I hope I shall not be thought ungracious if I say at the outset that nothing on earth would have induced me to attend the kind of lecture you may think I am about to give. Science and literature—what a hackneyed subject, you must feel. Must we go into that again? What can there be to say that has not already been very well said by I. A. Richards, Aldous Huxley, C. P. Snow, Martin Green, J. Bronowski, D. G. King-Hele and half a dozen others?  

Let me begin with an outline of some of the things I do not intend to say. I shall say nothing whatsoever about education, and have no formula for compounding science and literature into a single diet; nor shall I say, or even be thinking, that imaginative literature can be regarded as an antidote or counter-irritant to science, or vice versa. There will be no readings from poetry written by scientists—not even a quotation or an autopsy specimen from the poetry of George John Romanes, FRS. I shall not declare that henceforward the discoveries, ideas and adventures of science should become a bigger part of the subject-matter of poetry, as Wordsworth thought they might; nor shall I reproach poets and magazine critics, as Peacock did, with carrying on just as if there were no such things in existence as mathematicians, astronomers, chemists, moralists, metaphysicians, historians, politicians, and political economists.

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2 See A Selection from the Poems of George John Romanes, ed. T. Herbert Warren (London, 1890). I am much obliged to Mr R. B. Freeman for calling my attention to Romanes’s poetry. I have never read worse.

3 See Wordsworth’s introduction to the Lyrical Ballads (1802 edition).

4 The Four Ages of Poetry (1820).

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After these various abjurations, what is there left to say? If I had to choose a motto for this lecture, I should turn a remark of Lowe Dickinson’s upside down. ’When science arrives,’ said Lowes Dickinson, ‘it expels literature’—an echo, perhaps, of Keats’s lament that science unweaves the rainbow and makes a dull ordinariness out of awful things. The case I shall find evidence for is that when literature arrives, it expels science. There are large territories of human belief and learning upon which both science and literature have very important things to say, for example, social and cultural anthropology, psychology and human behaviour generally, and even cosmology. These subjects lie within the compass of literature in so far as they have to do with human hopes, fears, beliefs and motives; with the attempt to give an account of ourselves and investigate our condition; and with matters of general culture, by which I mean the whole pattern of the way in which people think and carry on. The case that can be made for science is that in all these subjects we have also to work towards a special kind of understanding which, though imaginative in origin (as I shall hope to convince you), is under the censorship or restrictive influence of a certain kind of obligation towards the truth.

The way things are at present, it is simply no good pretending that science and literature represent complementary and mutually sustaining endeavours to reach a common goal. On the contrary, where they might be expected to co-operate, they compete. I regret this very much, don’t think it necessary, and wish it were otherwise. We are going through a bad episode in cultural history. We all want to be friends, and one day perhaps we shall be so. ’Let us advance together, men of letters and men of science,’ said Aldous Huxley, further and further into the ever-expanding regions of the unknown.’ That is a fine ambition, though most of us will feel awkward at its wording; but if it is to be achieved, scientists and men of letters must work their way towards an understanding—not just of each other’s accomplishments (there is mischief and magnificence in both), nor just of each other’s purposes (which are doubtless mixed, though officially both are good), but of each other’s methods and energising concepts and the quality and pattern of movement of each other’s thought. I want therefore to
discuss imagination and criticism as they enter into science on the one hand and into literature on the other; to explain why I think that scientific and literary conceptions of style and matters of communication cannot be reconciled; and finally to compare scientific and poetic notions of the truth. Towards the end, I shall use Freudian psychoanalysis and existential psychiatry to illustrate the way in which science and literature compete for the territories on which they both have claims.

Let me begin by discussing the character and interaction of imagination and critical reasoning in literature and in science. I shall use 'imagination' in a modern sense (modern on the literary time scale, I mean), or, at all events, in a sense fully differentiated from mere fancy or whimsical inventiveness. (It is worth remembering that when the phrase 'creative imagination' is used today, we are expected to look solemn and attentive, but in the eighteenth century we could as readily have looked contemptuous or even shocked.)

