CHAPTER I

Feyerabend on Art and Science

Chiara Ambrosio

1.1   Introduction

Paul Feyerabend's philosophy is replete with artistic metaphors. From theatre to literature, music and painting, the arts were used by Feyerabend not merely as decorative examples to showcase a form of contrived erudition, but as a coherent conceptual framework to articulate key methodological and epistemological questions. With a few isolated exceptions (Couvalis, 1987; Brown, 2009; Kidd, unpublished manuscript), philosophers of science have paid little attention to this intriguing and extremely fruitful aspect of Feyerabend's work.

In this chapter, I bring together several strands of Feyerabend's history and philosophy of art and place them in dialogue with the pluralist outlook that characterises his philosophy of science. Scholars have recently re-evaluated Feyerabend's pluralism as a positive thesis running as a coherent thread throughout the various developments of his thought (Preston 1997a; Shaw 2017; and to a certain extent Oberheim 2006 – insofar as he sees pluralism as Feyerabend's response to and attack on conceptual conservativism). Art was part and parcel of this philosophical and pluralist strategy. It is in the background of Feyerabend's early critique of empiricist accounts of observation and experience (Feyerabend 1962, 1965); it is the springboard to launch into a celebration of styles, to demonstrate the dynamic character of early philosophies of nature and their functioning as coherent worldviews (Feyerabend 2016); it is the foil against which arguments about incommensurability and critiques of progress could be tried and tested (Feyerabend 1975a, 1984); it affords a concrete opportunity for blurring the lines between theory and practice (Feyerabend 1994, 1996), in a way that resonates with analogous debates in the historiographies of science and art alike (Hacking 1983; Shapin 1989; Smith 2004; Field 2004, 2016).

Feyerabend's views on art and choices of examples from artistic practice are as varied as the arguments they are intended to support. Here I will

concentrate on his views on representation – a particular line of investiga-
tion, which seems to emerge as a recurrent motif especially in his discussions
of the visual arts in relation to science. I will start from his late writings,
where issues of representation are central to his return to the 'problem of
reality' (Feyerabend 1999; see also Kidd 2010).[1] This is perhaps the aspect of
Feyerabend's posthumously published book, *Conquest of Abundance* (1999),
which has been connected more explicitly with his writings on art
(Oberheim 2006, p. 23; Brown 2009, pp. 216–217). But I also want to
show that the discussion of art – particularly of projective techniques in
the invention of perspective – in *Conquest of Abundance* is the culminating
point of a much longer journey, which saw Feyerabend wrestling with the
'naïvely imitative philosophies' lurking in the background of empiricist as
well as realist positions in philosophy of science.

A turning point in this journey is the book *Science as Art* (1984),[2] which
introduces examples and arguments that Feyerabend would revisit over
a decade later, in *Conquest of Abundance*. Comparing these two texts, I will
single out two interconnected lines of inquiry that characterise
Feyerabend's approach to representation. One is the pervasiveness of the
issue of artistic styles, which Feyerabend exploits as a springboard to
question 'naïvely imitative' views in science. In this, I argue, he adopts
a distinctive art historical methodology, which can be traced back to the
anti-mimetic legacy of the Vienna School of Art History.[3] The other is the
question of imitation as a conceptual category in its own right, and its
relation to representation. Here Feyerabend's ideas shift and align with the
various phases of his philosophy. *Science as Art*, written in the mid-1980s,
draws on the analogy between styles in art and science to expose the flaws
inherent in a linear notion of scientific progress. In this context, 'naïvely
imitative philosophies' form the core of Feyerabend's attack against
a narrow conception of progress construed as increasing fidelity to nature.
Conquest of Abundance, on the other hand, rescues a role for imitation as
a dynamic and performative category, which can be productively carried
over from the arts to science, and which is in tune with the exploration of

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[1] I follow the periodisation of Feyerabend's philosophy proposed by Brown and Kidd (2016, p. 3).
[2] All my references to *Science as Art* are from the Italian edition, in the Bibliography as Feyerabend
(1984).
[3] The Vienna School has a long and fascinating history, which has recently been revisited by art
historians. See, for instance, Rampley (2013) and Elsner (2006). I will focus on two figures in
particular, Alois Riegl and Sir Ernst H. Gombrich, who were direct influences on Feyerabend.
Gombrich in particular might not be recognised as the most representative member of the Vienna
School, but his recurrent criticism of Riegl and the acknowledged influence of Riegl on his *The Sense
of Order* (1979) justify inscribing him at least in the School's critical legacy.

