direction of the movement. Without this tendency of ours to see potential movement in the form of anticipation, artists would never have been able to create the suggestion of speed in stationary images.

perception is geared to movement'. Gombrich grants Gibson that 'the static view of a room through a stationary eye allows of many interpretations', and accepts the latter's view that as soon as we change our position, the 'transformation of the optic array' becomes univocal: 'there is one and only one configuration which fits it. What matters in real life is not that textbook abstraction, the stationary image on one retina, but the succession of stimuli which we experience as we are walking toward a room.'<sup>62</sup>

Reference is again made to *The Senses Considered as Perceptual Systems* in the paper 'The Mask and the Face'. Thanks to Gibson's work in the psychology of perception, Gombrich writes, 'we have become increasingly aware of the decisive role which the continuous flow of information plays in all our commerce with the visible world'.<sup>63</sup> The idea of *flow*, as opposed to that of static permanence, here proves to be a significant one; it makes Gombrich arrive at some momentous observations. The *snapshot*, he writes, has not only 'transformed the portrait', it has also 'made us see the problem of likeness more clearly than past centuries were able to formulate it. It has drawn attention to the paradox of capturing life in a still, of freezing the play of features in an arrested moment of which we may never be aware in the flux of events.'<sup>64</sup> To which he adds a crucial passage:

if the film camera rather than the chisel, the brush, or even the photographic plate had been the first recorder of human physiognomies, the problem which language in its wisdom calls 'catching a likeness' would never have obtruded itself to the same extent on our awareness. The film shot can never fail as signally as the snapshot can, for even if it catches a person blinking or sneezing the sequence explains the resulting grimace which the corresponding snapshot may leave uninterpretable. Looked at in this way, the miracle is not that some snapshots catch an uncharacteristic aspect, but that both the camera and the brush can abstract from movement and still produce a convincing likeness not only of the mask but also of the face, the living expression.<sup>65</sup>

Gibson is once more invoked in the paper 'The "What" and the "How" '. It is Gibson's approach, Gombrich here suggests, that most fully explains how 'our own movement', with our 'phenomenal world' in constant motion, produces 'a fluctuating succession of images', and how this 'flux of events' is captured in a 'stream of information'. No wonder *movies* tend to be more immediately realistic than stills: 'In the motion picture the rapid enlargement of an object can make us duck.'<sup>66</sup> Again, it is very much in Gibson's spirit that Gombrich discusses, in his paper 'Image and Code', the basic element of the two-dimensional image, the *outline*. 'It has often been said', Gombrich here writes, 'that the outline is a convention because the objects of our

<sup>62</sup> Gombrich, 'The Evidence of Images' (cf. note 4 above), 45, 47 and 44.

<sup>63</sup> Gombrich, 'The Mask and the Face' (cf. note 4 above), 16–17.

<sup>64</sup> Gombrich, 'The Mask and the Face', 16

<sup>65</sup> Gombrich, 'The Mask and the Face', 17.

<sup>66</sup> Gombrich, 'The "What" and the "How" ' (cf. note 11 above), 137 and 139.

environment are not bounded by lines. ... yet ... [t]hings in our environment are indeed clearly separated from their background, at least they so detach themselves as soon as we move. The contour is the equivalent of this experience; it indicates what would happen if the image were not a still but would change, as the world around us usually does.<sup>67</sup>

In his essay 'Standards of Truth: The Arrested Image and the Moving Eye', Gombrich recalls how Gibson came to derive his theories

from his wartime work when he investigated the visual information available to a pilot landing at high speed. It is not a static image which gives the pilot the required estimate of the distance and position of the runway but the flow of information he receives, the sequence of transformations all around which show him across these rapid changes the invariants of the lay of the land, invariants he must pick up if he is to survive.<sup>68</sup>

To which Gombrich later in the essay adds:

peripheral vision is extremely sketchy in the perception of shapes and colours but very responsive to movement. We are aware of any displacement in the medley of forms outside the foveal area and ever ready to focus on such an unexpected intrusion. Once we have done so we can track the moving object without letting it go out of focus, while the rest of the field of vision recedes from our awareness. There is no means of conveying this experience in a stationary display.<sup>69</sup>

