

DAWES HICKS LECTURE

LOCKE'S LOGICAL ATOMISM

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Read 4 November 1981

ALL our ideas are either simple ideas or else complex ideas constructed out of those simple ideas. What made Locke adopt this compositional model for thought? The answer seems to go without saying. Compositionism seems no more than the natural model for anyone who wants to claim that all our ideas come from experience. It seems only natural to explain the idea of a centaur, which cannot have been acquired in experience, as a fiction constructed out of elements which have been so acquired. It seems only natural that Locke should have tried to extend that explanation to the ideas of God and infinity, to mathematical ideas, to the ideas of material and spiritual substance, to the ideas of right and wrong, and to other ideas commonly held to be innate in his time because they seemed to transcend experience or to be independent of it. Yet to stop there is to fail to discern the full meaning of compositionism for Locke, the special significance of 'simple' and 'complex' in his philosophy.

One proposal as to such a deeper meaning may appeal to some just because it finds the source of Locke's model outside the abstractions of pure philosophy. That is the view, given graphic expression by Sir Isaiah Berlin, that Locke was captivated by the methods of contemporary physics. Just for that reason, Berlin suggests,

The mind was treated as if it were a box containing mental equivalents of the Newtonian particles . . . These 'ideas' are distinct and separate entities . . ., literally atomic, having their origin somewhere in the external world, dropping into the mind like so many grains of sand inside an hour glass; there they continue in isolation, or are compounded into complexes, in the way in which material objects in the outer world are compounded out of complexes of molecules and atoms.¹

A similar suggestion has recently been made by Dr M. A. Stewart, of Lancaster University. Stewart argues, I am sure rightly, against

¹ I. Berlin (ed.), *The Age of Enlightenment* (1956), p. 31.

those eminent commentators¹ who have claimed that compositionality became, in later editions of the *Essay*, a somewhat half-hearted component of Locke's concept-empiricism. He offers evidence that even in his latest thoughts Locke enjoyed finding rather detailed analogies between his theory of ideas and Robert Boyle's theory of particles or corpuscles. For Stewart, so it seems, the question whether Locke remained faithful to compositionality just is the question whether he continued to take the analogy with physics seriously.²

There is one big problem with this story. No doubt every thinker, however revolutionary, has to work within a tradition using, for whatever fresh purposes, the conceptual tools supplied by his context. But conceptual tools are not just words and phrases. For a philosopher, to construct a theory by means of such tools and to define his relationship to the tradition is one and the same act. Even to refuse to employ certain available concepts is a positive contribution to the latter task. If it is true that Locke took over the notion of combination from physical theory, then one must expect some intelligible relation between that theory and what he saw himself as doing. One might, for example, expect—to be rather obvious—that he took himself to be offering a theory of the mind with the same status as Boyle's theory of matter. The trouble is that we know just how he saw himself in relation to Boyle, because he tells us, and it has nothing to do with any analogy between simple and complex in 'the material and intellectual worlds'.³

Boyle's method included two distinct components, experimental and theoretical. The first, generally known as 'natural history', was a process of observation and experiment leading to empirical or merely descriptive generalization such as, indeed, Boyle's Law. The second consisted in speculative and usually rather general explanation in accordance with the hypothesis of corpuscles and the void. This speculation was valuable in explaining how material variety and change might arise from a few simple principles. Yet it is to 'natural history' that Boyle's specific discoveries were credited. Now consciousness for Locke is an attribute of the mind or thinking thing at the level of observa-

¹ Cf. J. Gibson, *Locke's Theory of Knowledge* (1917), ch. iii; R. I. Aaron, *John Locke* (2nd edn., 1955), ch. iii.

² M. A. Stewart, 'Locke's Mental Atomism and the Classification of Ideas', I and II, *Locke Newsletter*, 1979 and 1980. See especially II, pp. 46–60.

³ The phrase is adapted from *Essay Concerning Human Understanding*, ed. P. Nidditch (1975), II. xii. 1.

tion: the real and underlying nature or essence of 'that which thinks' is unknown, a matter for speculation.¹ He sees his theory of ideas and knowledge as the application of what he calls the 'historical, plain method' to the experienced operations of the mind.² Consequently, whereas absolutely simple material particles would be ontologically or, to use Berlin's word, 'literally' atomic, simple ideas are only 'simple' at the superficial level of appearance and mere description. That is why Locke disclaims any Cartesian intention to 'meddle with the Physical Consideration of the Mind' ('physical' here meaning 'natural' rather than 'material').³ He even refuses to arbitrate between materialism and immaterialism as explanations of the natural basis of consciousness.⁴ The theory of material atomism itself was for Locke far from perfect, although a hypothesis for which he fears 'the Weakness of humane Understanding is scarce able to substitute another'.⁵ All this is part and parcel of the strong anti-dogmatism which constitutes a major theme of the *Essay*. It is therefore incredible that he was predisposed by any respect for Boyle's method to find the structure of Boyle's speculation replicated at the level at which we observe or experience the mind.