The official Romantic view is that Reason and the Imagination are antithetical, or at best that they provide alternative pathways leading to the truth, the pathway of Reason being long and winding and stopping short of the summit, so that while Reason is breathing heavily there is Imagination capering lightly up the hill. It is true that Shelley recognised a poetical element in science, though 'the poetry is concealed by the accumulation of facts and calculating processes'; true also that in one passage of his famous rhapsody, he was kind enough to say that poetry comprehends all science — though here, as he makes plain, he is using poetry in a general sense to stand for all exercises of the creative spirit, a sense that comprehends imaginative literature itself as one of its special instances. But in the ordinary usages to which I shall restrict myself, Reason and Imagination are antithetical. That was Shelley’s view and Keats’s, Wordsworth’s and Coleridge’s; it was also Peacock’s, for whom Reason was marching into territories formerly occupied by poets; and it was also the view of William Blake, who came 'in the grandeur of Inspiration to cast off Rational Demonstration . . . to cast off Bacon, Locke, & Newton'; 'I will not Reason & Compare — my business is to create.'

This was not only the official view of the Romantic poets; it was also the official scientific view. When Newton wrote Hypotheses non fingo, he was taken to mean that he repudiated the exercise of the imagination in science. (He did not 'really' mean this, of course, but the importance of his disclaimer lies precisely in this misunderstanding of it.) Bacon too, and later on John Stuart Mill, were taken as official spokesmen for the belief that there existed, or could be devised, a calculus of discovery, a formulary of intellectual behaviour, which could be relied upon to conduct the scientist towards the truth, and this new calculus was thought of almost as an antidote to the imagination, as it had been in Bacon’s own day an antidote to what Macaulay called the 'sterile exuberance' of scholastic thought. Even today this central canon of inductivism — that scientific thought is fully accountable to reason — is assumed quite unthinkingly to be true. 'Science is a matter of disinterested observation, unprejudiced insight and experimentation, and patient ratiocination within some system of logically correlated concepts' — an important opinion, for Aldous Huxley is a man thought to speak with equal authority for science and letters.

Huxley would, of course, have been the last man to deny imagination a role in science; nor even did the high priest of Inductivism, Karl Pearson; but in science a creative imagination is the privilege of the rare spirit who achieves in a blaze of intuition what the rest of us can only do by rote or by 'analytic industry' (Wordsworth’s term). But the point is (I am still recounting the official view) that we can do it; we may not all be great cooks, but we can all read the instructions on the packet. There is a calculus of discovery, and it works independently of intuition, though nothing like so fast.

The reductionist view — of the complete accountability of science to reason — is no longer believed in by most people who have thought deeply about the nature of the scientific process. An entirely different conception grew up in the writings of William Whewell, Stanley

1 Thomas Babington Macaulay, Lord Bacon (1837), an extended review of Montagu’s edition of Bacon’s works that first appeared in the Edinburgh Review.
2 op. cit. (p. 42 above, note 1).
Jevons, C. S. Peirce, and latterly of Karl Popper. Because its message is in danger of being lost in technical discussion over points of detail, let me explain the gist of it in very general terms.

All advances of scientific understanding, at every level, begin with a speculative adventure, an imaginative preconception of what might be true — a preconception that always, and necessarily, goes a little way (sometimes a long way) beyond anything which we have logical or factual authority to believe in. It is the invention of a possible world, or of a tiny fraction of that world. The conjecture is then exposed to criticism to find out whether or not that imagined world is anything like the real one. Scientific reasoning is therefore at all levels an interaction between two episodes of thought — a dialogue between two voices, the one imaginative and the other critical; a dialogue, as I have put it, between the possible and the actual, between proposal and disposal, conjecture and criticism, between what might be true and what is in fact the case.

In this conception of the scientific process, imagination and criticism are integrally combined. Imagination without criticism may burst out into a comic profusion of grandiose and silly notions. Critical reasoning, considered alone, is barren. The Romantics believed that poetry, poiesis, the creative exploit, was the very opposite of analytic reasoning, something lying far above the common transactions of reason with reality. And so they missed one of the very greatest of all discoveries, of the synergism between imagination and reasoning, between the inventive and the critical faculties. I call it a ‘discovery’, but no one person made it. Coleridge could have made it; he alone in a hundred and fifty years was qualified in every way to do so. It is a tragedy of cultural history that he did not.

At this point a spokesman for literature might say, ‘I accept the idea that scientific reasoning can be resolved into a dialogue between critical and inventive faculties, or something of that general nature, but what is so distinctively scientific about it, and why should it be held to distinguish science from imaginative literature? He would quote Matthew Arnold, perhaps — ‘All poetry is criticism of life’ — but in this context he would probably not wish to press the point, for Arnold, too, saw criticism and inventiveness as antithetical, and when he says, for example, that ‘the critical power is of lower rank than the creative’, he shows that he has no idea of the existence of forms of intellection to which class distinctions of this kind do not apply. But would it not be reasonable to say that literary criticism has a function cognate with that which I have attributed to criticism in science?