The position Gombrich here takes has been first outlined by the 19th-century physicist, physiologist, and psychologist Hermann von Helmholtz. 'Thanks to the mobility of the eye', Gombrich quotes Helmholtz,

it is possible to examine carefully every point of the visual field in succession. Since in any case we are only able to devote our attention at any time to one object only, the one point clearly seen suffices to occupy it fully whenever we wish to turn to details; on the other hand the large field of vision is suitable, despite its indistinctness, for us to grasp the whole environment with one rapid glance and immediately to notice any novel appearance on the margin of the field of vision.<sup>70</sup>

Analyzing the 'artificial situation of arrested movement', in the paper 'The Mask and the Face' Gombrich once more points out that when it comes to understanding

<sup>67</sup> Gombrich, 'Image and Code', 17.

<sup>68</sup> Gombrich, 'Standards of Truth' (cf. note 16 above), 188.

<sup>69</sup> Gombrich, 'Standards of Truth', 206.

<sup>70</sup> Gombrich, 'Standards of Truth', 204.

images, it is, precisely, *movement* that primarily assists us 'in confirming or refuting our provisional interpretations or anticipations'. As a consequence, 'our reading of the static images of art is particularly prone to large variations and contradictory interpretations'. It is, he says, the 'dimension of time, above all, we lack in the interpretation of a still'. By contrast, in 'real life' we are invariably aided 'by the effect of movement in time'.<sup>71</sup> Pictorial meaning cannot be discussed without reference to movement; and the topic of the moving image necessarily leads to the topic of time.

## Movement and time

Gombrich provides a focussed discussion of the topic of time in his essay 'Moment and Movement in Art'. There are of course recurring references to the issue in *Art and Illusion*,<sup>72</sup> as well as some hints in the study 'The Evidence of Images',<sup>73</sup> but it is in this 1964 essay that he presents what in fact amounts to the outlines of a psychology of time, and indeed of a *philosophy* of time. The way in which 'the problem of the passage of time in painting was traditionally posed', he writes, has 'doomed the answers to relative sterility'<sup>74</sup> precisely because it was based on a mistaken view of the nature of time, the view presupposing the existence of a *punctum temporis*, a view formulated by James Harris in his influential *Three Treatises* (1744), foreshadowed by Shaftesbury in the *Characteristics* (1714) when speaking of the 'determinate Date or Point of Time', of the 'single Instant', the artist has to choose when depicting a certain event in a narrative, and taken over by Lessing in his *Laocoon*, writing: 'Painting can ... only represent a single moment of action and must therefore select the most pregnant moment which best allows us to infer what has gone before and what follows.'<sup>75</sup>

That such an instant, such a moment, does not seem to exist, Gombrich first points out by recounting the story of early photography. Muybridge's snapshots of galloping horses did not suggest the melody of movement painters had believed to see; the instantaneous photograph looked unreal. It is not by chance, then, that the 'so-called

<sup>71</sup> Gombrich, 'The Mask and the Face', 31–32.

<sup>72</sup> The most interesting ones perhaps on page 292, in the chapter 'The Experiment of Caricature', where Gombrich remarks that 'art has to compensate for the loss of the time dimension by concentrating all required information into one arrested image', and, paraphrasing Houbraken, puts the question: 'how are you to copy rapid movement, running, flying, jumping? These will be over before you ever put pen to paper. ... how are you to copy ... the "expression of human passions"? ... genuine expression ..., too, happens in time.' The first footnote in 'Moment and Movement in Art' is connected to some 'relevant observations scattered throughout the literature' on the 'strangely neglected' problem of 'time and the representation of movement', listing, among others, Arnheim's *Art and Visual Perception*, chapter VIII, but also Gombrich's own *Art and Illusion*, referring to the book's index *sub verbo* 'movement'.

<sup>73</sup> In a somewhat Bergsonian tone, Gombrich here writes: 'We process the successive frames of the film as information about movement... We see movement, not a succession of stills.' Some paragraphs later he proposes to rely on 'the hypothesis that the isolation and reconstruction of an object is an operation in time which for all its rapidity is certainly complex', adding: 'the reading of a picture is indeed a reaction in time' (Gombrich, 'The Evidence of Images', 57, 61 and 63).

<sup>74</sup> Gombrich, 'Moment and Movement in Art' (cf. note 6 above), 293.

