8.1 ‘Real’

The word ‘real’ has many senses, and has been much misunderstood in consequence. It was, along with other philosophical terms, such as quality, quantity, entity, identity, essence and substance, coined by the Schoolmen in the Middle Ages—realis, real from the Latin res, a thing—to mark the distinction between what really existed and what merely existed in intellectu, in the mind; and the word still carries connotations of thingness, which can confuse our thinking about reality in the present age.

Austin claimed that ‘real’ is in modern usage a chameleon word, taking its colour from its surroundings. Just as we often cannot say whether it is good until we know what “it” is—a good knife is quite different from a good meal, or a good opera—so we cannot say whether it is real until we know a real what; real butter is contrasted with margarine, real silk with rayon or artificial silk, a real gentleman with a faux bon homme, real coffee with ersatz coffee, a real grievance with an imaginary one, and so on.¹ Austin has a point. The word ‘real’ gets its meaning from its opposites—in Austin’s phrase, ‘unreal’ wears the trousers—and is often used to focus the meaning of the word it governs onto the umbra of its meaning, excluding applications on the penumbra. Margarine looks like butter, spreads like butter, can be used instead of butter in cooking, but does not taste like butter, and, unlike butter, is not made from cow’s milk. Artificial silk looks like real silk, but does not feel like it, and does not come from silkworms. We contrast


Although the analysis of ordinary language cannot, as was once claimed, give us all the answers in philosophy, it is none the less a useful tool; it can save us from bad mistakes. It is always salutary, when questions of reality are raised, to ask what the contrast is. Anti-realism—some philosophical doctrine denying the reality of some sort of entity commonly believed to be real—is often our best guide to what reality really is; and the traditional opposition between Appearance and Reality can lead to a sharper focus on both these variegated concepts.

§8.2 Antirealisms

Although Austin was right in saying that the meaning of the word ‘real’ is shown in what it is being contrasted with, his examples are too limited to help us. If we are to rescue reality from the shopkeepers, we need to talk about more philosophical unrealities than margarine, ersatz coffee, and artificial silk. What constitutes reality is revealed by what is denied by various versions of anti-realism—philosophical doctrines denying the reality of some sort of entity commonly believed to be real. Dummett gives a good account of realism and anti-realism, listing the following varieties of anti-realism,

1. Phenomenalism
2. Mathematical Intuitionism (Constructivism), and Formalism
3. Behaviourism
4. Instrumentalism
5. Moral Subjectivism
6. Unreality of Time
7. Unreality of Space
8. Unreality of probabilities (and causes and secondary qualities).

Phenomenalism and Behaviourism, like many other forms of anti-realism, are argued for on verificationist grounds, in which I am required to give my reasons justifying my assertion about

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objects or people in the *external* world, that is, the world that is external to *me*. Berkeley denied that the quires of heaven were real, because it was up to him whether he perceived them or not. Some arguments against the reality of time turn on the fact that tenses are token-reflexive, and thus covertly egocentric. Similarly, some arguments for behaviourism are covertly egocentric: the 'other' of other minds is defined in terms of some first person, in something of the same way as the 'percepi' of *esse est percipi* is perception by some first person. Once we ask askance at egocentricity, we cease to be bothered about minds that are not mine, times that are, or are not, now, or trees of which nobody can say 'I see it'.

**Forms of Unreality**

1. Subjective, egocentric.

Since egocentricity is opposed to reality, it is natural to take it that non-egocentricity is a mark of reality. From this it is natural to generalise from me to everyone else: since the sense data of modern phenomenalists are, as a matter of logic, completely dependent on the observer, what is real must, it is assumed, be completely independent of the observer. (It should be noted that this is the contrary, not the contradictory of being completely dependent.) Realists maintain that the tree exists in the quad *whether or not there is anyone there to observe it*. Thus reality is not only independent of the observer, but independent of being actually observed. Some go further, and claim that reality is independent of observation altogether; although there are good reasons for rejecting that, they are responding to a tendency inherent in our concept of reality, captured by Bernard Williams' phrase, 'reality is what is there anyway'.

**Forms of Unreality**

1. Subjective, egocentric.
2. Completely dependent on the observer.

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3. See above, §3.3 n.8 and §7.3, item 5 in Platonism box, on p.186.
4. See further below, §10.8.
5. See later this chapter, §8.4.
The Absolute conception of what is there anyway captures a large part of the concept of reality, but can be misconstrued as requiring total non-egocentricity. Non-egocentricity is neither a necessary nor a sufficient condition of reality. My pain is real enough, though necessarily mine; ghosts and mirages lack reality, though not peculiarly mine or yours. It is independence of my will, not independence of me that is decisive. Dr Johnson refuted phenomenalism by kicking his foot against a stone. Reality is recalcitrant to my will; although I may choose not to see what is there—the quires of heaven, for example—I cannot choose to see what is not there. Besides the analogy between the solidity of material objects and the robustness of causal connexion, there is a further analogy with the obduracy of other people. The stone resists my kick, the other chap refuses to go along with my ideas. Although with care we can sometimes move stones, and sometimes cajole other people, material objects cannot be just wished away, and other people have minds of their own, which they can make up for themselves, sometimes differently from what we would have them decide.

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<td>1. Subjective, egocentric.</td>
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<tr>
<td>2. Completely dependent on the observer.</td>
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<tr>
<td>3. Dependent on my, or your, will.</td>
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Independence fortified by recalcitrance is the mark of reality that leads working mathematicians to some form of Platonism. Intuitionists and Constructivists see mathematics as being merely an activity of mathematicians, without there being any mathematical truth or mathematical objects apart from what mathematicians actually say or do. Mathematical truth and mathematical objects are unreal because they completely depend on mathematicians. Mathematicians are like the observers on whom, according to the phenomenologists, material objects depend; only instead of being passive recipients of sense-impressions, they are active provers and definers.