I am not deeply enough read in modern critical literature to say whether there is anything in such an argument or not, but my inclination would be to say that there is not. I have been saying that the critical episode of thought is something integral with scientific reasoning; that which has not yet been exposed to it is not yet science. Literary criticism, on the other hand, is a branch of literature which has literature as its subject-matter, and that is an altogether different thing. A better case could be made for saying that literary criticism has something in common with scientific methodology. There is something in this, surely, but the similarities between them are rather dull and the differences interesting. Scientific methodology has to do with matters of validation and justification as they enter into all forms of scientific thinking, with the trustworthiness of evidence, and with the analysis of certain formal ideas that are common to all the sciences, for example, the ideas of causality or of reducibility and emergence. But it has nothing to do with the motives and purposes of scientists or with the degree to which their work achieves them: science is known to us in terms of accomplishment, not in terms of endeavour. It does not attempt to justify science in any sense except the scientific; above all it does not try to see scientific thought and action as elements of general culture. What should be the equivalent in science of literary criticism is therefore represented by a great emptiness which is a reproach to all scholars, scientists and humanists alike. I cannot even think of a name for the new discipline that might fill those empty spaces, for 'scientific
humanism' is too deeply committed to a different meaning, and its practitioner, the 'scientific humanist', has too long and too often been made a figure of fun. (You have only to think of some of Peacock's caricatures, or of Sir Austin Feverel.) Perhaps the word I want is 'criticism' itself, without qualification.

The gist of what I have been saying is this. Our traditional views about imagination and criticism in literature and in science are based upon the literary propaganda of the Romantic poets and the erroneous opinions of inductivist philosophers. Imagination is the energising force of science as well as of poetry, but in science imagination and a critical evaluation of its products are integrally combined. To adopt a conciliatory attitude, let us say that science is that form of poetry (going back now to its classical and more general sense) in which reason and imagination act together synergistically. This simple formal property (which can, of course, be set out in a much more professional and specific language than anything I have attempted here) represents the most important methodological discovery of modern thought.

3

I now turn to a discussion of matters of style.

The poet 'yieldeth to the powers of the mind an image of that whereof the philosopher bestoweth but a wordish description, which doth neither strike, pierce, nor possess the sight of the soul'. At a time when the writing of English had reached a peak of adventurousness and effulgence – and partly, but not wholly, because it had done so – the New Philosophers of the seventeenth century (new scientists, we should now say) were put officially on guard against the danger of being carried away by the sound of their own voices. I say 'officially' because the warning came from the Royal Society. Then and for evermore they were to abjure the 'painted scenes and pageants of the brain'. Their writing was 'manly and yet plain... It is not broken by ends of Latin, nor impertinent quotations... not rendered intricate by long parentheses, nor gaudy by flaunting metaphors; not tedious by wide fetches and circumferences of speech'. The scientific style was to be 'as polite and as fast as marble'. I am quoting Joseph Glanvill, FRSE – not a good one to talk, perhaps, as his own style was described by H. Oldenburg as somewhat florid; but he spoke for common opinion. Not Words but Works were to carry the message of the New Philosophy. 'We believe a scientist because he can substantiate his remarks,' said I. A. Richards, 'not because he is eloquent and forcible in his enunciation. In fact, we distrust him when he seems to be influencing us by his manner.' There is a passage in a still undiscovered manuscript of Bacon's in which he expresses his abhorrence of the vendita suavis, or soft sell.

Lowes Dickinson was right, if we take him in a narrower sense than he may have intended. Science and imaginative writing are utterly incongruous, in English anyway – the French tradition is more permissive – and the effect of combining them is merely absurd. In science the imaginative element lies in the conception, and not at all in the language by which the conception is made explicit or is conveyed. (The 'language' might indeed use the symbolism of chemistry, mathematics or electronic circuitry.) Clarity can be, must be achieved, and with a natural stylist like D'Arcy Thompson, grace. But a scientist's fingers, unlike a historian's, must never stray toward the diapason, and a falling cadence is allowed only to mark, and perhaps be the welcome evidence of, the end of a 'presentation'.

By the time of the New Philosophy, the competition or disputations between eloquence and wisdom, style and substance, medium and message, had already been in progress for nearly two thousand years, but as far as the New Philosophy was concerned, the Royal Society, with the formidable support of John Locke and Thomas Hobbes, may be thought to have settled the matter once and for all: scientific and philosophic writing were on no account to be made the subject of a literary spectacle and of exercises in the high rhetoric style.