<sup>75</sup> Gombrich, 'Moment and Movement in Art', 293–294.

“stills” which we see displayed outside cinemas and in books on art of the film are not, as a rule, simply isolated frames from the moving picture enlarged and mounted. They are specially made and very often specially posed on the set, after a scene is taken.' It is surely true, Gombrich writes, that 'we never see what the instantaneous photograph reveals, for we gather up successions of movements, and never see static configurations as such. And as with reality, so with its representation. The reading of a picture again happens in time... .. it takes time to sort a painting out. We do it ... by scanning it with our eyes. Photographs of eye movements suggest [how] the eye probes and gropes for meaning...'<sup>76</sup>

On a philosophical level, Gombrich suggests that we are actually begging the most important question 'when we ask what “really happens” at any point of time'. For we 'therewith assume that what Harris called a *punctum temporis* really exists, or, more radically, that what we really perceive is the infinite sequence of such static points in time. Once this is conceded the rest follows, at least with the demand for mimesis. Static signs, the argument runs, can only represent static moments, never movements which happen in time. Philosophers are familiar with this problem under the name of Zeno's paradox... Logically the idea that there is a “moment” which has no movement and can be seized and fixed in this static form by the artist, or, for that matter, by the camera, certainly leads to Zeno's paradox. Even an instantaneous photograph records the traces of movement, a sequence of events, however brief. But the idea of the *punctum temporis* is not only an absurdity logically, it is a worse absurdity psychologically.'<sup>77</sup> Trying to come to terms with this psychological absurdity, Gombrich on the one hand recalls St. Augustine's introspective account, in his *Confessions*, of memory and expectations somehow both being there in the consciousness of the present, and, on the other hand, the modern finding that 'our impressions remain available for a brief span of time, the time that is known as the memory span or the specious present', combining the latter finding with the notion of working memory.<sup>78</sup> He concludes that 'the instant of which the theoreticians speak, the moment when time stands still, is an illicit extrapolation, despite the specious plausibility which the snapshot has given to this old idea'.<sup>79</sup>

Time does not stand still when we look at a picture. We build the picture up in time, Gombrich writes, and hold 'the bits and pieces we scan in readiness till they fall into places as an imaginable object or event'; we scan 'backward and forward in time and space'. And 'we cannot estimate the passage of time in a picture', Gombrich stresses, 'without interpreting the event represented.'<sup>80</sup> To illustrate this latter point, he comments on some features in the iconography of the Presentation of the Virgin. He refers, among others, to Titian's painting,<sup>81</sup> with bystanders, in the picture, not looking at the scene

<sup>76</sup> Gombrich, 'Moment and Movement in Art', 296 and 301.

<sup>77</sup> Gombrich, 'Moment and Movement in Art', 297.

<sup>78</sup> Gombrich, 'Moment and Movement in Art', 299. Gombrich uses the term 'immediate memory', and in connection with the term 'specious present' does not explicitly refer to William James, but there can be no misunderstanding as to what he is talking about.

<sup>79</sup> Gombrich, 'Moment and Movement in Art', 303.

<sup>80</sup> Gombrich, 'Moment and Movement in Art', 302.

<sup>81</sup> See e.g. [http://www.wga.hu/frames-e.html?html/t/tiziano/03\\_1530s/5presen.html](http://www.wga.hu/frames-e.html?html/t/tiziano/03_1530s/5presen.html).

itself but at each other, and with the large distance the Virgin has to traverse from her family to the waiting priest, all of which extend the time span; and to Tintoretto's work, with 'the steep curve of the steps' introducing yet another dynamic – temporal – effect.<sup>82</sup> 'If perception both of the visible world and of images were not a process in time', Gombrich writes by way of conclusion, 'and a rather slow and complex process at that, static images could not arouse in us the memories and anticipations of movement.'<sup>83</sup> A fitting formula to sum up his theory on image and time.

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<sup>82</sup> Gombrich, 'Moment and Movement in Art', 303–304. For the painting, see e.g. <http://www.allpaintings.org/v/Mannerism/Tintoretto/Tintoretto+-+The+Presentation+of+the+Virgin.jpg.html>.

<sup>83</sup> Gombrich, 'Moment and Movement in Art', 305–306.