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Must Do Better

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Imagine a philosophy conference in Presocratic Greece. The hot question is: what are things made of? Followers of Thales say that everything is made of water, followers of Anaximenes that everything is made of air, and followers of Heraclitus that everything is made of fire. Nobody is quite clear what these claims mean, and some question whether the founders of the respective schools ever made them. But amongst the groupies there is a buzz about all the recent exciting progress. The mockers and doubters make plenty of noise too. They point out that no resolution of the dispute between the schools is in sight. They diagnose Thales, Anaximenes and Heraclitus as suffering from a tendency to over-generalize. We can intelligibly ask what bread is made of, or what houses are made of, but to ask what *things in general* are made of is senseless, some suggest, because the question is posed without any conception of how to verify an answer; language has gone on holiday. Paleo-pragmatists invite everyone to relax, forget their futile pseudo-inquiries and do something useful instead.

The mockers and doubters had it easy, but we know now that in at least one important respect they were wrong. With however much confusion, Thales and the rest were asking one of the best questions ever to have been asked, a question that has painfully led to much of modern science. To have abandoned it two and a half thousand years ago on grounds of its conceptual incoherence or whatever would have been a feeble and unnecessary surrender to despair, philistinism, cowardice or indolence. Nevertheless, it is equally clear that the methods of investigation used by the Presocratics were utterly inadequate to their ambitions. If an intellectual tradition applied just those methods to those questions for two and a half millennia, which is far from unimaginable, it might well be very little the wiser at the end. Much of the progress made since the Presocratics consists in the development of good methods for bringing evidence to bear on questions that, when first asked, appear hopelessly elusive or naive. Typically, of course, making progress also involves refining and clarifying the initial question: but the relevant refinements and clarifications cannot all be foreseen at the beginning; they emerge in the process of attempting to answer the original rough question, and would not emerge otherwise.

The Presocratics were forerunners of both modern philosophy and modern natural science; they did not distinguish natural science from philosophy. For positivists, the moral of the story is that natural science had to be separated from philosophy, and marked out as the field for observation, measurement and experiment, before it could make serious progress. There is doubtless something right about that moral, although as it stands it hardly does justice to the significance of less empirical methods in natural science, such as the use of mathematics and of thought experiments, for example by

Galileo and Einstein. Moreover, the positivist moral misses a deeper methodological point. The case of the Presocratics shows that one cannot always tell in advance which questions it will be fruitful to pursue. Even if a community starts with no remotely adequate idea of how to go about answering a question, it does not follow that the question is meaningless or not worth addressing. That goes for the questions that we now classify as philosophical as much as it does for those that we now classify as empirical or natural-scientific.

The opponents of systematic philosophical theorizing might reply that they are not judging philosophical questions in advance; they are judging them after two and a half millennia of futile attempts to answer them. Of course, it is an important issue how similar our philosophical questions are to those of ancient Greece, or even to those of Enlightenment Europe. Nevertheless, philosophy has been going too long as an intellectual tradition separate from natural science (although sometimes interacting with it) for the question ‘How much progress has it made?’ to be simply dismissed as premature.

We should not be too pessimistic about the answer, at least concerning the broad, heterogeneous intellectual tradition that we conveniently label ‘analytic philosophy’. In many areas of philosophy, we know much more in 2004 than was known in 1964; much more was known in 1964 than in 1924; much more was known in 1924 than was known in 1884. As in natural science, something can be collectively known in a community even if it is occasionally denied by eccentric members of that community. Although fundamental disagreement is conspicuous in most areas of philosophy, the best theories in a given area are in most cases far better developed in 2004 than the best theories in that

area were in 1964, and so on. Much of the knowledge is fairly specific in content. For example, we know far more about possibility and necessity than was known before the development of modern modal logic and associated work in philosophy. It is widely known in 2004 and was not widely known in 1964 that contingency is not equivalent to *a posteriority*, and that claims of contingent or temporary identity involve the rejection of standard logical laws. The principle that every truth is possibly necessary can now be shown to entail that every truth is necessary by a chain of elementary inferences in a perspicuous notation unavailable to Hegel. We know much about the costs and benefits of analysing possibility and necessity in terms of possible worlds, even if we do not yet know whether such an analysis is correct.