7 See above, §8.7.
§8.2 Appearance and Unreality

Forms of Unreality

1. Subjective, egocentric.
2. Completely dependent on the observer.
3. Dependent on my, or your, will.
4. Dependent on being known or thought about or being constructed.

These accounts of mathematics are reminiscent of versions of idealism, which relied on a coherence theory of truth to have knowledge constitutive of reality rather than trying to correspond to it. Such views are less bizarre in mathematics, which operates at a high level of abstraction, and relies on long chains of deductive argument, but they run counter to the opinion held by most mathematicians, that they are trying to discover truth, and are exploring a world not of their own imagining. For realists knowledge is not constitutive of truth; rather, truth is what knowledge claims to have acquired and is a necessary condition of knowledge; knowledge is “truth tracking”, from which it follows that however robust reality may be thought to be, our beliefs about it are always corrigible. Statements that aspire to truth suffer a perpetual possibility of being wrong.

If mathematical objects exist independently of our constructions, then they are not just what we say they are. Our definitions are pointers, to enable other people to know what we are talking about, and so long as they are adequate for that in practice, they do not need to have said all there is to be said about them. It is for this reason that mathematical realists do not have to reject all impredicative definitions out of hand. We may legitimately quantify over all the numbers in a certain range, and then define one—say the least—in terms of our quantification, because if the numbers were not brought into existence by our specification of them, the one later defined in terms of the quantification—the least of them all—was already there to be quantified over before we had defined it. The realist demands less of definition and reference than the constructivist, because of his belief that the objects exist in their own right, independently of him. Once again there is an underlying sense of its being there anyway, and independent of our wills, manifesting itself in this case as independence of our knowledge or construction.
Mathematics is highly integrated. Some theorems, such as Euler's

$$e^{i\pi} + 1 = 0$$

are recognised as being deep, and tell in favour of mathematical realism. Similarly, common sense urges us to go behind what is apparent and overt, and points out that the existence of material objects and other minds integrates and explains what would otherwise be disparate and inexplicable. Particularly in the case of people, realism explains as well as integrates. We not only recognise the different manifestations of vanity portrayed by Ryle, but understand why the vain person does what he does.

Explanations in terms of human decisions are ultimate. If we want to know why something happened, we can often explain it in terms of what men did, and explain what men did in terms of their reasons for acting. When I know the reasons why someone did as he did, I know all there is to be known. He is, in Aristotle's phrase, ἦ δραχὺς παρὰς ἀρχητεσταρικέως (archetés praxeos), the initiator of movement, and the reasons for his decision explain what subsequently happened. Such explanations are not always available, and often are not completely satisfactory, but they offer a level of explanation more satisfactory than that which can be achieved without reference to reasons for action. Their metaphysical importance is shown, in a back-handed way, by the unease generated by determinism and reductive materialism. These purport to go behind rational explanations of our actions, and to reveal them to be totally explicable in terms of the antecedent states of our bodies and their surroundings. Such explanations would, we feel, undercut our status as initiators of actions that came about simply because we decided to do them. If not being an initiator of action derogates from our ontological status, it follows that it is a mark of reality to be an initiator of action, or, more generally, a first cause, the locus of explanation that is not susceptible of further explanation of the same sort.

8 See above, §6.7 and §6.13.
Men are not merely initiators of action, but are relatively independent of their surroundings: if it rains, mountains get wet, but people put umbrellas up and stay dry; if the sun shines, mountains get warm, but people put up parasols, and stay cool. Admittedly, people are not totally independent of their surroundings; but, along with other animals, they are more independent than inanimate objects, and are themselves more independent than other animals. They do not pretend to complete independence, but they do better in the independence stakes than mere things.\textsuperscript{10}

\begin{center}
\textbf{Marks of Reality}
\end{center}

\begin{itemize}
\item[1.] being there anyway, and hence Self-subsistent, Impassible.
\item[2.] being independent of the observer.
\item[3.] being independent of the will, and hence
\item[4.] being potentially recalcitrant.
\item[5.] being explanatory, and moreover
\item[6.] being ultimately explanatory.
\end{itemize}

Locke held that all things that exist are particulars,\textsuperscript{11} and Quine that “To be is to be a value of a variable”. Behind these \textit{dicta} lies Aristotle’s πάσα δὲ οὐσία δοκεῖ τάδε τι σημείειν (\textit{pasa de ouxia dokei tade ti semainein}), every substance seems to indicate a certain ‘this’.\textsuperscript{12} Substances are things we can identify and refer to, and it is evident that we do refer to people, and quantify over them, as also quarks and quaternions.

\begin{center}
\textbf{Marks of Reality}
\end{center}

\begin{itemize}
\item[1.] required to be quantified over by current established practice
  \begin{itemize}
  \item[(Quine: “To be is to be the value of a variable”).]
  \end{itemize}
\item[2.] can be publicly identified and referred to.
\end{itemize}

\textsuperscript{10} See further below, §§12.8,12.9.

\textsuperscript{11} \textit{Essay Concerning Human Understanding}, Book III, ch.3, §1.