In other words, the analogy between the composition of ideas and the composition of physical particles does no theoretical work for Locke, but arises as little more than a decorative conceit. Its elaboration may be significant if we are interested in the literary style or tone of the *Essay*, a not unimportant topic, but we should look elsewhere for the answer to the question with which we began. I would suggest that we should look, not towards physics, but less adventurously at the context of existing logic and epistemology. For the truth is that these branches of philosophy had been heavily compositionalist since Plato.⁶ It is that background which gives the compositionism of the *Essay* its philosophical depth and significance, making it the vehicle by means of which Locke could express systematic opposition, above all, to the followers of Aristotle and Descartes. He does so, very crudely

¹ Cf. *Essay*, II. i. 9; IV. iii. 17; IV. iii. 29; IV. vi. 14; IV. xii. 12; etc.

² *Essay*, I. i. 2.

³ *Ibid.*

⁴ Cf. *Essay*, IV. iii. 6.

⁵ *Essay*, IV. iii. 16.

⁶ Cf. *Theaetetus* 203, where Plato uses the alphabet analogy employed by Locke at *Essay*, II. vii. 10. Although Stewart may well be right that Locke got the idea from Boyle (who follows Lucretius in using it to expound physical atomism) it seems possible that seventeenth-century compositionism is directly indebted to the argument of *Theaetetus*.

speaking, by arguing that what is a paradigm of simplicity for the rival theory is in fact complex; or that what is held by others to be self-evidently complex, is better regarded as simple.

It seems that the doctrine which was uppermost in Locke's mind when he first began to set out the theory of the *Essay* (in what is now known as 'Draft A')¹ was the Aristotelians' notion of a simple term or 'simple apprehension'. That notion arises in the context of Aristotelian theories of the proposition, in which predication was regarded in three associated ways as it pertains to words, to things, and to thoughts. First, in predication words or terms are combined in sentences. Such combination, Aristotle tells us, must at least implicitly include a verb, paradigmatically the verb *to be*, before something capable of truth or falsity is achieved.² Second, we are also invited to regard the proposition as the association of things or beings or entities. For example, the species *man* may be said or predicated or affirmed of the individual man; and one thing, its quality *white*, exists 'in' another thing, the white object.³ Third, Aristotle takes it that something corresponds in the mind to both these levels, a thought which does not differ from nation to nation as language differs.⁴ For later Aristotelian theory the act of mind which corresponds to a term is the 'simple apprehension' of its meaning, or a 'concept'. 'Judgement' or mental 'affirmation' corresponds in the mind to the ordering or combination of terms in the sentence or statement. Sentences or propositions can in turn be combined in syllogism, and judgements or affirmations, correspondingly, in reasoning, 'ratiocination', or 'mental discourse'. Hence logic was traditionally divided into three parts, concerned with terms, with propositions, and with syllogism.

This straightforward model of increasing complexity seems to have had, right from its origin in Aristotle himself, an interesting qualification relating to the first stage. The chief part of Aristotle's theory of terms is his doctrine of 'categories' or 'predicaments' which distinguishes various sorts of predicate or, if you like, of being or attribute. 'Man', 'horse', 'gold' fall under the category of substance; 'four-foot' falls under quantity; 'white', 'musical' under quality; 'larger' under relation; 'in the Lyceum' under place; and so forth. Each of these predicates was held to be simple,

¹ *Locke's Essay: An Early Draft* (1936), eds. R. I. Aaron and J. Gibb (written 1671).

² Cf. *De Interpretatione*, 17a11-15.

³ Cf. *Categoriae*, ii.

⁴ Cf. *De Int.* 16a3-9.

however many words it may contain. It is incapable of truth or falsity by itself, without combination.¹ Yet this conception of simplicity, tying it to the categories, leaves open the possibility of compounds which combine items from different categories but which are not straightforwardly or fully propositional. For example, 'musician' combines *man* and *musical*. Like any term, such expressions assert nothing by themselves, yet their compound nature shows itself in predication. 'John is a musician' means the same as 'John is a man and John is musical'.²