What about progress on realism and truth? Far more is known in 2004 about truth than was known in 1964, as a result of technical work by philosophical and mathematical logicians such as Saul Kripke, Solomon Feferman, Anil Gupta, Vann McGee, Volker Halbach and many others on how close a predicate in a language can come to satisfying a full disquotational schema for that very language without incurring semantic paradoxes. Their results have significant and complex implications, not yet fully absorbed, for current debates concerning deflationism and minimalism. One clear lesson is that claims about truth need to be formulated with extreme precision, not out of kneejerk pedantry but because in practice correct general claims about truth often turn out to differ so subtly from provably incorrect claims that arguing in impressionistic terms is a hopelessly unreliable method. Unfortunately, much philosophical discussion of truth is still conducted in a programmatic, vague and technically uninformed spirit whose products inspire little confidence.

In 1964, Michael Dummett had just opened his campaign to put the debate between realism and anti-realism, as he conceived it, at the centre of philosophy. The campaign had a strong methodological component. Intractable metaphysical disputes (for example, about time) were to be resolved by being reduced to questions in the philosophy of language about the proper form for a semantic theory of the relevant expressions (for example, tense markers). The realist's semantic theory would identify the meaning of an expression with its contribution to the truth-conditions of declarative sentences in which it occurred. The anti-realist's semantic theory would identify the meaning with the expression's contribution to the assertibility-conditions of those sentences. Instead of shouting slogans at each other, Dummett's realist and anti-realist would busy themselves in developing systematic compositional semantic theories of the appropriate type, which could then be judged and compared by something like scientific standards. But that is not what happened.

True, over recent decades truth-conditional semantics for natural languages has developed out of philosophical logic and the philosophy of language into a flourishing branch of empirical linguistics. Frege already had the fundamental conception of compositional truth-conditional semantics, in which expressions refer to items in the mostly non-linguistic world, the reference of a complex expression is a function of the reference of its constituents, and the reference of a sentence determines its truth-value. But Frege was more concerned to apply that conception to ideal artificial languages than to messy natural ones. The systematic application of compositional truth-conditional semantics to natural languages goes back to Richard Montague (under the influence of Carnap) in its intensional form and has been mediated in linguistics by Barbara Partee

and others. In its extensional form, it goes back to Donald Davidson (under the influence of Tarski) and has been mediated in linguistics by Jim Higginbotham and others. Needless to say, that crude schema does no justice to the richness of recent work and the variety of contributors to it (in both departments of philosophy and departments of linguistics), which one can check by looking at any decent handbook of contemporary semantic theory as a branch of linguistics. Surprisingly, however, most participants in the Dummett-inspired debates between realism and anti-realism have shown little interest in the success of truth-conditional semantics, judged as a branch of empirical linguistics. Instead, they have tended to concentrate on Dummett's demand for 'non-circular' explanations of what understanding a sentence with a given truth-condition 'consists in', when the speaker cannot verify or falsify that condition. That demand is motivated more by preconceived philosophical reductionism than by the actual needs of empirical linguistics. Thus the construction and assessment of specific truth-conditional semantic theories has almost disappeared from sight in the debate on realism and anti-realism.

As for assertibility-conditional semantics, it began with one more or less working paradigm: Heyting's intuitionistic account of the compositional semantics of mathematical language in terms of the condition for something to be a proof of a given sentence. The obvious and crucial challenge was to generalize that account to empirical language: as a first step, to develop a working assertibility-conditional semantics for a toy model of some small fragment of empirical language. But that challenge was shirked. Anti-realists preferred to polish their formulations of the grand programme rather than getting down to the hard and perhaps disappointing task of trying to carry it out in practice. The suggestion that the programme's almost total lack of empirical success in

the semantics of natural languages might constitute some evidence that it is mistaken in principle would be dismissed as crass.