Sceptics may not be ready to accept quarks and quaternions as being *bona fide* substances in the way that material objects are; whereas it is obvious that material objects can be referred to, it may be doubted whether, when we purport to be talking about abstract entities, there is anything that we are really talking about. Such doubts may be met, up to a point, by the fact that we evidently do succeed in talking about some abstract entities. Minimal Platonism is a going concern, but too easy-going to carry real ontological weight: Greek mythologists talk happily together about Zeus and Aphrodite, and devotees of Middle Earth about elves and hobbits; but that does not show that they exist in the real world. And even if by means of quantification over abstract entities, we can characterize the natural numbers uniquely, and be sure that we and other people are talking about the same particular numbers,13 discourse about abstract algebras or non-Desarguean geometry seems similarly unrelated to reality. Material objects are there anyway: abstract entities are not there. Bodies not located in space, materialists aver, like God, and the square root of minus one, do not really exist, even though people talk about them. If not being located in space is taken to be a sign of unreality, it would seem that being located in space should be a mark of reality. But that goes too far. Shadows are located in space. It is not location in space, but exclusive space occupancy that is meant. And this, though not a necessary condition of reality, is, by and large, a sufficient one: we can guarantee identity of reference, and exclusiveness secures some degree of recalcitrance—we cannot put anything else in the place where it is, without moving it away.

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<td>1. Exclusive space-occupier.</td>
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Yet doubts remain. When fields were first introduced into modern physics, they were felt to be too "iffy" to be real. A field was just a way of registering what would happen to a test particle if it were placed at a particular point. Space-occupancy was not enough. It was only when it emerged that fields could carry energy that they were admitted to be real, and not a mere notational device. In the Twentieth Century, when energy merged

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13 See above, §7.2.
with mass, the possession of massery became for many physicists the leading mark of being real. Massery combined the exclusive space-occupancy and willy-nillyness of matter, the sense of being there anyhow, and not being liable to be wished or imagined away, with the activity of energy, the moving force that gets things done. The moving force that gets things done has causal influence, and it is the possession of causal influence that many scientists regard as the crucial mark of reality. But there are many senses of 'cause', and defenders of the Forms can argue that, although some mathematics is recondite, mainstream mathematics, together with other Forms and species, is an essential part of natural science and our knowledge of causal processes. Platonism need not be minimal, because it draws substantial reality from its involvement in natural science. We add these further marks of reality to our list.

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<td>1. Has massery.</td>
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<td>2. Has causal influence.</td>
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<td>3. Has causal significance.</td>
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Some arguments against the reality of time and space depend on the particular role time and space play in our conceptual scheme, itself largely shaped by metaphysical aspirations not yet articulated. Discussion of them will be deferred until chapters 9 and 13. The arguments for and against Instrumentalism will likewise be deferred to chapter 12. Although some of the arguments have been around for a long time—there was a professor of chemistry in Oxford in the late Nineteenth Century who did not believe in atoms—it was only with the advent of quantum mechanics that the microworld became necessarily invisible even to microscopic eyes, and could not be subsumed into the ordinary public world of material objects, thus raising unavoidable questions about its ontological status. It was also only with the advent of quantum mechanics that probabilities had to be construed realistically, and could no longer be taken as merely pertaining to our beliefs.

Moral antirealism is sometimes driven by a crude rejection of a crude Platonism about values: much of Plato's language is metaphorical, and easily misunderstood by those who want to misunderstand it. Often moral antirealism is fuelled by metaphysical antirealism generally; if matter alone exists, moral principles can only be pie-in-the-sky; but then the fundamental argument is one
of metaphysics, not morals. In other cases moral anti-realism is argued for independently of metaphysical beliefs. As such it has no metaphysical implications, but often gives rise to a discontent that is metaphysical. We are not happy with an anodyne Lotus world of pleasurable experiences. We seek challenges; χαλεπά πειράματα (chalepa ta kala), fine things are difficult.\footnote{Anthony O’Hear, Plato’s Children, Oxford, 2005, points out that this is the attraction of sports such as mountaineering.} We feel a need to be “up against it”, finding in the recalcitrance of reality an assurance that life is real and earnest, and has a significance beyond our own mortal life span.

### Marks of Reality

1. Not subjective or egocentric.
2. Independent of the observer.
3. Independent of the will.
4. Resistant to will; brute fact; ineluctable, unavoidable; what happens willy-nilly; potentially recalcitrant.
5. Integrative.
7. Independent of whether known or not; contrasted with epistemic.
8. Independent of whether constructed or not (in mathematics).
9. Statements about reality are truth tracking.
10. Statements about reality are corrigible.
11. Required to be quantified over by current established practice. (Quine: “To be is to be the value of a variable”)
12. Can be publicly identified and referred to.
14. Has massergy (massenergy).
15. Has causal influence.
16. Has causal significance.
17. Independent of surroundings; Impassible.
18. Not explicable in other terms.
19. Self-subsistent; (Aseity).
It is evident that the philosophers’ concept of reality, is, like the use of the word ‘real’ in ordinary language, marked by many different contrasts, which help delineate what reality is. The marks of reality that have emerged, though diverse, are interconnected, and interpenetrate one another. Is it possible to weave these different marks into a coherent characterization? The Schoolmen talked of “asentity”, by-itself-ness, being self-subsistent. Asentity combines the independence of being there anyway, and hence potential recalcitrance, should I, or anyone else, seek to push it around, with some ideal of explanatory independence, of being rational, but not being susceptible of, nor needing, any further explanation. Asentity captures the sense of reality being something other than us, a force, if not making for good, at least evincing rationality; but has the demerit of not being determinate in its application, and not being fully realised in the cases considered here. But it would be premature to expect complete clarification as yet; for the most pervasive, and potentially the most misleading, contrast is that between Appearance and Reality.

§8.3 Appearance and Unreality

Appearance is contrasted with Reality, and not to its advantage. In saying something is real, we exclude our mistakes, our illusions, our limited perspectives, our limited understanding: things are what really they are, not as they appear. Reality is Good, it seems, in contrast to Appearance, which is Misleading and Bad.