Here we may ask why the term 'man' is the paradigm of simplicity if, as Aristotelians believed, it can be defined, for example as *rational animal*. Their answer is that 'man' denotes a *thing* which is simple and unitary, while 'musician' does not. 'A man', 'a horse', 'gold', 'lead' answers the question 'What is it?' asked of a natural individual or naturally homogeneous quantity of stuff. That is to say, it classifies the individual or stuff according to its whole unitary nature or essence, rather than just by its size or quantity, or by its qualities or relations and so forth. It places the individual in a natural kind or species. (This narrow but natural understanding of 'What is it?' is perhaps more natural in Greek.) The unitary nature or essence of the species is expressed in a 'real', that is to say, scientific definition: *man* was commonly defined as *rational animal*. But that nature is supposed not to have parts corresponding to the linguistic parts of the definition. Musicians, by contrast, do not as such belong to a species with an essence, but rather to a class arrived at by arbitrary combination. Correspondingly musicians are not natural individuals *qua* musicians but *qua* human beings. To come or cease to be a musician is not to come or cease to exist.

This distinction is elaborated in the theory of predicables, the explanation-schema of Aristotelian science and another way of dividing up and relating predicates. The predicables are (after Porphyry) genus, species, difference, property, and accident. The 'real' or 'simple' definition of the essence of the *species* is by *genus* and *difference*. *Properties* are attributes common to all members of the species: they flow from, or are explained by, the essence, as our having hands or language or the capacity for laughter was supposed to flow from our being rational animals. *Accidents* are attributes which are not so connected with the essence, and which any member of the species may have or lack, as it chances. Thus there could be no single word which meant *man who is rational* or

¹ *Cat.* iv.

² Cf. *Metaphysica*, Z iv; *De Int.* v, viii, and xi.

man who has hands, since these conceptions or expressions add nothing to *man*. To try to introduce such a word would simply introduce a synonym for 'man', another name for the species. 'Musician', by contrast, does add to *man*, just because musicality is an accident.¹ The paradigmatic Aristotelian compounds thus compound substance with accident.

In the Port Royal *Logic*, a work in which Antoine Arnauld attempts to graft the Aristotelian logical tradition on to Cartesian metaphysics and epistemology, the Aristotelian distinction between simples and compounds seems to be given recognition in a discussion of complex expressions, in which 'two or more words are joined together to express one idea'. All such expressions are treated as quasi-propositional: the notion of a 'transparent body' is the notion of a 'body which is transparent'. But a distinction is drawn between explicative complex expressions, like 'man who is an animal endowed with reason', and determinative complex expressions, like 'transparent bodies'. In the former, the relative clause adds nothing and leaves the extension of the term unaffected. In the latter, the adjective or clause is an addition which further restricts the extension—there are fewer transparent bodies than bodies. But the whole explanation notably avoids recourse to Aristotelian ontology or epistemology. There is no appeal to a conception of man as a simple being, or of 'rational animal' as a simple definition. 'Man who is rational' is an explicative complex expression just because 'man' means the same as 'animal which is rational', which is a determinative complex expression.²

Locke's attitude to the Aristotelian theory is similarly reductive, but more elaborate and more explicit. His theory of ideas is essentially a theory of terms. Ideas are, in effect, Aristotelian 'simple apprehensions': that is to say, they constitute that which corresponds in the mind to terms or 'names', to expressions capable of standing in subject or predicate place. Ideas, he tells us in Draft A, are joined or separated 'by way of affirmation or negation, which when it comes to be expressed in words is called proposition, and in this lies all truth and falsehood'.³ In the *Essay* he asserts that '*Is*, and *Is not*, are the general marks of the Mind, affirming or denying', and he draws attention to those other 'Words, whereby [the Mind] signifies what connection it gives to the several Affirmations and Negations, that it unites in one

¹ Cf. *De Int.* 20b31–21a8.

² *Logic, or the Art of Thinking* (1662), I. vii. (*Later note*: This paragraph now seems misleading. A more direct response to Aristotelian compounds is the category of *choses modifiées* of *Logic* I. ii.)

³ 'Draft A', pp. 19–20.

continued Reasoning or Narration', for example 'but', 'therefore', and so on.¹ Here he is following closely in the tradition, treating the language of the second and third parts of logic in due place. He is famous for his supposed principle that all words stand for ideas,² but it is in fact essential to his theory that he is in agreement with earlier logicians that some words, 'which are not truly, by themselves, the names of any Ideas, are of . . . constant and indispensable use in Language'.³