Some participants in the debate denied any need for anti-realists to develop their own semantic theories of a distinctive form. For, it was proposed, anti-realists could take over truth-conditional semantic theories by interpreting ‘true’ to mean assertible, verifiable or true on some epistemic conception of truth. But that proposal is quite contrary to Dummett’s original arguments. For they require the key semantic concept in the anti-realistic semantics, the concept in terms of which the recursive compositional clauses for atomic expressions are stated, to be decidable, in the sense that the speaker is always in a position to know whether it applies in a given case. That is what allows anti-realists to claim that, unlike realists, they can give a non-circular account of what understanding a sentence consists in: a disposition to assert it when and only when its assertibility-condition obtains. But it is supposed to be common ground between realists and anti-realists that truth is not always decidable. A speaker may understand a sentence without being in a position either to recognize it as true or to recognize it as not true. I can understand the sentence ‘There was once life on Mars’, even though I have neither warrant to assert ‘There was once life on Mars’ nor warrant to assert ‘There was never life on Mars’. The point is particularly clear in the intuitionistic semantics for mathematical language. The key concept in the compositional semantics is the concept *p is a proof of s*, which is decidable on the intuitionistic view because to understand a sentence is to associate it with an effective procedure for recognizing whether any given putative proof is a proof (in some canonical sense) of it. By contrast, what serves as the intuitionistic concept of truth is not the dyadic concept *p is a proof of s* nor even the

monadic concept *s has been proved* but the monadic concept *s has a proof* or *s is provable*. According to intuitionists, we understand many mathematical sentences (such as ‘There are seven consecutive 7s in the decimal expansion of π ’) without having a procedure for recognizing whether they are provable. We understand them because we can recognize of any given putative proof, once presented to us, whether it is indeed a proof of them. Nor can we replace ‘true’ in a truth-conditional semantics by ‘has been proved’ (treated as decidable), because that would reduce the semantic clause for negation (that the negation of a sentence *s* is true if and only if *s* is not true) to the claim that the negation of *s* has been proved if and only if *s* has not been proved, which is uncontroversially false whenever *s* has not yet been decided.

Dummett’s requirement that assertibility be decidable forces assertibility-conditional semantics to take a radically different form from that of truth-conditional semantics. Anti-realists have simply failed to develop natural language semantics in that form, or even to provide serious evidence that they could so develop it if they wanted to. They proceed as if Imre Lakatos had never developed the concept of a degenerating research programme.

Dummett’s posing of the issue between realism and anti-realism provides a case study of an occasion when the philosophical community was offered a new way of gaining theoretical control over notoriously elusive issues, through the development of systematic semantic theories. The community spurned the opportunity, if that is what it was. Those who discussed realism and anti-realism on Dummett’s terms tended to concentrate on the most programmatic issues, which they debated with no more clarity or conclusiveness than was to be found in the traditional metaphysical reasoning that

Dummett intended to supersede. The actual success or lack of it in applying the rival semantic programmes to specific fragments of natural language was largely ignored. Far from serving as a beacon for a new methodology, the debate between realism and anti-realism has become notorious in the rest of philosophy for its obscurity, convolution and lack of progress.

Of course, one may reject Dummett's attempted reduction of issues in metaphysics to issues in the philosophy of language. I have argued elsewhere that not all philosophical questions are really questions about language or thought.¹ That a question is non-semantic does not, however, imply that semantics imposes no useful constraints on the process of answering it. To reach philosophical conclusions one must reason, usually in areas where it is very hard to distinguish valid from invalid reasoning. To make that distinction reliably, one must often attend carefully to the semantic form of the premises, the conclusion and the intermediate steps. That requires implicit semantic beliefs about the crucial words and constructions. Sometimes, those beliefs must be tested by explicit semantic theorizing. Philosophers who refuse to bother about semantics, on the grounds that they want to study the non-linguistic world, not our talk about that world, resemble astronomers who refuse to bother about the theory of telescopes, on the grounds that they want to study the stars, not our observation of them. Such an attitude may be good enough for amateurs; applied to more advanced inquiries, it produces crude errors. Those metaphysicians who ignore language in order not to project it onto the world are the very ones most likely to fall into just that fallacy, because the validity of their reasoning depends on unexamined assumptions about the structure of the language in which they reason.

Explicit compositional semantic theories for reasonable fragments of particular natural languages also have the great methodological advantage of being comparatively easy to test in comparatively uncontentious ways, because they make specific predictions about the truth-conditions (or assertibility-conditions) of infinitely many ordinary unphilosophical sentences. The attempt to provide a semantic theory that coheres with a given metaphysical claim can therefore constitute a searching test of the latter claim, even though semantics and metaphysics have different objects.