But appearances are not all of one piece: the Greek words, \(\phi\alpha\iota\alpha\iota\nu\epsilon\tau\alpha\iota\), \(\delta\omega\kappa\iota\iota\) (\(\phi\a\iota\nu\eta\a\iota\\iota\nu\), \(\delta\omega\kappa\iota\iota\)), give rise to the very different English words ‘phenomena’, on the one hand, and ‘orthodoxy’, ‘heterodoxy’ on the other; the Latin \(\nu\iota\delta\epsilon\lambda\iota\)u\r\ has a strong visual connotation, but is used, like the English ‘seems’, ‘semblance’ and ‘resemble’, with a suggestion of fallibility. With some appearances we are impelled to ask to whom did they appear, with others our attention is directed to the subsequently corrected version. The latter, tentative judgements, that seem to be the case, but may well be wrong, should be distinguished from “appearances to”, and among these there need to be distinguished those that appear exclusively
Appearance

1. Tentative judgement: may well be wrong.
3. “From where I sit”, “from where you sit”: other seats acknowledged.
4. What we all (all actual observers) observe: the phenomena which any account of reality must preserve.
5. What we all (all actual and possible) observers observe: the phenomena which any account of reality hopes to accommodate.

To me, those that appear to me, but also to you, those that actually appear to us, and those that might possibly appear to us or to other possible observers.

In the first sense I am using the locution ‘It appears to me’ to give an estimate, in which I try to correct for my own deficiencies and position, and give an account that will be interpersonally valid, but I acknowledge I may fail. I am not talking about me, and my sense-experience, but about it, and you may well be in a better position to know about it, and be able to correct me when I put forward my own tentative judgement.

Reality corrects appearances

The opposite holds good in the second sense. Then I am reporting how things seem to me, making no attempt to correct for deficiencies of my sense organs, or conditions of observation. It is what I tell the doctor, if I have got jaundice, or the optician, when I am having my eyes tested. I do not turn my head to see the letters close to in order to make out the little letters I am being asked to observe. What is of concern is not what the letters really are, but my impressions, my visual sense-experience, my sense-data. I am being autobiographical, in order that the doctor or optician can help me. And I am the ultimate authority on me. If I say that everything seems yellow, or that the letter appears to be an R, the doctor or optician accepts my say-so as final. There is no room, logically speaking, for saying that I have got it wrong. Apart from deliberate deception or linguistic incompetence (if I did not understand English very well, and thought that ‘yellow’ meant ‘azure’),
I cannot be wrong about my own sense-experience. The doctor may find no other symptoms of jaundice, the optician may know that the letter is actually an A, but neither can say that things do not really appear to me yellow, or that it did not seem to me to be an R. In this sense my reports of how things appear to me are infallible: you cannot correct me: what I say goes: I cannot be wrong.

Even if I am not being the infallible me, I still am me, not you, and my ways are not entirely your ways. Without wishing in any way to pressurise you, I may want just to recognise the fact of our being different. My perspective is different from yours, which in turn is different from his and from theirs. But although all different, these perspectives are not all utterly different, or we should not be able to talk to one another about them at all. Besides contrasting how things appear to me with how they appear to you, I may also want to contrast how things appear to me or to you with the invariant core that is the same for all of us. It looks elliptical, but is really round; the ridge of the roof is really level, though from here it looks as if it is going up. This third sense comes between the first two. It is not purely autobiographical and infallible, but it does not invite immediate correction by some superior apprehension of reality. I report that the distant tower looks square, or that the moon seems to be the size of a sixpence. I am not telling you about myself, but about what anyone situated as I am would experience. I could be corrected—someone else, standing where I stood, might say that the tower looked circular, or that the moon was the size of a shilling, and I, on reflection or re-examination, might agree. But I could not be corrected by a simple appeal to reality. `Actually it is triangular', or `Actually, it is as large as the Pacific Ocean', do not impugn what I said, but only say what I might have gone on to say.Appearances here are contrasted with reality, but are not immediately corrigible by reality, though they are intersubjectively corrigible, and to that extent real with a respected ontological status of their own.

Although as a matter of logic, appearances in this third sense are not immediately corrigible by reality, it has emerged, curiously, and significantly, as a psychological fact, that they are influenced by it. How things appear to an observer is affected by knowledge of reality, so that if we can see that an inclined disk is actually a coin,
it appears to us as more circular and less elliptical than the geometry of perspective would suggest it should. This "Phenomenal Regression to Real Object" shows how the need for communicators to talk about what is invariant as between the one and the other exerts pressure not only on our language but even on our perceptions.

Whereas appearances in the third sense are what appear to me or to you in the singular, in the fourth sense they are what appear to us in the plural. We have an ideal of competent and impartial observers who will all have the same sense-experience, if under the same conditions, and provide us with a reliable and objective entrance into reality. Even so, we can all be wrong. Our ancestors included many reliable and competent observers, who confidently reported that the earth was flat, and that the sun went round the earth. More telling is the fact that we can all be wrong about morals. The biblical "Ye have heard of old time ..., but I say unto you ..." is not a self-contradiction, and may on occasion be true. The moral reformer can make his case; and so too can the knowledge reformer.

Reality is corrigible, and can be corrected by appearances.

Once we become aware of the limitations of human sensory apparatus, we begin to consider not just what appears to all actual observers, but what would appear to actual and possible observers. If we had microscopic eyes, we should see blood not as red, but as yellow with red corpuscles floating in it; and benzene rings as joined-up hexagons of carbon atoms, with hydrogen ones hanging on. Such speculations are dangerously indeterminate. Once we leave the definite world of actual observers, there are many different modes of possibility that may be invoked. We should be wary of placing too much credence on such speculations. But such speculations have been entertained, and sometimes have proved to be right, and we should note them in listing the different senses given to 'appearances'. With them, reality remains corrigible, but

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no longer corrects appearances, but, rather, explains and accommodates them.