Locke's classification of ideas as 'ideas of substances', 'simple ideas', 'ideas of simple modes', 'ideas of mixed modes', and 'ideas of relations' should therefore be read as, above all, a rival to the Aristotelian categories. Since there were ten or eleven of the latter he has at least achieved a striking economy. But it is equally striking that only one of his categories is allowed to be truly simple, namely simple ideas, ideas of simple modes being simple only by courtesy and in a limited sense. The relationship to Aristotelian theory, however, is quite explicit. For example, bearing in mind the logic-books' definition of a 'simple apprehension' as the understanding of a term, he tells us in Draft A that those simple ideas 'are properly simple apprehensions to which we apply the names that others doe'⁴—a point considerably less crude than a straightforward identification would have been. The first active composition of simple ideas, we are told, is the formation of specific ideas of substances. It is entirely unsurprising that Locke sees this composition as propositional: as he puts it, 'the first affirmation or negation of our minds are about those material objects in the framing of our Ideas of them'.⁵ He thought that in forming the complex idea of a species of thing out of simple ideas of sensible qualities we 'in effect'⁶ affirm that the qualities do in general exist together in the same substance: 'yet the whole compounded idea being knowne under one name and taken altogether considered as one thing as man horse water lead etc they may be treated of as simple apprehensions'—that is, as single concepts corresponding to terms.⁷ He is thus attacking the Aristotelian view of the names of the species of substances as paradigmatically simple terms from within an Aristotelian conception of complexity. To unpack

¹ *Essay*, III. vi. 1–2.

² Cf. *Essay* III. ii. 2: 'Words in their primary or immediate Signification, stand for nothing, but the Ideas in the Mind of him that uses them.' At the end of the previous chapter he more accurately promises to consider, 'To what it is that Names . . . are immediately applied'.

³ *Essay*, III. vii. 2.

⁴ 'Draft A', p. 14.

⁶ *Ibid.*, p. 7

⁵ *Ibid.*, p. 5.

⁷ *Ibid.*, p. 17.

what is understood by the name is to unpack a quasi-propositional compound.

In the *Essay* Locke drops the suggestion that the complexity of complex ideas is propositional, for reasons which we need not go into. What does quite emphatically remain is the contrast with Aristotelian theory. Simply to entitle his chapter 'Of our Complex *Ideas* of Substances' was to throw down the gauntlet to the Aristotelians, but the contrast is immediately spelt out. The famous, much misunderstood, passage which opens the chapter constitutes an insulting diagnosis of their error:

The Mind . . . takes notice . . . that a certain number of . . . simple *Ideas* go constantly together; which being presumed to belong to one thing, and Words being suited to common apprehensions, and made use of for quick dispatch, are called so united in one subject, by one name; which by inadvertency we are apt to talk of and consider as one simple *Idea*, which indeed is a complication of many *Ideas* together.¹

He later returns to the same topic, even more explicitly: 'These *Ideas* of Substances, though they are commonly called simple Apprehensions, and the names of them simple Terms; yet in effect are complex and compounded.'²

Why is it important for Locke that our ideas of substances are complex? The answer is one small part of a story too long to tell here. Briefly, however, Locke believes that we are doomed to conceive of natural species and genera in terms of lists of observable qualities and powers, commonly experienced in conjunction but, as far as we are concerned, otherwise unconnected. This experienced variety lies not in the object, but in the circumstances and our modes of sensibility. For we must suppose that it can in principle be explained by an underlying material structure affecting observers and surrounding objects in a variety of ways. That is why, included in the complex idea of the species, is the idea of an unknown substratum or subject of the observable qualities and powers, 'which Qualities', as Locke says, 'are commonly called Accidents'.³ To know the thing itself would be to know its essence, but all we know are accidents.

This last claim is expressed in another well-known, but also much misunderstood, passage, one which contains a clear allusion to traditional logical theory:

when we speak of any sort of Substance, we say it is a *thing* having such or such Qualities, as Body is a *thing* that is extended, figured, and capable

¹ *Essay*, II. xxiii. 1.

² *Essay*, II. xxiii. 14.

³ *Essay*, II. xxiii. 2.

of Motion; a Spirit a *thing* capable of thinking; and so Hardness, Friability, and Power to draw Iron, we say, are Qualities to be found in a Loadstone. These, and the like fashions of speaking intimate, that the Substance is supposed always *something* besides the Extension, Figure, Solidity, Motion, Thinking, or other observable *Ideas*, though we know not what it is.¹

It is paradigmatically accidents which, on Aristotelian theory, exist 'in' a subject. Locke is saying that our concept of the species is nothing but that of certain accidents in an otherwise unidentified substance: that is to say, the concept is compound.