1 In George Meredith's *The Ordeal of Richard Feverel* (1859), the tiresome Sir Austin is explicitly described as a 'scientific humanist', the first example of this particular usage I have come across.
3 Abraham Cowley, *To the Royal Society* (1663).
This position has been threatened only during those two periods in which our native philosophic style (which is also a style of thinking) was obfuscated by influences from abroad. During the Gothic period of philosophic writing, which began before the middle of the nineteenth century and continued until the First World War, we were all oppressed and perhaps mildly stupefied by metaphysical profundities of German origin. But although those tuba notes from the depths of the Rhine filled us with thoughts of great solemnity and confusion, it was not as music, thank heavens, that we were expected to admire them. The style was not an object of admiration in itself. Today, though we are now much better armed against it, speculative metaphysics has given way to what might be called a salon philosophy as the chief exotic influence, and French writers enjoy the reverential attention that was at one time thought due to German. Style has now become an object of first importance, and what a style it is! For me it has a prancing, high-stepping quality, full of self-importance; elevated indeed, but in the balletic manner, and stopping from time to time in studied attitudes, as if awaiting an outburst of applause. It has had a deplorable influence on the quality of modern thought in philosophy and in the behavioural and 'human' sciences.

The style I am speaking of, like the one it superseded, is often marked by its lack of clarity, and for this reason we are apt to complain that it is sometimes very hard to follow. To say as much, however, may now be taken as a sign of eroded sensibilities. I could quote evidence of the beginnings of a whispering campaign against the virtues of clarity. A writer on structuralism in the Times Literary Supplement has suggested that thoughts which are confused and tortuous by reason of their profundity are most appropriately expressed in prose that is deliberately unclear. What a preposterously silly idea! I am reminded of an air-raid warden in wartime Oxford who, when bright moonlight seemed to be defeating the spirit of the blackout, exhorted us to wear dark glasses. He, however, was being funny on purpose.

I must not speak of obscurity as if it existed in just one species. A man may indeed write obscurely when he is struggling to resolve problems of great intrinsic difficulty. This was the obscurity of Kant, one of the greatest of all thinkers. There is no more moving or touching passage in his writings than that in which he confesses that he has no gift for lucid exposition, and expresses the hope that in due course others will help to make his intentions plain.

In the eighteenth century obscurity was regarded as a disfigurement not merely of philosophic and scientific but also of theological prose. To conceal meaning (it was reasoned) is equally to conceal lack of meaning, so we don’t know where we stand. George Campbell (the Scottish philosopher and divine, not the poet) thought himself specially afflicted by mystical theology, and his interpretation of it will pass very well today. Mystical theology is a prose-offering to the Almighty; and just as it is in the nature of a living sacrifice that it should be deprived of life before being offered up to the Godhead, so a prose-offering must be deprived of – sense. This then is constitutive obscurity: that which appears to be nonsense for the simplest of all reasons, namely, that it is not sense.

But even in those enlightened days, the appeal of obscurity was clearly recognised. Of Dryden – even of Dryden – Johnson said that ‘he delighted to tread upon the brink of meaning, where light and darkness begin to mingle’. Don’t we all, up to a point? We all recognise a voluptuary element in the higher forms of incomprehension and a sense of deprivation when matters which have hitherto been mysterious are now made clear.

The rhetorical use of obscurity is, however, a vice. It is often said – and it was said of Kant – that the purpose of obscure or difficult writing is to create the illusion of profundity, and the accusation need not be thought an unjust one merely because it is trite. But in its more subtle usages, obscurity can be used to create the illusion of a deeply reasoned discourse. Suppose we read a text with a closely reasoned argument which is complex and hard to follow. We struggle with it, and as we go along we may say, ‘I don’t see how he makes that out’, or ‘I can see now what he’s getting at’, and in the end we shall probably get there, and either agree with what the author says or find reasons for taking a different view. But suppose there is no argument; suppose that the text is ascerative in manner, perhaps because analytical

1 Immanuel Kant, *Critique of Pure Reason*, introduction to the second edition (1787).
2 *The Philosophy of Rhetoric* (1776).
4 See p. 22 above, note 1.
reasoning has been repudiated in favour of reasoning of some higher kind. If now the text is made hard to follow because of *non sequiturs*, digressions, paradoxes, impressive-sounding references to Gödel, Wittgenstein and topology, 'in' jokes, and a general determination to keep all vulgar sensibilities at bay, then again we shall have great difficulty in finding out what the author intends us to understand. We shall have to reason it out therefore, much as we reasoned out Latin unseens or a passage in some language we didn't fully understand. In both texts some pretty strenuous reasoning may be interposed between the author's conceptions and our understanding of them, and it is strangely easy to forget that in one case the reasoning was the author's but in the other case our own. We have thus been the victims of a confidence trick.