'the richness of Being' distinctive of the late Feyerabend. If there is a space for imitation in science (and for the late Feyerabend this is indeed the case, though he never reduced representing to imitating), I argue, it is precisely in this performative sense, as an invitation to explore how reality is reconfigured in the process of imitating it.

1.2 'The Ugly Madonna of Siena'

Chapter 4 of Feyerabend's *Conquest of Abundance* opens with an intriguing discussion of the 'ugly Madonna of Siena' (Feyerabend 1999, p. 89), the so-called *Madonna dagli Occhi Grossi* (Figure 1.1). The painting, produced in the second half of the thirteenth century and attributed to the Maestro di Tressa, occupied the high altar of the Duomo of Siena and was believed to have protected the Sienese army against the Florentine invaders at the battle of Montaperti in 1260 (Emmerson 2013, p. 180). The painting's name ('Madonna with big eyes') does not refer to the image itself, but to the eye-shaped ex-voto that surrounded it. As Feyerabend remarks, the image 'worked miracles' (Feyerabend 1999, p. 89), especially in its ability to 'mediate spiritual powers' (Feyerabend 1999, p. 92). Miraculous capacities notwithstanding, the *Madonna dagli Occhi Grossi* was soon found to be inadequate to the prominent place it occupied and was replaced 'by a suitable altarpiece of equal grandeur [as the altar]': Duccio di Buoninsegna's *Maestá* (1308–1311) (Emmerson 2013, p. 180).

Indeed, when contrasted with later images, the painting may be judged as hopelessly unrefined: perched on a backless throne, the Madonna lacks depth, roundness and perspective. Her arms are far too short and hold rather unnaturally the child in her lap. Her somewhat baffled expression appears more like an accident of the painting process than an intentional artistic choice. Feyerabend proceeds to compare the 'ugly Madonna of Siena' with an image produced a quarter of a century later, Raphael's *Madonna del Granduca* (Figure 1.2). Drawing on an old trope in the history of art, he shows that the latter image could easily be judged as an 'improvement' on the clumsy style of the former. This was the common-sense view of artistic representation that historians of art inherited from Giorgio Vasari's *Lives of the Artists* (c. 1550), where the trajectory from artworks like the *Madonna dagli Occhi Grossi* to the *Madonna del Granduca* is described as one of progress towards an increased fidelity to nature. Of Raphael, for example, in a passage cited by Feyerabend himself, Vasari states: 'His figures expressed perfectly the character of those they represented, the modest or the bold being presented just as they are. The children in his pictures were depicted now with mischief in

Figure 1.1 Maestro di Tressa, *Madonna dagli Occhi Grossi* (c. 1225).
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Figure 1.2 Raphael, *Madonna del Granduca* (c. 1505). Palazzo Pitti, Florence.
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their eyes, now in playful attitudes. And his draperies are neither too simple nor too involved, but appear wholly realistic' (Vasari [1550] 1979, p. 252).

The old trope of art progressing towards an increasing fidelity to nature is especially attractive to Feyerabend. Elaborating on Vasari, he reconstructs it as 'the imitative view' of art: 'Artists, says Vasari, try to represent real things and events. They do not immediately succeed; held back by ignorance and false traditions they produce stiff and crude images of lamentable proportions. But they gradually improve' (Feyerabend 1999, p. 90). This narrow view of representational success as increasing mimetic conformity to nature hardly constituted the canon in history of art in Feyerabend's time.[4] But a critique of the legacy of Vasari's ideas, and more broadly of Renaissance art as the pinnacle of naturalistic representation, had been especially important in the establishment of history of art as a discipline in its own right.[5] What Feyerabend found particularly congenial in this strand of historical literature was the critique, conducted on empirical as well as theoretical grounds, of the marriage of progress and increased fidelity to nature. Vestiges of a similarly naïve imitative philosophy, he noted, still lurked in the background of contemporary celebrations of 'the unprejudiced scientist who avoids speculation and "tells it like it is"' (Feyerabend 1999, pp. 91–92). The very idea of artists 'gradually improving' towards more realistic representations had a counterpart in both naïve empiricist and naïve realist accounts of science, which had formed the target of Feyerabend's philosophy all along. What made these positions naïve was an implicit, and narrow, form of representationalism, which Feyerabend aimed to expose through his comparison with art: representationalism about sense data as the immediate, uniform and stable contents of observation in the case of empiricism, and representationalism about the coherent, stable and

[4] The dawn of mimetic accounts of art and of a conception of representational success as increasing fidelity to nature is traditionally associated to the rise of the artistic avant-gardes. Arthur Danto (1986; 1997), for instance, famously argued that the very notion of progress in the arts began to falter with the concomitant faltering of mimesis as a criterion for artistic representation from the second half of the nineteenth century onwards. Danto's reconstruction is by no means uncontentious; see, for example, Halliwell's (2002, pp. 369–370) criticism of the overly uniform view of mimesis implicitly built in his account.

