

Western Science and Eastern Wisdom—A Reply

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In a recent issue of this journal (November, 1968), Dr Trevor Ling used 'the testimony of certain non-European and non-Christian cultures (as expressed in recent Muslim and Buddhist studies) to take a new look at the malaise of Western society' (the editor's summing-up of the article). His diagnosis of the malaise itself, his reconstruction of its probable causes, his recommendations concerning the remedies that must be adopted, can be summarized as follows: Before about 1450, East and West shared a basic common philosophy, which he calls 'perennial philosophy'. This philosophy was closely allied with mysticism; it 'covers more than mysticism, although the metaphysics of the perennial philosophy may be implied in much mysticism'. It assigned the highest place to contemplation, as the central goal of human effort. It was hierarchical in several ways: some men 'through what they are, can know much more than others'; some 'levels of reality are more "real" because more exalted than others'. Its methodology was characterized by a number of distinctive criteria: 'the wise men of old have found a "wisdom" which is true, although it has no "empirical" basis in observations which can be made by everyone'; 'there is a rare faculty in some of us by which we can attain direct contact with the actual reality—through the *prajna* of the Buddhists, the *logos* of Parmenides, the *sophia* of Aristotle and others'; 'true teaching is based on an authority which legitimizes itself by the exemplary life and charismatic quality of its exponents'.

Around 1450-1500, with the beginnings of Protestantism (to which Dr Ling tends to attach some of the responsibility for this development), the 'perennial philosophy' was challenged in the Christian West by a new 'scientia' philosophy whose main 'tenets were that natural science has a cognitive value; that there is no higher being than man, whose power and convenience must be promoted at all costs; that spiritual forces may safely be disregarded; and that the goal of human activity should be the amelioration of life in this world' (p. 86). The first consequence of this was a conflict between Christianity and natural science and a loss of 'metaphysical' confidence on the part of Christianity as a result. This in turn led to 'the cancerous growth of secularism', and to the desacralization of nature, now entirely subject to human manipulation for human ends. Western philosophy became rationalistic; 'true metaphysics' and 'metaphysical' (i.e. mystical) theology were neglected 'in favour

of a rational theology'. Dr Ling allies himself with the Buddhist critique of the Western emphasis on natural science, citing 'the undeniable fact that by becoming "objectively" preoccupied with the phenomenal world man inevitably becomes drawn into the morass of conjectures and illusions and therefore drawn away from the possibility of Deliverance', a deliverance which is characterized as an 'escape' from the world of change and dependence.

Dr Ling urges that the West must return 'to the tradition of spirituality and wisdom' it possessed up to 1500, if it is to survive. Contemplation must be restored to its rightful place at the summit of human life; 'the history and philosophy of science must be reinvestigated in relation to Christian theology and the traditional (Western) philosophy of nature . . . Christian doctrine itself should be enlarged to include a doctrine concerning the spiritual significance of nature with the aid of Oriental metaphysical and religious traditions'. Mysticism must once again be recognized as the indispensable core of any 'true metaphysics'. Only thus can Western man regain the unity he has lost; Buddhism and Hinduism can in fact bring him back to his own past, to a time when West and East shared a saner view of Nature and of man's relation with Nature and Time, a time when the primacy of mystical insight over laboured rationalist or empirical modes of knowing, as well as of contemplative *theoria* over illusionary *praxis*, were generally admitted.

I have thought it worth outlining Dr Ling's position in some detail, both because his views are shared by a fair number of other recent diagnosticians of Western woes (many of them Oriental in origin or in sympathies), and because I find I have to disagree with them in almost every single detail. To my mind, they appear to involve some serious misreadings of history: the history of metaphysics, the history of Christianity, the history of natural science. And the remedy proposed for the complex malaise of Western man, far from being a return to a Christian orthodoxy whose principles were betrayed in the century of Reformation and Renaissance, seems to me, in fact, in some respects to require a break with the sense of the Christian tradition before, as well as after, 1500. Besides, there are good reasons for supposing that as a remedy it simply would not work.