Another part of Locke's argument denies the existence of objective specific essences at all. Although he has doubts about Boyle's version of mechanism, he is convinced that some mechanist theory is true. That means that the only essence or nature in the material world is the essence of matter itself, the nature from which flow the necessary laws of mechanics, whatever they may be. The particular species and genera, *horse, bird, gold, metal*, and so forth, are each, Locke thinks, arbitrarily distinguished by us through a defining set of observable attributes which he calls the 'nominal essence'. The only serious candidate for the 'real essence' of a species is that complex aspect of its unknown material structure which is responsible for the concurrence of those observable attributes by which the species is defined. There is nothing truly substantial or distinct or permanent about a 'real essence' so conceived. It exists as something distinct only relatively to the arbitrary nominal essence through which it is indirectly picked out.² All these doctrines are advanced in a complex but brilliantly effective and influential attack on the doctrine of predicables—'this whole mystery of Genera and Species'³—which I have attempted to unravel elsewhere.⁴ One small element in this attack is a point which is the obverse of the claim that our ideas of substances are complex: namely, that there is no ground for distinguishing an Aristotelian simple term, such as 'horse', from an Aristotelian compound term, such as 'palfrey', defined as a *horse which ambles*. It would therefore follow that the latter is logically as good a name of a species as the former, even if not so useful for the practising biologist.⁵ The question how many species there are is for Locke the question how many names there are. Ice is a distinct species, he claims paradoxically, while molten gold

¹ *Essay*, II. xxiii. 3.

² Cf. *Essay*, III. vi. 6.

³ *Essay*, III. iii. 9.

⁴ 'Locke *versus* Aristotle on Natural Kinds', *Journal of Philosophy* (1981).

⁵ Cf. *Essay*, IV. viii. 6.

is not, just because there is a distinct name for the former but not for the latter.¹ As he says in another allusion to Aristotelian theory, if we see something which falls outside our classification, we ask 'what it is, meaning by that Enquiry nothing but the Name'.²

For all that may be wrong with Aristotelian essences, these provocative contentions are today beyond belief, which may suggest that the truth lies somewhere between the two philosophies. For many reasons natural taxonomy, especially above the level of species, is a much more arbitrary business than the Aristotelian model allows. Yet Locke's solution, that it is a matter of entirely arbitrary, if informed, definition in terms of observable criteria fails to catch the semantic significance of the underlying affinity, whether evolutionary or structural, which is presumed to exist when items are placed in the same class. The issue is still an area of hot dispute in both biology and philosophical logic. As far as the latter is concerned, we still lack an agreed and convincing account of the significance of the Aristotelian distinction between what is simple and what is composite, and will no doubt continue to do so until we have a better theory of the relation between individual and species. What is certain is that the distinction cannot be safely ignored.

Locke's inclusion of the ideas of body and spirit among his examples of complex ideas of substances indicates that he was fighting on two fronts, bearing Descartes in mind even in the act of challenging Aristotelian substantial forms. Descartes, however, stands clear of traditional logic in a number of ways. In particular, the distinction between terms and propositions is irrelevant to his conception of simple and complex. His notion of a simple idea itself embraces what is propositional. One reason for this somewhat unorthodox approach to thought must lie in his famous theory of judgement. On the current Aristotelian doctrine, as we have seen, 'judgement' or mental 'affirmation' was the act of combining 'simple apprehensions'. Such terminology conflates propositional thought with acceptance or belief, a definite propositional attitude. Yet Descartes holds that assent to a proposition is voluntary, an act of will which comes after the work of the understanding. For him, whatever can be believed can be held in mind or 'perceived' prior to acceptance, rejection, or suspense of judgement. By this two-stage model he explains error, which is supposed to occur only when we judge rashly in the absence of

¹ *Essay*, IV. vi. 13.

² *Essay*, II. xxxii. 7.

clear and distinct perceptions or ideas. The term 'idea' therefore covers whatever is an object of the understanding antecedently to assent or dissent. An 'idea' is typically what Descartes calls 'material' for a belief. He does say that an idea is not capable of truth or falsity in the strict sense, but that is only because he regards beliefs as the primary bearers of truth and falsity, while ideas occur within the context of other mental states, such as desire. It is not because ideas are never propositional in form. Accordingly ideas can be said to be 'materially' true or false, in whatever context they occur.¹

There are other considerations which may help to explain Descartes's approach. He holds that every conscious state or act involves an idea, and that every idea is an idea *of* something. That is to say, an idea is essentially referred or related to an object, and such reference seems to be interpreted as itself a kind of propositional thought.² Another motive may be supplied by the point that to have a Cartesian clear and distinct idea of something is to understand it. It is difficult to separate our understanding—for example, what identity is, from our grasping such principles as that, if A is identical with B and B with C, then A is identical with C. That particular principle is, as it happens, included explicitly in Descartes's sample list of 'simple notions'.³