[5] As I will discuss later, the two sources most cited and used by Feyerabend, Riegl and Gombrich, were both strong opponents of the mimetic tradition and of the very idea of progress towards increasing naturalistic fidelity in the arts. See Riegl [1893] 1992, Riegl [1901] 1985 and Gombrich [1960] 2002. For an overview of the concept of style in relation to ideas of progress in the arts from Vasari to Feyerabend, see Ginzburg (1998).

unified structure of the world which successful scientific theories aim
to mirror, in the case of scientific realism.[6] Drawing on art for
Feyerabend fulfilled a methodological aim with a clear epistemic
import: to show, through visual as well as verbal arguments, the
shortcomings of such narrow philosophical accounts of science.

It is important to note (and I will return to this point later) that the
targets of Feyerabend's criticism here are neither representationalism nor
imitation per se. In *Conquest of Abundance* he does in fact acknowledge
that '*there are* artists who want to copy nature, and some succeed to
a surprising degree' (Feyerabend 1999, p. 93). The question, as it is often
the case in Feyerabend's writings, is how to reconcile imitation as one
possible aim of representation with the inherent pluralism of artistic (and
by implication, scientific) styles, even when they purport to copy faith-
fully from nature. The *Madonna dagli Occhi Grossi*, Feyerabend points
out, '*may* have caught an element of reality that had disappeared by the
time of Raphael – but this must be determined by research, not by
metaphysical speculations about "the nature of reality"' (Feyerabend
1999, pp. 93–94). Thus questioning a common-sense view of imitation
in *Conquest of Abundance* aims to pave the way for a richer account of
what is more broadly entailed in the *process of representing*, by showing the
inherent complexity of even the most straightforward cases of artists
directly 'copying from nature'. This is an issue that Feyerabend had
started exploring much earlier in his writings, and to which I turn in
the next section.

1.3   Empiricism and Naïve Representationalism

Conquest of Abundance is neither the first nor the sole text in which art
appears as part of Feyerabend's argumentation. As early as 1965, in the
essay 'Problems of Empiricism', Feyerabend indulges in a long
footnote,[7] complete with images, to advance a historicised and con-
textual account of observation in response to the dominant empiricist
view. His target there is the uniform and stable account of observation

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[6] Matt Brown (2016) has characterised this narrow and monistic version of realism as 'scientific
materialism', and opposed it to Feyerabend's (late) 'abundant realism'. I will return to Brown's
position later on, as it offers a metaphysical counterpart to the reformulation of *mimesis* I pursue in
this chapter. For a detailed account of Feyerabend's views on realism and their compatibility with his
pluralism, see also Hasok Chang's account in chapter 2 of this volume .
[7] I am especially grateful to Matteo Collodel for alerting me to the existence of this rather precious
footnote in Feyerabend's corpus.

implicit in the empiricist theses that ideas derive from sensory experience (aided or unaided by instruments) and that the truth of statements containing ideas thus formed can be straightforwardly verified by observation (Feyerabend 1965, p. 147).[8] Lurking in the background of Feyerabend's criticism is a specific concern about the status of observational reports and their treatment in empiricist accounts of science. As Feyerabend scholars have pointed out (Oberheim 2006; Kuby 2015), this concern is directly related to his critique of phenomenalist sense-data epistemologies – the idea that sense data are the immediate objects of perception, and that statements about sense data enjoy a certainty that other kinds of statements lack. It is also a criticism of the ways in which some logical empiricists tried to avoid the identification with phenomenalist positions (e.g. Hempel 1952) by arguing that observational statements report directly observable and intersubjectively testable facts about physical objects. Both these variants of 'radical empiricism', according to Feyerabend, revolved around 'the common belief that experience contains a factual core that is independent of theories' (Feyerabend 1965, p. 151), which ultimately fixed the meaning of observation statements. 'Problems of Empiricism' argues against the idea of a factual or 'given' core and advances instead the claim that sensations and perceptions are at best *indicators* that function in a manner similar to physical instruments. This is also known as Feyerabend's version of the 'pragmatic theory of observation':[9] sensations and perceptions indicate that something exist, but they become descriptions of what exists only when used in a theory which provides their interpretation (Feyerabend 1962, pp. 36–37; Feyerabend 1965, pp. 214ff).