Discipline from semantics is only one kind of philosophical discipline. It is insufficient by itself for the conduct of a philosophical inquiry, and may sometimes fail to be useful, when the semantic forms of the relevant linguistic constructions are simple and obvious. But when philosophy is not disciplined by semantics, it must be disciplined by something else: syntax, logic, common sense, imaginary examples, the findings of other disciplines (mathematics, physics, biology, psychology, history, ...) or the aesthetic evaluation of theories (elegance, simplicity, ...). Indeed, philosophy subject to only one of those disciplines is liable to become severely distorted: several are needed simultaneously. To be 'disciplined' by X here is not simply to pay lip-service to X; it is to make a systematic conscious effort to conform to the deliverances of X, where such conformity is at least somewhat easier to recognize than is the answer to the original philosophical question. Of course, each form of philosophical discipline is itself contested by some philosophers. But that is no reason to produce work that is not properly disciplined by anything. It may be a reason to welcome methodological diversity in philosophy: if different groups in philosophy give different relative weights to various sources of discipline, we can compare the long-run results of the rival ways of working.

Tightly constrained work has the merit that even those who reject the constraints can agree that it demonstrates their consequences.

Much contemporary analytic philosophy – not least on realism and truth – seems to be written in the tacit hope of discursively muddling through, uncontrolled by any clear methodological constraints. That may be enough for easy questions, if there are any in philosophy; it is manifestly inadequate for resolving the hard questions with which most philosophers like to engage. All too often it produces only eddies in academic fashion, without any advance in our understanding of the subject matter. Although we can make progress in philosophy, we cannot expect to do so when we are not working at the highest available level of intellectual discipline. That level is not achieved by effortless superiority. It requires a conscious collective effort.

We who classify ourselves as ‘analytic philosophers’ tend to fall into the assumption that our allegiance automatically confers on us methodological virtue. According to the crude stereotypes, analytic philosophers use arguments while ‘continental’ philosophers do not. But within the analytic tradition many philosophers use arguments only to the extent that most ‘continental’ philosophers do: some kind of inferential movement is observable, but it lacks the clear articulation into premises and conclusion and the explicitness about the form of the inference that much good philosophy achieves. Again according to the stereotypes, analytic philosophers write clearly while ‘continental’ philosophers do not. But much work within the analytic tradition is obscure even when it is written in everyday words, short sentences and a relaxed, open-air spirit, because the structure of its claims is fudged where it really matters.

If the high standards that make philosophy worth doing are often absent even in analytic philosophy, that is not because they are a natural endowment found only in a brilliant elite. Even if Frege's exceptional clarity and rigour required innate genius – although they undoubtedly also owed something to the German mathematical tradition within which he was educated – after his example they can now be effectively taught. Some graduate schools communicate something like his standards, others notably fail to do so.

Of course, we are often unable to answer an important philosophical question by rigorous argument, or even to formulate the question clearly. High standards then demand not that we should ignore the question, otherwise little progress would be made, but that we should be open and explicit about the unclarity of the question and the inconclusiveness of our attempts to answer it, and our dissatisfaction with both should motivate attempts to improve our methods. Moreover, it must be sensible for the bulk of our research effort to be concentrated in areas where our current methods make progress more likely.

We may hope that in the long term philosophy will develop new and more decisive methods to answer its questions, as unimaginable to us as our methods were to the Presocratics. Indeed, the development of such methods is one of the central challenges facing systematic philosophy. Paul Grice once wrote 'By and large the greatest philosophers have been the greatest, and the most self-conscious, methodologists; indeed, I am tempted to regard this fact as primarily accounting for their greatness as philosophers'.² Nevertheless, we must assume, in the short term philosophy will have to make do with currently available methods. But that is no reason to continue

doing it in a methodologically unreflective way. A profession of very variable standards can help the higher to spread at the expense of the lower, by conscious collective attention to best practice.

One might think that methodological consciousness-raising is unnecessary, because on any particular issue good arguments will tend to drive out bad in the long run. But that is over-optimistic. Very often — especially in debates between realists and anti-realists — a philosopher profoundly *wants* one answer rather than another to a philosophical question to be right, and is therefore predisposed to accept arguments that go in the preferred direction and reject contrary ones. Where the level of obscurity is high, as it often is in current debates about realism and truth, wishful thinking may be more powerful than the ability to distinguish good arguments from bad, to the point that convergence in the evaluation of arguments never occurs.