Metaphysics and mysticism

What about the claim, first of all, that there was a relatively sharp break around 1500 in the history of Western philosophy, that the metaphysics which preceded the break (Plato, Aristotle and St Thomas are specifically mentioned) was allied with mysticism of the sort that found its highest expression in the late medieval mystical work, *The Cloud of Unknowing*, that it accepted without question among its principles the 'wisdom of the wise men of old', and that the authority of the exponents of this 'perennial philosophy' depended upon their 'exemplary life and charismatic quality'?

Assuredly, no historian of Greek philosophy would accept this characterization. Indeed, far from accepting it, many of them (Cornford and Burnett come immediately to mind) have stressed that almost exactly the opposite was the case. The tension between Greek philosophy and Greek religion in the age of Socrates and Aristotle arose mainly from the fact that the new 'philosophical' mode of making assertions about the world did *not* involve acceptance of the traditions of 'the wise men of old' at their face-value; rather, it meant questioning *all* knowledge-claims, including religious ones.¹ The troublesome new breed of philosophers demanded clarity and consistency; they insisted upon sharp definitions of key terms in moral and metaphysical argument. Above all, they emphasized the necessity of strict validation for any doctrines proposed as *true*. And the theory of this validation was carefully specified, and itself justified in turn. The *epistēmē* (true knowledge) resulting from this arduous process of testing would thus be conceptual and rational; it would be adequately expressed in human language, though our everyday language would have to be worked over and sharpened to accomplish the aims of science successfully.

Nothing could be further from mysticism than this, it would seem. The *epistēmē* which was the goal of philosophical enquiry for Plato and Aristotle was not the fruit of some kind of mystic insight. It was not supraconceptual. A method of bringing others to grasp it could be specified. In no way did it concede a special status to traditions inherited from 'the wise men of old'; indeed, Aristotle used such traditions rather as a dialectical introduction to his own views, which were then presented as superseding them. Nor would Aristotle have for one moment admitted that the validity of his metaphysics or his physics was dependent upon his own 'exemplary life'. Such a 'science' would not have to fall back on the authority of a tradition or the incommunicable insight of a seer or the faith of a religious believer.

In taking this firm stand, Plato and Aristotle were not unaware of the 'mystical' tendencies of some of the greatest of their predecessors, Pythagoras and Heracleitos notably. Nor were they blind to the Gnostic sympathies of those of their own contemporaries who were influenced by the claims to a privileged knowledge made by the Oriental mystery religions of the day. But this for them was *not* the road to a stable knowledge of universal truths, of the sort they supposed philosophy to be. After all, Plato's model of what such a knowledge could at its best aspire to was furnished him by geometry. What struck him, as it later did Aristotle, was not so much the unbreakable character of geometrical deductions as the complete assurance with which one could claim to 'see' the truth of the *axioms* of geometry. This 'seeing' was for him a paradigm of the act of insight that lies at heart of all theoretical knowledge. It was not

¹See *From Religion to Philosophy*, F. M. Cornford, London, 1912.

a mechanical rule-bound affair, as deduction is. But neither could it be described in the terms in which the mystics have characterized their radically individual and personal intuitions. The Platonic dialogues were systematic efforts to bring the reader to share in Plato's own metaphysical insights. He stresses the difficulty and the necessary obliqueness of this task. But that in principle such insights are open to all Plato emphasized by the famous story of the slave who is brought by Socrates to a 'true knowledge' of the theorem of Pythagoras (regarded at the time as the most striking result of Greek geometry) by a simple process of questioning and reminding. It is true that Plato and Aristotle both emphasized the strangeness, the divinity almost, of the human power to discern objective universal truths. It seemed so far beyond the expectable limits of man's ability that Plato speculated about its really being a recollection of truths forgotten rather than a recognition of new truths; Aristotle made the 'active intellect' of man a unique spiritual and immortal power. Yet the crucial transition had been made: the 'science' to which this mysterious human capacity could attain was not just an incommunicable vision of the One or the Good; it was a textured, validated set of truths, potentially within the reach of all.