The reference to art features in the very opening of 'Problems of Empiricism' and supports Feyerabend's general point that, for a start, what counts as an 'observational report' has been contentious across

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[8] Feyerabend's critique of empiricism in the essay is admittedly much broader, and it is in line with the features that Brown and Kidd (2016) have identified as distinctive of his early philosophy: a defence of theoretical pluralism within science, as opposed to the monistic view implicitly built in 'radical' forms of empiricism; a critique of verificationism and phenomenalist sense-data epistemologies; and a commitment to a variety of semantic or conjectural realism in interpreting scientific theories. For reasons of space, I can only address some of these aspects of Feyerabend's early philosophy briefly, and I have chosen parts of his criticism of empiricism that are more explicitly in dialogue with his treatment of art in footnote 8 of 'Problems of Empiricism'.

[9] For detailed discussions of Feyerabend's pragmatic theory of observation, see Kuby (2015), and especially Kuby (2018) which reconstructs in detail the relationship between Feyerabend and Carnap's respective versions of the theory.

history. It also sets up the stage, through a psychological argument, for his criticism of a 'given' core in experience, and particularly in the process of observation. It is here that a long footnote takes him into a detour on the dependence of perception upon belief, and from there to art:

> That primitive people . . . live in an observational world very different from our own is shown by their art. It has been assumed for some time, no doubt under the influence of empiricism, that the 'primitive' character of these productions is due to lack of skill: these people live in the same perceptual world as we do, but they are unable to produce adequate copies of it. (Feyerabend 1965, p. 221 fn. 8)

The 1965 version of Feyerabend's argument runs along similar lines as the discussion of the *Madonna dagli Occhi Grossi* in *Conquest of Abundance*: naïvely imitative philosophies assume that there is a single, unified and stable perceptual world, and that it is the artist's (or scientist's) task to produce an adequate copy of it. But this representational realism, Feyerabend continues, is an 'impossible doctrine':

> It assumes that there is only one correct way of translating occurrences in the three dimensional real world into situations portrayed in an altogether different medium. The world is as it is. The picture is not the world. What then, does the realist demand? He demands that the conventions to which *he is accustomed* (and which are only a meagre selection from a much wider domain of conventions) be adopted. That is, he makes *himself* the measure of the reality of things – the very opposite of what the realistic *doctrine* would allow. (Feyerabend 1965, p. 221 fn. 8)

At this point, Feyerabend's footnote explicitly turns to a classic study on the relation between perception and pictorial conventions in the arts: Sir Ernst Gombrich's *Art and Illusion* ([1960] 2002). Starting precisely from the legacy of Vasari's idea of progress in history of art, Gombrich argued that pictorial realism involved much more than just faithfully copying from an art-independent reality. Instead, convincing figurative representations are *illusions*, which involve the manipulation of inherited perceptual 'schemata' that designate reality by convention. It is the totality of these conventions at a particular time in history, according to Gombrich, that defines a pictorial *style* (Gombrich [1960] 2002, p. 246). The history of art, in his account, consisted in a sustained empirical and theoretical investigation precisely into the dynamics that underpin the rise and fall of pictorial styles, which he also saw as the basis of artistic change and of the inherent pluralism that characterised artistic representations across history.

Gombrich famously built his account of artistic illusion in dialogue with the psychology of perception, which he deemed essential to an investigation into the modes of production and interpretation of artworks. The image of the duck-rabbit made famous (at least among philosophers of science)[10] by Thomas Kuhn, for instance, features in the introduction of *Art and Illusion* (first published two years earlier than *The Structure of Scientific Revolutions*), to show the impossibility of detangling perception from interpretation, and to highlight the crucial role of learning and expectation in making sense of the ambiguity that characterises what is before one's eyes – in real life just as in art making. 'Painting is an activity', Gombrich claimed later on in the book, 'and the artist will therefore tend to see what he paints rather than to paint what he sees'. (Gombrich [1960] 2002, p. 73)