These different senses of `appearance' indicate the different contrasts which go to form our concept of reality. The reality against which the optician assesses his patient’s visual acuity is that which corrects appearances while being itself corrigible. The optician has no doubt that the letter seems to the patient to be an R, but no hesitation in concluding that the patient failed to see it correctly. But the optician could, conceivably, be wrong. He might have accidentally turned the translucent screen, so that the bottom left letter is actually a B. In that case we would have the first sense, when I am not talking incorrigibly about me, but corrigibly about some item interpersonally observable. In that sense I use ‘it appears to be’ to emphasize my corrigibility. I profess great readiness to evacuate my position if you should wish to controvert me. I am hazarding a conjecture on imperfect information, or I am aware of my own defective sensory apparatus, or limited intelligence. So, paradoxically, both the incorrigible and the corrigible uses of ‘it appears’ bear witness to the corrigibility of anything we say about reality together with its being the standard against which either sort of appearance is to be assessed.¹⁶

§8.4 Plato against Appearance

Plato was hostile to Appearances, contrasting them unfavourably with the Forms. Originally it was appearances in the second sense that he was against, because they were subjective, and he was seeking to secure objectivity against the subjectivity of the opinionated. His prime purpose was moral. He was arguing against the moral subjectivism of his time, and sought to show that moral values were objective, because they were realities existing independently of us, and were not constituted by what we happened to think, or what seemed to us to be the case, but were the standard by which our thoughts and actions should be evaluated. Plato’s hostility to Appearance was enhanced by his hostility to the self. He thought that self-aggrandisement was the root of all evil, and he associated moral subjectivism with selfishness, and sought to liberate the soul of man from both, holding that it was meant to be a self-less knower, capable of communing with eternal truths,

¹⁶ For a fuller account of the different senses of the word ‘appear’ see P.M.S.Hacker, Appearance and Reality, Oxford, 1987, ch.6.
and not subject to the sway of fashion or the attrition of time. He confused the unreliability of mere opinion with the immorality of selfishness, and hence conflated appearance in the first and second senses, and thence, by extrapolation to the other three senses, concluded that appearances in general were egocentric and liable to be wrong.

Necessities of communication require some measure of intersubjectivity. Plato construed this as a requirement of invariance over differences of person, and hence also over different points of view and differences of date, since different people are characteristically at different places at the same time, and often are talking to one another about what had happened at some different time. It seemed that necessities of communication required reality to be the same for all persons at all times in all places, and hence knowledge must be subject to the Valentinian canon, being knowable semper, ubique et ab omnibus always, everywhere and by everyone, and reality must really be absolute, impersonal and timeless. But Plato was going further than the necessities of communication actually required. He misconstrued the requirement of omnipersonality and omnitemporality as one of impersonality and timelessness. He was taking over the characteristic mark of objectivity possessed by material objects, and attributing it to reality generally. We might call this "Metaphysical Regression to the Thingly Entity" analogous to the distortion noted in the previous section (§8.3) of our perception of appearances.

Plato argued further that what is known must be necessary. If what is known exists necessarily, there can be no contingency about its existence, nor any changableness. True science must be not about appearances, which just happen to be what they are, and may change, but about unchanging principles, which are always the same because they must be what they are. The sciences that most closely approximate to this ideal are the mathematical sciences. Towards the end of his life he discusses which sciences should be fostered in the Land of the Laws. He has little use for the domestic sciences, such as weaving and cookery, and comes down firmly in favour of arithmetic and astronomy. We still feel that mathematics and mathematical physics are "hard" subjects, 

17 See above, §8.2.
18 Epinomis 974d-975d.
and that the biological sciences are somehow “softer”, and the humanities are softer still, concerned as they are with the changes and chances of human life, and how things seemed to different people at different times.

If knowledge is necessarily necessary, it must be immune to the assaults of contingent appearances in the fourth, and hence even in the fifth sense. In the seventh book of the Republic, Plato dismissed the relevance of observation for ἀστρονομία (astronomia), and laughed at those who waste their time lying on their backs looking at the stars instead of getting on with the serious business of calculation. 19 There is a similar story of the Princeton hostess who boasted to Mrs Einstein of the expensive telescope her husband used to discover the nature of the universe, and received the reply: “My husband does it on the back of an old envelope.”

We sympathize with Plato and Mrs Einstein, 20 but we nonetheless need to press the question of what view we should take, if the experimentalist, money-spending and banalistic though he be, persistently disagrees with the theoretician. The Babylonian astronomers got beyond counting on their fingers, and realised that 10 was a poor base for arithmetical calculation, and that 12, 30 and 60, were much better. It would have been pleasingly rational if the year had been exactly 360 days long, consisting of 12 months of 30 days each. Unfortunately the earth’s orbit round the sun the moon’s round the earth and the diurnal rotation of the earth on its axis are not synchronized. So although it might have been more beautiful, more rational, if the ratios had worked out neatly, the fact was that they did not. Plato would advise them to be unworried. If appearances did not agree with reason, so much the worse for appearances; it is just what might have been expected with mere appearances, and only goes to show how unreliable they are, and what little use they are as guides to the true reality. It is a tenable position, but at a cost. The Babylonians would have had a beautiful theory, but a useless calendar, which would not have told them when to expect the rains, when to sow, or when to harvest. Only if a theory leads to consequences which could be wrong, is it relevant to our understanding of the natural world—a theory immune to refutation by counter-evidence would tell us nothing of substance about the way things are. It must be possible

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19 Republic VII, 529-530.
20 See above, §4.6.
to envisage falsifying instances without falling into inconsistency. Empirical phenomena may be unsatisfactory in various ways, but they do matter to us. *Astronomy* (astronomia) as Plato understands it, is not about the stars at all. It should be translated not as ‘astronomy’, but as ‘rational mechanics’. It is a perfectly respectable branch of mathematics, but is no good for telling us where the Pole Star was, or whether there would be a moon to light us back from a party.