Let me end this section with a declaration of my own. In all territories of thought which science or philosophy can lay claim to, including those upon which literature has also a proper claim, no one who has something original or important to say will willingly run the risk of being misunderstood; people who write obscurely are either unskilled in writing or up to mischief. The writers I am speaking of are, however, in a purely literary sense, extremely skilled.

4

Let me now turn to a comparison between scientific and poetic notions of the truth, though only as far as it may help to recognise and define the literary syndrome in scientific or quasi-scientific thought.

When the word is used in a scientific context, *truth* means, of course, correspondence with reality. Something is true which is 'actually' true, is indeed the case. This is empirical truth—truth in the sense in which it is true to say that I am at this moment delivering the Romanes Lecture and not standing on my head on an ice floe in the North Atlantic; and you know that correspondence with reality in just this sense is the test that all scientific theories must be put to, no matter how lofty or how trivial they may be.

We must at once dismiss the idea that empirical or factual truth as scientists use it (or lawyers or historians) is an elementary or primitive notion of which everyone must have an intuitive or inborn under-

standing. On the contrary, it is very advanced, very grown-up, something we learn to appreciate, not something that comes to us naturally. We must also, I think, dismiss the inductive interpretation of the way in which truth enters into scientific enquiry. In classical inductive theories of scientific method, plain factual truth is what scientific reasoning is supposed to begin with. We start (or else it is no use starting) with an exact apprehension of the facts of the case, with a reliable transcript of the evidence of the senses which inductive reasoning can thereupon compound into more general truths or natural laws. We are led into error (according to inductive theory) only when the facts we thought we could rely upon were wrongly apprehended. Error is due to an indistinctness of vision, a false reading of that Book of Nature in which the truth resides and can be got at if only we can retain or reacquire the innocent, candid, childlike faculty of grasping what is in fact the case.

I share Karl Popper’s view that this conception of truth and error is utterly unrealistic. Scientific theories (I have said) begin as imaginative constructions. They begin, if you like, as stories, and the purpose of the critical or rectifying episode in scientific reasoning is precisely to find out whether or not these stories are stories about real life. Literal or empiric truthfulness is not therefore the starting-point of scientific enquiry, but rather the direction in which scientific reasoning moves. If this is a fair statement, it follows that scientific and poetic or imaginative accounts of the world are not distinguishable in their origins. They start in parallel, but diverge from one another at some later stage. We all tell stories, but the stories differ in the purposes we expect them to fulfil and in the kinds of evaluations to which they are exposed.

The divergence of poetic from factual truthfulness was not always taken for granted. For Sir Philip Sidney and his contemporaries it was something that had to be justified and reasoned out. 'Now for the poet,' says Sir Philip Sidney in a famous passage of his *Apology*, 'he nothing affirms and therefore never lieth. For, as I take it, to lie is to affirm that to be true which is false ...' but the poet (as I said before) never affirms. If, all other things being equal, the choice is between correspondence with and departure from reality, then the choice is for reality: a

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painting which professes to be a portrait must be a likeness; but, if the choice is between what things are and what they ought to be, 'considered in relation to use and learning', then the literal truth, what actually happened, is usually less doctrinable than things as they might have been. For the scientist (Sidney says 'historian', but in this context scientist will do) is in bondage to the particular, to that which was - the historian's 'bare was' is Sidney's phrase - and any precept or general statement compounded of these bare particulars can only have the force of a 'conjectured likelihood'. It will not have the force of a poetic truth.

The idea that a poetic truth is a revelation of the ideal, of what ought to be, is taken by Sidney from Aristotle. Sidney (and incidentally Bacon) construe ought to be in the moralistic or doctrinal sense. For Bacon1 narrative poetry 'feigns acts more heroic' than anything which actually happened, and thus 'conduces not only to delight but also to magnanimity and morality'. Dramatic poetry may be 'a means of educating men's minds to virtue', and the purpose of what Bacon describes as the highest form of poetry, the parabolical, must obviously be to improve.