Consider a dispute between rival theories in natural science. Each theory has its committed defenders, who have invested much time, energy and emotion in its survival. The theories are not empirically equivalent, but making an empirical determination between them requires experimental skills of a high order. We may predict that if the standards of accuracy and conscientiousness in the community are high enough, truth will eventually triumph. But if the community is slightly more tolerant of sloppiness and rhetorical obfuscation, then each school may be able to survive indefinitely, claiming empirical vindication and still verbally acknowledging the value of rigour, by protecting samples from impurities a little less adequately, describing experimental results a little more tendentiously, giving a little more credit to *ad hoc* hypotheses, dismissing opposing arguments as question-begging a little more quickly and so on. Each tradition maintains

recruitment by its dominance and prestige in some departments or regions. A small difference in how carefully standards are applied can make the large difference between eventual convergence and ultimate divergence.

It seems likely that some parts of contemporary analytic philosophy just pass the methodological threshold for some cumulative progress to occur, however slowly, while others fall short of the threshold. A reasonable fear is that debates over realism and anti-realism constitute a part that falls short. That is not to condemn every piece of work in the area individually – which would surely be unfair – but to say that collectively the community of participants has not held itself responsible to high enough methodological standards. Perhaps these debates raise even more difficult issues than are encountered elsewhere in philosophy: if so, all the more reason to apply the very highest standards available. As already noted, that appears not to have happened.

How can we do better? We can make a useful start by getting the simple things right. Much even of analytic philosophy moves too fast in its haste to reach the sexy bits. Details are not given the care they deserve: crucial claims are vaguely stated, significantly different formulations are treated as though they were equivalent, examples are under-described, arguments are gestured at rather than properly made, their form is left unexplained, and so on. A few resultant errors easily multiply to send inquiry in completely the wrong direction. Shoddy work is sometimes masked by pretentiousness, allusiveness, gnomic concision or winning informality. But often there is no special disguise: producers and consumers have simply not taken enough trouble to check the details. We need the unglamorous virtue of patience to read and write philosophy that is as perspicuously structured as the difficulty of the subject requires, and the austerity to be

dissatisfied with appealing prose that does not meet those standards. The fear of boring oneself or one's readers is a great enemy of truth. Pedantry is a fault on the right side.

Precision is often regarded as a hyper-cautious characteristic. It is importantly the opposite. Vague statements are the hardest to convict of error. Obscurity is the oracle's self-defence. To be precise is to make it as easy as possible for others to prove one wrong. That is what requires courage. But the community can lower the cost of precision by keeping in mind that precise errors often do more than vague truths for scientific progress.

Would it be a good bargain to sacrifice depth for rigour? That bargain is not on offer in philosophy, any more than it is in mathematics. No doubt, if we aim to be rigorous, we cannot expect to sound like Heraclitus, or even Kant: we have to sacrifice the stereotype of depth. Still, it is rigour, not its absence, that prevents one from sliding over the deepest difficulties, in an agonized rhetoric of profundity. Rigour and depth both matter: but while the conscious and deliberate pursuit of rigour is a good way of achieving it, the conscious and deliberate pursuit of depth (as of happiness) is far more likely to be self-defeating. Better to concentrate on trying to say something true and leave depth to look after itself.

Nor are rigour and precision enemies of the imagination, any more than they are in mathematics. Rather, they increase the demands on the imagination, not least by forcing one to imagine examples with exactly the right structure to challenge a generalization; cloudiness will not suffice. They make imagination consequential in a way in which it is not in their absence.

Beyond rigour and precision, mathematics has less obvious values to teach. In particular, a mathematical training makes one appreciate the importance of the aesthetics of definitions. Experience shows that a mathematician or logician with no ability to discriminate between fruitful and unfruitful definitions is unlikely to achieve much in research. Such discriminations involve a sort of aesthetic judgement. The ugly, convoluted, ramshackle definitions of concepts and theses that philosophers seem to feel no shame in producing – not least in debates between realism and anti-realism – are of just the kind to strike a mathematician as pointless and sterile. Of course, it is notoriously hard to explain *why* aesthetic criteria are a good methodological guide, but it would be dangerously naïve to abandon them for that reason.