Extreme Platonism lacks relevance for us. It is not “News from Nowhere” as the anti-metaphysical gibe would have it, but not news at all, if it has no bearing on us or our concerns. Only if at some remove or other it tells us about us, and me about me, will it have any bearing on our, or my, concerns. An adequate account must preserve the appearances, in order that it may appear to us significant. If I am in a strange town and see a map posted, I need the arrow with the caption “You are here”. A dating system is no good, unless we can know what the date is now. It is not enough to have a complete guest list—we sometimes have to ask “who are you?”, and need an answer in the first person singular.

Plato has taken non-egocentricity as a mark of reality to an extreme: against that, Aristotle insists that for any science it is necessary *sozēn ta phainomena* (soxein ta phainomena), to save the appearances.\(^\text{21}\) Appearances are, in this sense, crucial to reality. A reality which altogether hides itself, and never appears to any of us in any form, under any guise, ceases to be relevant to us, and forfeits its title to being real at all. Potential recalcitrance, rather than bare non-egocentricity, is the essential characteristic of reality: reality not only must not depend on me, but must be able to frustrate my will, if I attempt to push it around heedlessly.

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\(^{21}\) Simplicius, *In Caepl.* 7.32.18.
§8.5 **Empiricism**

We endorse Aristotle's criticism. We are empiricists to the extent of demanding that our theories should in the end be vindicated by appearances—appearances in the fourth sense—and in the last resort, when all appeal to experimental error, random fluctuations, unknown intervening factors, or exceptional circumstances, have been exhausted, be rejected if the empirical evidence tells against them.

Many modern thinkers go much further, espousing an empiricism that denies any possibility of a rationalist science, or rationalist morality. Natural science, the Logical Positivists say, is about natural phenomena, period. But they have too narrow a view of reason and an un-thought-out account of natural phenomena. Reason is not confined to deductive logic, and rational considerations play a large part in the natural sciences. Contrary to the teaching of Sir Karl Popper, scientific theories are not exposed to sudden death at the hands of falsifying instances. Experimental error is often, and rightly, invoked to explain away discrepancies between theory and actual observation. When observations cannot be attributed to experimental error, the theory they seem to falsify is not so much refuted as refined. The observations made by Michelson and Morley, it is said, led to the overthrow of Newtonian mechanics. But this, though true, is only partly true. The Special Theory, which replaced Newtonian mechanics, has Newtonian mechanics as a limiting case; and we still use Newtonian mechanics for almost all practical purposes.

Knowledge is not based on experience alone, but on reason too.

Moreover, sometimes we do not just explain away or accommodate the data of observation, but override them. Hume argued, on empiricist principles, that since there was a minimum spatial interval we could perceive, and likewise a minimum temporal interval we could discern, space and time must be discrete. But we do not accept the verdict of our sensory apparatus as conclusive. We

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22 See above, §§2.1, n.2, §§2.7, §§2.10.

23 See above, §4.7.
mostly think of space and time as continuous. Once we recognise that reason is "thick", and not confined to deductive inferences that cannot be gainsaid on pain of self-contradiction, we can accept that some principles have probative effect in their own right, and may outweigh that of some observations. It is significant that though Einstein could have been refuted by observation, he was not. The principle of covariance, and other symmetries that underlie the General Theory, have great weight, even though it would not be inconsistent to deny them.

> Reason can on occasion override experience.

Although we do need to save appearances, appearances have to be massaged by the criteria of normative reason in order to be saved. They cannot be the "flat" appearances which were taken by the English Empiricists to be purely passive impressions, something that the external world impressed on the mind. In a similar vein, the Logical Positivists spoke of sense-data, items just given from which we were to construct the edifice of empirical knowledge. But though we are subject sometimes to unwelcome interventions from the external world—a flash of lightning, a clap of thunder, a stab of pain—we mostly elicit information about the external world by looking, listening, feeling, sniffing and tasting. Our sense experience is not something that just happens to us, but is feed-back on our exploratory activities. We ask questions, and nature gives us answers. And the answers, since they are answers to questions asked, are shaped by the questions. Hence the Phenomenal Regression to the Real Object noted in section §8.3. Only very seldom are we concerned primarily with how an object actually appears to us in the first, autobiographical sense—only if we are at the oculist or trying to paint a picture: almost always we are concerned with the object itself, which we may want to avoid, move, or manipulate, and the answer to that question dominates a merely autobiographical enquiry. The appearances on which empirical knowledge is founded are not the appearances in the first sense, the appearances that might be recorded in an autobiographical account of a stream of consciousness, but are appearances in the fourth sense.

24 See further below, §§13.6 and 13.7.
25 See further above, §12.1.
of appearances, that is, which are not necessarily dependent on person, time or place.

Reason shapes experience, as it makes sense of it.