This is what Sidney understood by the concept of what ought to be, but according to Butcher's well-known analysis of the matter, it was not Aristotle's. The reason why Aristotle believed poetry to be 'a more philosophical and a higher thing than history' (and here, too, we may read 'science') is because it reveals what ought to be in the light of a true understanding of nature's intentions - not of nature's actions, for these are clumsy and imperfect. No, the poet discerns the purpose which nature is working, often most imperfectly, to fulfil. The poet is thus one up on nature (this was not Butcher's expression) and is the spokesman of her unfulfilled designs.

Aristotle's conception enriches or replaces scientific truth by truth of a higher kind, that which represents the testimony of a deeper and more privileged insight - a truth so lofty that, if nature does not conform to it, why then, so much the worse for nature.

1 Francis Bacon, De augmentis scientiarum, book 2, chapter 11.
2 See S. H. Butcher, Aristotle's Theory of Poetry and Fine Art, 1st ed. (1894); see also Ingram Bywater, Aristotle on the Art of Poetry (Oxford, 1909), and D. S. Margoliouth, The Poetics of Aristotle (London, 1911). 'What ought to be' is so rendered by Butcher and Bywater; Margoliouth writes 'the ideal'.

A second interpretation of poetic truth - the one I have just outlined is no longer professionally defended, which is not to say that it is no longer believed in - would claim for it that it represents truth not of a higher kind, but simply of a different kind, an alternative conception, or one of a set of alternatives, which enriches our understanding of the actual by making us move and think and orientate ourselves in a domain wider than the actual. I believe this view is essentially a fair one, and it would be silly to squabble over matters of copyright to do with the usage of the word 'truth'. Nevertheless, great difficulties arise when it is allowed to infiltrate into science.

In this second conception of truth, a structure of imaginative thought - for example, a myth, especially if it appeals to magical agencies - will be judged true if it is all of a piece, hangs together, doesn't contradict itself, leaves no loose ends, and can cope with the unexpected. No single word in common speech describes this set of properties, but a narrative or theory or world picture or imaginative structure of any kind which answers to them is said to 'make sense', to have the property of being believable-in. All scientific theories must make sense, of course, but in addition they are expected to conform to reality, to be empirically true. It is the relaxation of this condition, or the failure to enforce it, that opens up to us a world that is larger, more various, and perhaps more doctrinable than real life.

I spoke of myths. In his famous work on savage thought, C. Lévi-Strauss1 dismisses the cozy traditional belief that myths are primitive absurdities, are silly, innocent constructions that represent a merely rudimentary stage in the development of scientific thought. On the contrary, one can think of the rigorous precision of magical thought and ritual practices as an expression of the unconscious apprehension of the truth of determinism, the mode in which scientific phenomena exist. Instead of contrasting magic and science, 'it is better to compare them as two parallel methods of acquiring knowledge', or as 'two scientific levels at which nature is accessible to scientific enquiry', both being 'equally valid'.

What Lévi-Strauss is telling us is that myths make sense, as conventional scientific theories make sense, and he does not feel that their failure to measure up to reality - to pass that extra examination which

has to do with conformity to real life – disqualifies them from being described as 'scientific'. Some Siberian peoples, he tells us, 'believe that the touch of a woodpecker's beak will cure toothache', and for this and similar reasons

it may be objected that science of this kind can scarcely be of much practical effect. The answer to this is that its main purpose is not a practical one. It meets intellectual requirements rather than or instead of satisfying needs . . . The real question is not whether the touch of a woodpecker's beak does in fact cure toothache. It is rather whether there is a point of view from which a woodpecker's beak and a man's tooth can be seen as 'going together' (the use of this congruity for therapeutic purposes being only one of its possible uses), and whether some initial order can be introduced into the universe through these groupings.

This is a clear statement of his case, and I find it utterly unconvincing. Whose 'intellectual requirements' are being met, we may wonder, the savage's or the anthropologist's? By what extra criterion shall we be satisfied that the anthropologist himself is not creating a metamythology, a mythology about myths? And would not someone actually suffering from toothache incline toward a more pragmatic style of thought? The point is that making sense and being believable-in are necessary but not sufficient qualifications for a process of intellection to be called commonsensical or scientific. The world of myths is Blake's world, Beulah, 'a place where contrarieties are equally true', a world where the opposite of truth is falsehood, but another truth; not necessarily a rival truth, but the telling of a different story, the testimony of a different interpretation of the world. Another myth, another set of magical allegiances, may serve the same or an equivalent purpose. The evidence Lévi-Strauss brings forward to contest the commonplace view that myths are a kind of fumbling approximation to science – a first groping attempt to make sense out of the complexities of the world – is just that which seems to me to justify it. For myths are not really truths; at best they are truthlike structures, a part of the candidature for what might pass as true, but a candidature excused from public examination.