All this seems to have set a problem for Descartes's followers, for Aristotelian logic was too impressive and too prestigious simply to be jettisoned. Besides, empiricists like Hobbes and Gassendi were already incorporating it into their systems with some popular success. Arnauld's solution, in what was to become the standard Cartesian logic, takes the bull by the horns. The Cartesian distinction between perception and assent, the understanding and the will, is simply identified with the distinction between the simple apprehension of the meaning of terms and the mental affirmation of propositions. As on the traditional account, a propositional content comes into existence only with a propositional attitude. Arnauld seems prepared to deal with the content of wishes and other non-cognitive states of mind simply by postulating other sorts of combinatory act than judgements.⁴ The traditional conception of combination was, then, securely re-established by the time Locke began to write, despite what may seem the obvious objection that, as Thomas Reid was to put it,

¹ Cf. *Meditations*, III (with Descartes's reply to Arnauld's objections) and IV.

² Cf. *Passions of the Soul*, I, 22–5.

³ *Rules for the Direction of the Mind*, xii.

⁴ A. Arnauld and C. Lancelot, *A General and Rational Grammar* (1662), I. ii. 4.

'it is one thing to conceive the meaning of a proposition; it is another thing to judge it to be true or false'.¹ For Locke 'perception' and 'judgement' are acts of propositional composition and it is for that reason that he calls ideas the 'materials' of knowledge and belief. It is not because they constitute, as Descartes holds, propositional material for assent.

One line of approach to Descartes's employment of the notion of simplicity is to see him less as the questing philosopher of popular imagination, endeavouring as best he can to escape from scepticism to certainty by some rigorous linear argument, than as a philosopher struck by the need to explain what he takes to be our—especially his own—remarkable capacity for knowledge. For Descartes was convinced that all material change is in accordance with simple and necessary mechanical laws; and that, with the aid of some theological bolstering, these laws can be derived *a priori* from a suitably refined understanding of what it is to be material, that is, from the intelligible essence of matter.² He supposed that the intellect can penetrate—that his own intellect had penetrated—to the hidden principles of things. But how could such a thing be done? The problem is like Kant's problem—How is synthetic *a priori* knowledge possible?—but Descartes saw nothing wrong with a metaphysical answer. The intellect can spin knowledge from its own entrails because God created it with the means to do so. We have innate ideas, capacities for knowledge of fundamental principles which can be made explicit if we adopt the proper method.

A first principle of Descartes's method is that what is complex and not understood should be broken down into what is simple and intelligible and evidently true.³ These simple ideas, as Spinoza tells us in his exposition of Descartes, must be examined individually: 'For if he could perceive simple ideas clearly and distinctly, he would doubtless understand all the other ideas composed of those simple ones, with the same clarity and perspicuity'.⁴ Analysis is to be followed by synthesis.⁵ The theory is full of Aristotelian overtones. The Aristotelian principle that what is uncombined is incapable of either truth or falsity is replaced by the principle that only what is complex can be false. 'Simple natures', we are told, 'are known *per se* and are wholly free from

¹ *Essays on the Intellectual Powers of Man* (1785), I. i. 8.

² Cf. *Principles of Philosophy*, II. 36–44.

³ Cf. *Rules*, v–vi.

⁴ Spinoza, *Principles of Cartesian Philosophy* (1663), introduction.

⁵ Cf. *Rules*, xiii.

falsity.' There is nothing in a simple nature not completely known because 'otherwise it could not be called simple, but must be complex—a compound of the element we perceive and the supposed unknown element'.¹ As the Aristotelian stripped away accidents to leave bare the essence and properties of the species, Descartes strips inessentials from our everyday conception of a body to reveal the simple idea of extension and other simple ideas, such as mobility and duration, which are necessarily connected to extension. The simplicity and intelligibility of these ideas is for him a kind of guarantee, through the goodness of God, that they are 'true' and pertain to reality. They constitute a dependable link between the subjective realm of ideas and what is objective and external.

Locke's epistemology is the antithesis of all this, but is expressed in remarkably similar terms. The link with reality is not innate and intellectual but adventitious and sensory. He states the problem very explicitly, like Descartes, in the form of a hypothetical scepticism:

'Tis evident, the Mind knows not Things immediately, but only by the intervention of the *Ideas* it has of them. *Our knowledge* therefore is *real*, only so far as there is a conformity between our *Ideas* and the reality of Things. But what shall be here the Criterion? How shall the Mind, when it perceives nothing but its own *Ideas*, know that they agree with Things themselves?²

But the question is not put in any spirit of perplexity, as many critics have assumed. It is simply the prelude to a summary statement of Locke's clear, confident, highly theoretical and deliberately anti-Cartesian answer to it. That answer, like Descartes's, hinges on the distinction between simple and complex ideas. It also hinges on a neat causal theory of representation.