The pressure of Reason on Appearance goes deeper. Once we move away from the private sense-data of individual persons to what can be observed by people in general, we are led to a public external world in which there are objects, which can be perceived by anyone, at many times and from many points of view, but can equally well exist unperceived. And if it is permissible to explain sense experience by reference to material objects, the possibility cannot be ruled out of our explaining material objects in terms further removed from direct experience. Physicists read what they see in a Wilson cloud chamber as tracks of charged particles. The complicated apparatus devised by experimental scientists can be seen as instruments of torture to force nature to reveal her secrets, and the observations are construed as answers to the question asked by the experimenter rather than what might be seen by an uninformed bystander. What we see with our eyes is so much a question of what we are looking for, that textbooks in biology show diagrams of cells, not photographs taken through microscopes. To the uninformed observer photographs taken through microscopes, like X-ray photographs, are just a blur. The eye has to be trained if it is to see what there is to be seen. Similarly the ear. When I twiddle the tuning knob, I pick up foreign stations with a lot of interference. Even if I can make out what language is being spoken, I cannot distinguish the message from the noise—unless it is English, when I can pick out what is being said in spite of much interference. Psychologists and physiologists sometimes tell us in consequence that the retina and inner ear are really part of the brain; and without presuming to opine about physiology, we should accept the moral, that the appearances the empiricists cherish are not opposed to reason, but largely shaped by it.

The concept of appearance is fuzzy at its remoter end. The appearances we all observe are not clear-cut, because it is not clear-cut who we are. Are we the we who can read X-ray photographs and understand Wilson cloud chambers? Or the we that includes me, who cannot see anything through a microscope, nor pick out the theme tune from the rest of the orchestration? It seems Philistine to construe the range of actual observers narrowly. I hesitate
to intrude my imperceptiveness as a barrier to the advancement of science; I am inclined to believe that when scientists say that they can see something of consequence in their apparatus, they are telling the truth. I extend the range of actual observers to focus on the competent, gifted and highly trained, to include what can be observed with the aid of apparatus, and even further to include what may be observed with even better apparatus, and, indeed, what might be observed if we had better sense-organs. We slide from the fourth to the fifth sense, and consider how the world would appear to those enjoying the beatific vision, or possessing microscopic eyes.

§8.6 The Cave

In Book VII of the Republic Plato likens our ordinary experience to that of prisoners in a cave, in which they can see only dim shadows of real objects they are unable to look at directly. A few favoured souls, however, may undergo a conversion, which enables them to escape from the cave and see things properly in normal daylight. They would see things as they really are, and come to understand the why and the wherefore of the succession of shadows seen in the cave. Although what we see with our ordinary eyes are only transient appearances, true philosophers can see with the eye of the mind a permanent reality which is not subject to human whim or fashion, and which can give us guidance and illumination.

The Twentieth Century has given better analogies than the cave. The early films were all black-and-white, and viewers in the cinema saw only a monochrome representation of the real world, which they saw in all its coloured magnificence when they came out of the cinema into broad sunshine. Early television was similarly monochrome, and in any case there is a contrast between the images shown on the screen and what we can see in the outside world.

The analogy is compelling: the images are only appearances, which only partially represent a reality not mediated through cinema or television. The contrast between the images of uninformed experience and the realities that give rise to them is intuitive and
plausible. Nevertheless, Plato has been severely criticized by modern philosophers. They are sceptical of the eye of the mind. True, we do use visual metaphors for intellectual feats of understanding; but they hesitate to posit an eye of the mind on a par with the genuine eyes we can identify in our heads. Can Plato give any other account, they ask, of how we could know what the outside of the cave was like, were we able to get there? And, without waiting for an answer, contemptuously dismiss the whole account as an idle simile offering us again only News from Nowhere.

But Plato was not just offering us information about the world of Forms. The true philosopher, having seen the Forms with the eye of the mind, could return to the cave, and see the same images as other men saw, but with understanding of why they were as they were. And Plato was not the only thinker to seek knowledge of a reality beyond the appearances we all can share. The ancient atomists and their modern successors portray a world markedly different from the one we experience, claiming that it lies behind it and can explain it. All the phenomena of ordinary life are, it is hoped, to be explained in terms of the position and its time-derivatives of the atoms. If we had microscopic eyes, says Locke, we should be able to see into the real nature of things, and understand why natural phenomena appeared to us as they did. Plato's cave cannot be dismissed as an idle metaphor, unless much of modern chemistry and physics is to be ruled out of court also.

\begin{center}
\textbf{Scientists' Cave}
\end{center}

Coloured TV vs. Black & White World

Some philosophers are willing to do just that. We do not have microscopic eyes, and so are in principle unable to verify what the scientists say. But such criticisms make little impact. We do not need microscopic eyes: optical microscopes and electron microscopes serve instead. And in any case we believe what the scientists tell us not because we can somehow see it for ourselves, but because what the scientists tell us explains what we can see for ourselves. Our warrant for believing in a reality beyond appearance

\footnote{John Locke, \textit{Essay Concerning Human Understanding}, II:23:11-12}

\footnote{Susan Stebbing, \textit{Philosophy and the Physicists}, London, 1937.}
is inferential, not sensory. Reality is rational, and inference to the best explanation can give us knowledge of it.

A similar two-part defence of Plato’s own account can be mounted. Although most of us cannot read an X-ray photograph, some can; and similarly some sensitive souls can read the book of nature and the hearts of men and can see how things cohere, and that All is Well. Some who go on long Wordsworthian walks in the Lake District may sufficiently sharpen their sensibilities to be aware of deeper realities; some never lose the gleam perceived by childhood innocence, and even in adulthood see the fields bathed in orient light; many have a sense of the numinous in certain hallowed places. We could, even, give credence to a sixth sense possessed by seventh sons of seventh sons. We cannot confidently set limits to what might appear to people in the fifth sense of ‘appear’. Sceptics can insist that the fourth sense be tightly delimited, but then they have to allow that Reason enables us to go beyond the limits of appearances in that restricted sense. Although the reasons that might be adduced for holding natural scenery indicative of a Deity up-holding it, are not the same as those arguing for the atomic theory of matter, they cannot be dismissed out of hand. The explanatory schema outlined aims to explain everything, thereby revealing its significance: it makes up in width what it lacks in detail. It may fail, but it is not foredoomed to failure.