In addition to the humdrum methodological virtues, we need far more reflectiveness about how philosophical debates are to be subjected to enough constraints to be worth conducting. For example, Dummett's anti-realism about the past involved, remarkably, the abandonment of two of the main constraints on much philosophical activity. In rejecting instances of the law of excluded middle concerning past times, such as 'Either a mammoth stood on this spot a hundred thousand years ago or no mammoth stood on this spot a hundred thousand years ago', the anti-realist rejected both common sense and classical logic. Neither constraint is methodologically sacrosanct; both can intelligibly be challenged, even together. But when participants in a debate are allowed to throw out both simultaneously, methodological alarm bells should ring: it is at least not obvious that enough constraints are left to frame a fruitful debate. Yet such qualms surfaced remarkably little.

Part of the problem is that it is often left unclear just how extensively a constraint is being challenged. A philosopher treats the law of excluded middle as if it carried no authority whatsoever but implicitly relies on other logical principles (perhaps in the meta-language): exactly which principles of logic are supposed to carry authority? A philosopher treats some common sense judgement as if it carried no authority whatsoever but implicitly relies on other judgements that are found pre-philosophically obvious: exactly which such judgements are supposed to carry authority?

When law and order break down, the result is not freedom or anarchy but the capricious tyranny of petty feuding warlords. Similarly, the unclarity of constraints in philosophy leads to authoritarianism. Whether an argument is widely accepted depends not on publicly accessible criteria that we can all apply for ourselves but on the say-so of charismatic authority figures. Pupils cannot become autonomous from their teachers because they cannot securely learn the standards by which their teachers judge. A modicum of wilful unpredictability in the application of standards is a good policy for a professor who does not want his students to gain too much independence. Although intellectual deference is not always a bad thing, the debate on realism and anti-realism has seen far too much of it. We can reduce it by articulating and clarifying the constraints.

Philosophy can never be reduced to mathematics. But we can often produce mathematical models of fragments of philosophy and, when we can, we should. No doubt the models usually involve wild idealizations. It is still progress if we can agree what consequences an idea has in one very simple case. Many ideas in philosophy do not withstand even that very elementary scrutiny, because the attempt to construct a non-

trivial model reveals a hidden structural incoherence in the idea itself. By the same token, an idea that does not collapse in a toy model has at least something going for it. Once we have an unrealistic model, we can start worrying how to construct less unrealistic models.

Philosophers who reject the constraints mentioned above can say what constraints they would regard as appropriate. Of course, those who deny that philosophy is a theoretical discipline at all may reject the very idea of such constraints. But surely the best way to test the theoretical ambitions of philosophy is to go ahead and try to realize them in as disciplined a way as possible. If the anti-theorists can argue convincingly that the long-run results do not constitute progress, that is a far stronger case than is an *a priori* argument that no such activity could constitute progress. On the other hand, if they cannot argue convincingly that the long-run results do not constitute progress, how is their opposition to philosophical theory any better than obscurantism?

Unless names are invidiously named, sermons like this one tend to cause less offence than they should, because everyone imagines that they are aimed at other people. Those who applaud a methodological platitude usually assume that they comply with it. I intend no such comfortable reading. To one degree or another, we all fall short not just of the ideal but of the desirable and quite easily possible. Certainly this paper exhibits hardly any of the virtues that it recommends, although with luck it may still help a bit to propagate those virtues (do as I say, not as I do). Philosophy has never been done for an extended period according to standards as high as those that are now already available, if only the profession will take them seriously to heart. None of us knows how far we can get by applying them systematically enough for long enough. We can find out only by trying.

In making these comments, it is hard not to feel like the headmaster of a minor public school at speech day, telling everyone to pull their socks up after a particularly bad term. It is therefore appropriate to end with a misquotation from Winston Churchill. This is not the end of philosophy. It is not even the beginning of the end. But it is, perhaps, the end of the beginning.

Notes

1 T. Williamson, 'Past the Linguistic Turn?', in B. Leiter, ed., *The Future for Philosophy* (Oxford: Oxford University Press, to appear).

2 'Reply to Richards' in R. Grandy and R. Warner (eds.), *Philosophical Grounds of Rationality: Intentions, Categories, Ends* (Oxford: Clarendon Press, 1986), at p. 66.