The insufficiency of merely making sense and conferring order is not always fully grasped by laymen. Freudian psychoanalytic theory is a

mythology that answers pretty well to Lévi-Strauss's descriptions. It brings some kind of order into incoherence; it, too, hangs together, makes sense, leaves no loose ends, and is never (but never) at a loss for explanation. In a state of bewilderment it may therefore bring comfort and relief. But what about its therapeutic pretensions? The embarrassment of the woodpecker's beak is now got out of most adroitly. For in the opinion of many advanced thinkers, it is rather – well, rather common to suppose that the purpose of Freudian psychotherapy is, in the conventional sense, to cure. Its purpose is rather to give its subject a new and deeper understanding of his own condition and of the nature of his relationship to his fellow men. A mythical structure will be built up around him which makes sense and is believable-in, regardless of whether or not it is true. Another such structure might do as much for him – or as little.

In existential psychiatry, the idea of 'cure' is dismissed contemptuously and replaced by the idea of 'healing'. A madman, for example, is healed when a microcosm of thought and personal relationships is built up around him in which his behaviour is no longer 'mad', that is, incongruous, anti-social, alienated from the majority opinion. The concept of 'explanation' is replaced by that of understanding, the process of discernment that uncovers a scheme of thinking within which a madman's actions and opinions now make sense.

With Freudian or existential psychology, as with myths, the question hardly arises of rational agreement or disagreement: these are ugly, hectoring words. Rather it is a question of acquiescence, of being taken into the author's scheme of thinking—and to describe acquiescence as a process of being 'taken in' has exactly the right connotation of surrender on the one hand and on the other hand of magic or contrived illusion. For these well-intentioned people are telling stories, sometimes wonderfully imaginative stories and sometimes wonderfully well told, so perhaps we should exercise a grown-up indulgence. When children don't tell the truth, their mother doesn't summon them to her knees and call them lying little liars. On the contrary, she says, 'You

mustn't tell stories'; but although she wears a special kind of solemn face when she says so, she doesn't really think that telling stories is wicked unless it actually leads to harm.

Unfortunately, the psychologies I have been talking about are highly mischievous, not so much because they do harm or fail to do good, but because they represent a style of thought that will impede the growth of our understanding of mental illness. Consider for a moment imbecility, a subject in which scientifically founded psychiatry has made some ground. Here is an imbecile child which when it was born seemed ordinary. What can be wrong? Did some immemorial foreknowledge of the intrinsic contradictions of living drive it back into the habitation of a voiceless inner world? Did its parents, by some involuntary withholding of compassion, fail to ratify the child's ontological awareness of its essential self? Or is it perhaps unable to metabolise phenylalanine? Does it have the right number of chromosomes? What about the concentration of triiodothyronine in its blood? Two quite different sets of questions, and the people who ask them belong to two quite different kinds of worlds, figuratively speaking, the salon and the laboratory. Cultural psychiatry (but here I exclude Freud himself) repudiates the idea of an organic cause of mental abnormality; repudiates, indeed, some of the very concepts in terms of which the notion is expressed. The scientist wants it to be true. If there existed in science and medicine an analogue of literary criticism, we should investigate not only what people have reason to believe in, but the kind of things they want to believe in, and the cultural history of how they have come to acquire two or more different habits of expectation which cannot be reconciled.

It follows from what I have said that Freudian and other quasi-scientific psychologies are getting away with a concept of truthfulness which belongs essentially to imaginative literature, that in which the opposite of a truth is not falsehood but (we are back in Beulah) another truth. I strongly suspect that the same may be true of the more literary forms of other behavioural sciences, but I have not studied them deeply enough to say so for sure.

My contention has been that science tends to expel literature, and literature science, from any territory to which they both have claims—particularly the areas of learning that relate to human behaviour in its widest sense.