Simple ideas, as we know, are necessarily received through the senses or reflection. That is to say (to ignore the special case of 'reflection'), they are caused in us by external things acting on the senses. For that very reason simple ideas must be taken to correspond to their objects in regular and orderly ways, even if we do not know the nature of those objects or how they act on us. A simple idea is therefore a natural sign of its cause. It is naturally fitted to represent in thought that attribute of reality, whatever it may be, which is in general responsible for our receiving ideas or sensations of that type.³ Thus the simple idea or appearance of

¹ *Rules*, xii.

² *Essay*, IV. iv. 3.

³ Cf. *Essay*, IV. xi. 2.

white received in sensation and capable of being recalled in the imagination represents in thought whatever in the object underlies its general disposition or power regularly to cause just that sensation in us. This power Locke calls the 'quality' of the object.

It follows that simple ideas are all necessarily 'real' and 'conform' to things. They cannot be 'fantastical':

*simple Ideas are not fictions of our Fancies, but the natural and regular productions of Things without us, really operating upon us; and so carry with them all the conformity which is intended . . . Thus the Idea of Whiteness, or Bitterness, as it is in the Mind, exactly answering that Power which is in any Body to produce it there, has all the real conformity it can, or ought to have, with Things without us.*¹

Similar arguments go to prove that simple ideas are necessarily adequate and also 'true', in the loose sense in which ideas can be said to be true if something exists conforming to them.² For Locke as for Descartes, falsity and inadequacy only arises when there is complexity.

It is significant that the very ideas which for Locke epitomize simplicity, ideas of colours, were taken by Cartesians to exemplify composition. Descartes took the ordinary idea of a colour to include both the bare image or sensation and an 'obscure judgement' as to its unknown cause. Two other sorts of ideas of a colour are possible: first, the rash and false idea which incorporates the judgement that the cause of the sensation is qualitatively like the sensation, that the sensation of colour represents its cause as it is in the object; and, secondly, the clear and distinct, materially true idea which refers the sensation to mechanical causes in the object.³ All, however, are complex. For Locke, on the other hand, the sensation or image *is* the idea, and his criterion for its simplicity is phenomenal, the limits of phenomenal discrimination. Each simple idea, being 'in it self uncompounded, contains in it nothing but *one uniform Appearance*'.⁴ This simple appearance *represents* something, but the causal relation which constitutes the representative relation does not enter into the content of the idea, as it does for Descartes. Still less do speculations as to the intrinsic nature of the unknown cause: simple ideas do not, Locke tells us, 'become liable to any Imputation of *Falshood*, if the Mind (as in most Men I believe it

¹ *Essay*, iv. iv. 4. Cf. II. xxx. 2.

² Cf. *Essay*, II. xxxi. 2; II. xxxii. 14.

³ Cf. *Principles*, I. 66-73; *Meditations*, III and VI. Cf., too, Arnauld, *Logic*, I. ix.

⁴ *Essay*, II. ii. 1.

does) judges these Ideas to be in the Things themselves'.¹ For they are 'as real distinguishing Characters, whether they be only constant Effects, or else exact Resemblances of something in the things themselves'.² With phenomenal simplicity goes indefinability, for the idea of a colour, like any simple idea, cannot be conveyed in words. This familiar point was taken by Leibniz, but he remains obdurately Cartesian. Five years before the publication of the *Essay*, he had written,

we are not able to explain to the blind what red is; nor can we make manifest to others any object of this kind except by bringing the thing before them, so that they may be made to see, smell or taste the same; . . . It is nevertheless certain that these notions are composite, and may be resolved, since they have their several causes.³

Despite this disagreement over paradigms, there are some ideas which are simple for both Locke and Descartes: for example, very general ideas like *existence* and *unity* which figure in Cartesian 'eternal truths'. For Locke, however, such ideas are mere abstractions from experience, and there are no eternal truths outside our own minds. A different problem is raised by the question, 'What are the simple ideas of extension?' Here Locke is pulled in two directions. He sees the claims to be simple of the general or determinable concept, which any Cartesian would have chosen, but he unsurprisingly prefers what he calls 'a sensible Point', 'the least portion of Space or Extension, whereof we have a clear and distinct *Idea*'. As he recognizes, his paradigms do not fit extension very neatly, but he is no more in real retreat than Leibniz was over colours. As a footnote to the Fifth Edition of the *Essay* reports him, '. . . if the *Idea* of Extension is so peculiar, that it cannot exactly agree with the Definition that he has given of those *Simple Ideas*, so that it differs in some manner from all others of that kind, he thinks 'tis better to leave it there expos'd to this Difficulty, than to make a new Division in his Favour. 'Tis enough for Mr. *Locke* that his Meaning can be understood.' The objection is dismissed as a pedantic nicety which does not touch the real issues.⁴

We can say, then, that a fundamental difference of view over the nature of what ties thought to reality—innate structural interpretive principles versus reliable experiential building-blocks—found expression within the general framework of a

¹ *Essay*, II. xxxii. 14.