What perhaps attracted Feyerabend's attention towards *Art and Illusion* was the critique of the legacy of empiricism in art making, which Gombrich pursued with an eye to the works of his lifelong friend Karl Popper.[11] 'The inductivist ideal of pure observation has proved a mirage in science no less than in art', Gombrich pointed out, explicitly invoking Popper: 'Every observation, as Karl Popper has stressed, is a result of a question we ask nature, and every question implies a tentative hypothesis' (Gombrich [1960] 2002, p. 271). This account of the conjectural nature of observation underpins Gombrich's appropriation of Popper's method of conjectures and refutations, and its application to the domain of art:

> We look for something because our hypothesis makes us expect certain results. Let us see if they follow. If not, we must revise our hypothesis and try again to test it against observation as rigorously as we can; we do that by trying to disprove it, and the hypothesis that survives that winnowing process is the one we are entitled to hold, *pro tempore.*
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> This description of the way science works is eminently applicable to the story of visual discoveries in art. Our formula of schema and correction, in fact, illustrates this very procedure. You must have a starting point, a standard of comparison, in order to begin that process of making and matching and remaking which finally becomes embodied in the finished

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[10] On the history of the duck-rabbit before Kuhn, from its creator Joseph Jastrow to Ludwig Wittgenstein, see Viola (2012). On the relationship between science and art in the first manuscript of Kuhn's *The Structure of Scientific Revolutions*, see Pinto de Oliveira (2017).

[11] Gombrich had been instrumental – among other things – in the publication of *The Open Society and Its Enemies* (1945). For recent critical appraisals of the relationships between Popper and Gombrich, see Hemingway (2009) and Schneider (2009). For recent reappraisals of Gombrich's place and influence on the field of history of art, see Wood (2009) and Mount (2014).

image. The artist cannot start from scratch but he can criticise his fore-
runners. (Gombrich [1960] 2002, pp. 271–272)

Art 'making' thus takes the form of a visual conjecture or hypothesis
grounded in conventions. Conventions, in turn, serve as standards of
comparison for any pictorial innovation introduced by the artist with
a new representation. The new pictorial schemata are then 'matched'
against the world and corrected until the image satisfactorily resembles
the portion of reality singled out by the artist. Figurative realism, for
Gombrich, is the hard-won result of this process of trial and error – the
successful matching between what artists make and what they *expect* to
encounter in their field of perception, which is itself shaped by inherited
conventions.

   Although Gombrich remained somewhat ambiguous on this point, his
account of representation in relation to the psychology of perception is
neither constructivist nor entirely conventionalist.[12] His main point in *Art
and Illusion* is that there is some kind of 'factual' content to our percep-
tions, but that content is inherently ambiguous – and so our attempts at
rendering it in a pictorial form are inevitably in the form of conjectures,
formulated with the aid of a set of expectations. Ambiguity, in turn, for
Gombrich 'cannot be seen – it can only be inferred by trying different
readings that fit the same configuration' (Gombrich [1960] 2002, p. 264).
This ambiguity characterises the stage of 'making' pictorial conjectures
about the world as much as the stage of 'matching' those conjectures to the
ways in which the world is experienced from a particular perspective. 'The
world does not look like a picture but a picture can look like the world'
Gombrich (1972, p. 138), explained in a later reflection on the key message
of *Art and Illusion*. And yet that resemblance is an achievement of repre-
sentation, not a relationship dictated by a unified and immutable reality.

   In the long footnote to 'Problems of Empiricism', Feyerabend singles
out what is probably Gombrich's best-known example to illustrate the
conjectural nature of making, and the role of conventions as the starting
point for the rendering of unfamiliar objects in art. Albrecht Dürer's 1515

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[12] And yet he is often lumped in the conventionalist camp, alongside Nelson Goodman. This is
because in *Languages of Art* Goodman himself co-opted Gombrich into supporting his own
conventionalist cause (Goodman 1976, p. 7). But Gombrich was adamant to distance his approach
especially from the kind of nominalism underpinning Goodman's conventionalist approach: 'He
rather misunderstood my book. He interpreted it as completely "conventionalist"', he explained in
conversation with Didier Eribon (Gombrich 1993, p. 112). For further details on Gombrich's
response to Goodman, see Gombrich (1972), which incidentally also contains a discussion of
Brunelleschi's perspectival rendering of the Baptisterium – an example taken up later by
Feyerabend, as I show later.