The distinguishing marks of the literary syndrome in science are, if you have followed my argument, these. First, there is an open or implied claim to a higher insight than can be achieved by laboratory scientists or historians or philologists, or by philosophers of the traditional English kind, an insight which soars beyond the busy little world of test tubes and graphs and measuring instruments, or indeed of facts. Second, there is a combination of high imaginativeness with a relaxation of or a failure to enforce the critical process, so that the critical and inventive faculties no longer work together synergistically, but tend if anything to compete; and with this goes a whispering campaign against the importance attached to validation or justification and even, in extreme cases, now beyond remedy, against rational thought. Third (and this is what gives the syndrome a literary rather than a metaphysical character) is the style in which the high truths of the imagination are made known, a style which (among many other disfigurements) deliberately exploits the voluptuary and rhetorical uses of obscurity, a style which at first intrigues and dazzles, but in the end bewilders and disgusts.

One may well ask: If the forms of discourse that answer to this description are kept outside the reach of a critical apparatus; if in repudiating the ideas of proof or cure or any other scheme of validation they escape the sanctions that are enforced upon physicians or historians or laboratory scientists, what then is to stop them from expanding their influence and pretensions without limit? The answer is clear enough. They are not repudiated, but as fashion changes they will be forgotten, to be classified as a scientific curiosity or literary genre, as dead as the Philosophic Romances of the seventeenth century or the System Philosophies of the nineteenth. This fate is the unhappiest that could befall them, because their practitioners want above all else to be in the swim, to be counted among the makers of cultivated opinion,
rare spirits whose thought transcends the busy preoccupations of common people. To be forgotten is the worst of their bad dreams.

There is an aberration of science or of the scientific style of thinking which has come to be known as 'scientism'. Roughly speaking, it stands for the belief that science knows or will soon know all the answers, and it has about it the corrupting smugness of any system of opinions which contains its own antidote to disbelief. I suppose my lecture has been about _poetism_, an aberration of imaginative literature about which _mutatis mutandis_ one could say very much the same. It stands for the belief that imaginative insight and a mysteriously privileged sensibility can tell us all the answers that are truly worthy of being sought or being known, and its practitioners are rallied by the inane war cry that beauty is equivalent to truth.

For scientism, imaginative literature is best thought of as a branch of the entertainment industry; for poetism, scientists are engaged in merely parsing the Book of Nature, the inner meaning of which they are altogether unqualified to comprehend. Poetism is only a minor ailment of literature, but an ailment that literature is prone to through an excess of its own exuberant strength; in the time scale of literature, its outbreak seems to be a seasonal event. Scientism, for just the same reason, is latent in scientific thinking – a malady to which, because of our constitutions, we scientists are specially predisposed. Both views are about equally contemptible, so there is no need for us to take sides. No one need beat his breast and say, 'Now I am on the side of the poets', because poets are not really on that side and scientists not really on the other. I admit that it was mainly a love of science that prompted me to speak as I have done, but it could equally well have been a love of literature, and if it had been so I do not think that my lecture would have been so very different from that which you have just heard.

**POSTSCRIPT**

The omission of C. P. Snow's name and any discussion of the arguments of his famous Rede Lecture was deliberate. The trouble is that upon mention of Snow's name literary intellectuals spring at once into unsingily postures which make rational argument almost impossible. Some such intellectuals behave as if Snow had either been responsible

for, or at least advocated, the existence of two cultures. In reality he was calling attention to the fact that educated and reflective people subsist upon diets of two very different kinds: one having to do with scientific theories and ideas, the other literary and more overtly imaginative in character. This always struck me as being a straightforwardly objective observation and as objectively true as it is to say that Italians have a special liking for pasta and Scottish people for oatmeal in all its allopocrine forms. Such a statement embodies no expression of opinion upon the superiority of either. It is their unlikeliness and not their inequality of merit that is in question.

The curse of it is that people will take sides. All those whose school-days were darkened by profitless and apparently interminable discussions or formal debates on the general theme of 'The sciences v. the humanities' will share my dismay that so many of my critics chose to regard my Romanes Lecture as yet another contribution to this idiotic debate. It was nothing of the kind. I expressed, and I take this opportunity to reaffirm, my abhorrence equally of 'scientism' and 'poetism' (p. 60). Scientism deserves no friends and has been so skilfully attacked that it needs no further enemies; but there is some recent writing in 'cultural' anthropology and psychiatry which convinces me that science is in real need of some defence against poetism. Poetism is the undisciplined exercise of the imaginative faculty to produce hypotheses which are held to be true, and defended against all criticism, merely because of their supposedly high inspirational origin or because they are specially well put or make an unusually strong appeal to some dark visceral mystical predilection of their authors. The hero of poetism is, of course, that William Blake who 'came in the grandeur of inspiration to cast off rational demonstration'.

1 Blake, _Milton_, book 2.