² *Essay*, II. xxx. 2.

³ Leibniz, 'Reflections on Knowledge, Truth and Ideas' (written 1684).

⁴ *Essay*, II. xv. 9, with footnote in 5th edn.

compositionalist theory of ideas.¹ Unless we recognize that relationship and the methodological and epistemological point of Locke's variety of compositionism, it is easy to exaggerate both the limitations which it placed on his thought and apparent inconsistencies in his argument. In a notorious passage he seems ready to allow that, after all, no idea whatsoever enjoys absolute simplicity, since all ideas, 'when attentively considered', include 'some kind of relation' in them. 'And sensible Qualities,' he asks, 'what are they but the Powers of different Bodies, in relation to our Perception . . . And if considered in the things themselves, do they not depend on the Bulk, Figure, Texture, and Motion of the Parts?'² Yet the point is not an abject capitulation to the Cartesian conception of the complex idea of a sensible quality, nor is it an even more abject flight from compositionism altogether. It is part of an argument for including ideas of powers in the class of simple ideas, by contrast with ideas of substances. Locke has in mind that ideas of substances may be formed more or less well and appropriately and carefully, whereas our idea of the power of a thing, say the power of wax to be melted by gentle heat, an idea which we acquire when we take note of its regular observable behaviour, leaves, so Locke thought, no comparable room for error. The appearance of the regular effect adequately 'represents' a power both in the agent, the source of heat, and in the patient, the wax. In other words, it represents whatever in each object underlies or causes the observed tendency, just as the idea of white adequately represents whatever in the object regularly causes that idea in us. No mere analytical method applied to our ideas will take us further in either case, for our knowledge and thought about the world stands on such 'simple' representative relationships, founded on experience. It is this epistemological simplicity which really counts as simplicity in Locke's eyes.

What, then, is the role of analysis for Locke? I can give only a rough and partial answer now. Like Descartes, he recommends that we examine our complex ideas part by part as a route to what he calls 'clear and distinct' ideas. Yet this Cartesian phrase has been radically reinterpreted in line with Locke's conviction that no method will enable us to penetrate with certainty and full understanding beyond the limits of observation. We are condemned to speculative hypothesis employing only experiential concepts. One thing method can do, however, is to keep us pressed

¹ The possibility of such a comparison is briefly mentioned, but not explored, by Gibson, p. 48.

² *Essay*, II. xxi. 3.

up against this barrier by eliminating mere unclarity of thought. Here the impediment is not a veil of ideas so much as a veil of words which can entangle and impose on us especially with respect to the formation of complex ideas. To overcome this impediment we need a systematic, settled, and public way of thinking about nature and human affairs, that is to say, orderly and settled systems of complex ideas and an orderly and settled vocabulary to express them. Ordinary or 'civil' language is for various reasons inadequate, and a strict or 'philosophical' language needs to be introduced. Locke is here acting as spokesman for the programme of linguistic reform, especially in chemical and biological classification, initiated by Bacon's denunciation of the 'Idols of the Market-place' and taken up by the Royal Society. This programme, in Locke's eyes, concerns complex ideas. For simple ideas, just as they are necessarily 'adequate' and 'true' in their relation to reality, so are they almost inevitably, even if not necessarily, 'clear and distinct' and all that is good in their relation to a public language.¹ That is to say, problems of meaning and communication can arise (or arose in the seventeenth century, in Locke's reasonable view) when men talk and think in chemistry of 'liquor', 'salt', or 'metal', in biology of 'fish' or 'shrubs', and in ethics of 'honour' or 'justice', but they do not in general arise in respect of such simpler predicates as 'blue' or 'square'. The chief remedy for such problems, therefore, to which Locke devotes a significant part of the *Essay*, consists in the analysis of the complex into the simple.

There are many gaps in the present argument,² but I have tried to give at least an impression of the depth and complexity of the context which supplied Locke both with the tool of compositionality and with the problems on which he brought it to bear. In studying such relationships between thinker and context I believe that we are studying human rationality itself. Perhaps what is chiefly wrong with the proposal that Locke adopted compositionality in emulation of physical theory is that it grossly underestimates that rationality in his case.

¹ Cf. *Essay*, II. xxix. 7; III. iv. 15.

² I have discussed only certain Lockean simple and complex ideas, and I have not considered how much Locke owes, e.g., to Hobbes or Gassendi.