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**Plato’s Cave** *(Republic VII, 514ff.)*

How can Reality be more real than Appearance? How can we, inside the Cave, know what it is like outside? God might tell us; it might be revealed in mystical experience, or by communing with nature during long walks in the Lake District; we might have an extra sense; (in the kingdom of the blind the one-eyed is king). Then it is

- Black & White TV v. Coloured World
- Alternatively, we might know because it was more explanatory drive for economy—only primary qualities

then

- Coloured TV v. Black & White World

Locke-Mackie thesis.

Microscopic eyes see the real essences of things, in which there are no secondary qualities: secondary qualities merely painted onto reality by us.
Most thinkers in the present age are ready to accept the world of the atomists than the world of the Forms. Their world is much more austere than Plato's. Whereas for Plato the appearances within the cave were much dimmer and more monochromatic than those in the world outside, for the atomists the reverse is true, and it is reality that is devoid of colour and scent and sound, being constituted of corpuscles possessing only the primary qualities of configuration and motion. Its austerity is seen as a virtue. For our warrant for accepting that atomism gives us a true account of reality is its explanatory power; and explanations need to practise economy. To explain colours monochromatically is to explain: Plato's glorious polychromatic world may be much lovelier than the greys of the cave, but cannot be offered as an economical explanation of them. The world the microscopic eyes would see, did they exist, is knowable without them, because of its explanatory power: whereas Plato needs, and in the opinion of his critics fails, to provide a convincing account of the eye of the mind, or in its absence some other warrant for holding that the world of the Forms actually exists.

§8.7 Beyond
Explanations give rise to further questions, which in turn demand further explanations. The classical atomists, or corpuscularians, as we may call them to distinguish them from the exponents of modern atomic theory, whose atoms are anything but unsplittable, explained secondary qualities, such as colours, sounds and scents, in terms of primary qualities, such as position and motion. But questions arise about these too, and in the Twentieth Century physicists have sought deeper explanations, which sometimes they can give, in terms of quantum mechanics and Einstein's General Theory. It is tempting to extrapolate from the explanation of secondary qualities in terms of primary qualities, and to envisage these in turn being explained in terms of "nullary" qualities. Certainly, the search for explanations gives rise to a progression of deeper and deeper explanation, and in so far as explanatory power is a mark of reality, we have an ordering of greater and greater—or deeper and deeper—reality. But there is a trade-off between explanatory power and experiential adequacy. Berkeley and many others have complained that the world of the atomists has no room for the colours, sounds and scents that make up a large part of life as we experience it. It has not been established that explanatory power is
the sole mark of reality, nor that scientific explanation is the only one capable of leading us from one ontological type to another. Reason is many-faceted, and it may be that the further reaches of reality do not have to be more featureless than the appearances we already know.

Although reality is intimately connected with reason, it is not the same as it. Sometimes reality is contrasted with reason, as when we have to recognise as a simple brute fact the opaque necessity of a natural law that reveals itself in the impossibility of conjoining the cause with the absence of the effect. The independence and potential recalcitrance of reality has been a recurring theme. The reality of various different sorts of entity has been impugned on the grounds that, being in some way dependent, they lack the independence that genuinely real entities would possess. Absolute asetity was the mark of the God of Parmenides and the philosophers, and other entities aspire to some measure of asetity in order to be accorded some degree of reality. But, as we shall see later, independence is not unconditional, and is available only at considerable cost.

### Marks of Reality

1. self-subsistant
2. truth tracking.
3. corrigible.

The criteria of reality are diverse. Some are based on some contrast with some form of unreality, others on some positive feature—explanatory power, causal power, or the possession of massery. It is difficult to integrate these criteria into one coherent whole. Indeed, some—rational transparency on the one hand and brute actuality on the other—seem directly opposed to each other. Yet the attempt to integrate these different intimations into one coherent whole has been the driving force in metaphysics, and is the reason why some of the marks of reality have been recognised as such. Since the different marks of reality are diverse, it is not obvious that they can be ordered in any sort of way. But the word reallius, ‘more real’, makes its appearance in the late twelfth century.

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28 §12.7.
soon after *male* itself. The sense of there being degrees of reality is strong. Although it should not be accepted uncritically, it should not be dismissed cavalierly. It underlies the Ontological Argument, and will become easier to appreciate as we explore that.

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<thead>
<tr>
<th>Marks of Reality</th>
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<tr>
<td>1. not dependent merely on me</td>
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<tr>
<td>1.1 corrigible</td>
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<tr>
<td>1.2 not subjective</td>
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<tr>
<td>1.3 independent of whether constructed or not</td>
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<tr>
<td>2. resistant to will; brute facts; what happens willy-nilly</td>
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<tr>
<td>2.1 causally efficacious</td>
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<td>2.2 has massery</td>
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<tr>
<td>3. rational, explanatory</td>
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<tr>
<td>3.1 required (to be quantified over) by well-established theory</td>
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<tr>
<td>(Quine: “To Be is to Be the Value of a Variable”)</td>
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<tr>
<td>4. independent of the observer</td>
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<tr>
<td>4.1 not transient; permanent</td>
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<tr>
<td>4.2 independent of whether known or not; contrasted with epistemic</td>
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<tr>
<td>5. independent of other things (cf. Faraday’s arguments for the real existence of fields).</td>
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<tr>
<td>6. completely determinate (EPR)</td>
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<td>7. has <em>haecceitas</em></td>
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A final list, tentatively grouped, and in items (6) and (7) looking ahead to chapter 12 (quantum mechanics). No list can be fully complete, because there always may be further ways in which entities fail to be all they ought to be.