Was this 'science' a 'wisdom', a *sophia* which would unite thought and action in a single human striving towards the Good? On this point a characteristic difference between Plato and Aristotle emerged, one that would be reflected among their respective admirers in later Christian times. For Plato, 'science' is ultimately a quest for the Good; the tight interconnectedness of the Forms, through their variety of negations of the unity of the One-Good, forces the seeker to ever higher levels of reality. The progression of the knower along the stages of the Divided Line from opinion to dialectical insight is paralleled by a moral progression as he comes to a clearer vision of the Good. The unity of thought and action becomes so close, indeed, that Plato is tempted to correlate virtue with knowledge, vice with lack of knowledge, though he is understandably uneasy about so simple a correlation. The order of the universe is for him basically a *moral* order, and all explanation must ultimately be teleological in character.¹ The goal of man is a contemplative one; the insistence upon the defectiveness of all realization of Form in the uncertain, corruptible temporal order, leads him inevitably to think of contemplation as somehow a withdrawal or an escape to a calmer world of undisturbed insight. Yet Plato, descendant of one of Athens's greatest political families and adviser of rulers, could not surrender the domain of effective political action as easily as all that, and some of his greatest writings (notably the *Republic*) attempt to unite two quite different moral attitudes towards the order of time and history.

Aristotle was torn even more deeply. On the one hand, as a pupil

¹I have discussed this point at more length in 'Cosmic Order in Plato and Aristotle', *The Concept of Order*, ed. by P. Kuntz, Seattle, 1968.

of Plato, he held that teleological explanation, explanation in terms of the good, is primary. And *sophia* for him too meant a complete unity of thought and action, where the intellectual grasp of the Good would guide a man to virtuous living. But Aristotle was also a peerless biologist, classifier of more than five hundred species of living things. The natural regularities of this complex realm, as he well knew, could be discovered only by patient empirical observation. In describing the canons of method for such a science, he makes no mention of the moral probity of the scientist; though the cosmic order is good, it is less and less evident that only a good man can discover it, or that its discovery inevitably leads the discoverer to a firmer realization of the good in his own moral life. The formal structure of scientific demonstration carries conviction on its own, once it rests upon an experiential basis. The science that he expounds in his *Physics* is an autonomous one, with its own cognitive value; it is not presented as a *sophia*. He still hesitates to commit himself in physics to the abstractions of mathematical language; nature in his view is best described in the qualitative terms appropriate to man's own perceptual world. But this in no way diminished for him the objectivity of natural science. Ethics was, of course, a very different matter, as he himself stressed. A person's moral judgment could clearly be affected by the sort of life he leads; Aristotle reminds us how difficult of attainment objectivity and certitude are in this domain. Metaphysics would lie somewhere between physics and ethics in this respect. But in principle, a 'science' of all three is attainable. And the pursuit of the good does *not* mean for Aristotle a withdrawal from the affairs of the city; though he stresses the importance of contemplation as an openness to truth, he equally emphasizes the responsibility of man for the moral and political order in which he lives, and which it may be his duty either to uphold or to change.

It was precisely this 'secularity' of Greek metaphysics that made it so suspect to early Christian thinkers. The 'pagan' learning in its proud autonomy challenged the Gospel assurance that all things had been made new by the coming of Christ. But eventually Augustine found a congenial way of reshaping neo-Platonism in a Christian mould. His consciousness of personal sin, his emphasis on the necessity of a moral asceticism if the truth is to be attained, his adoption of the revealed word of the Bible (rather than Euclidean geometry) as the ideal of 'true knowledge', led him to a metaphysics which was less objectivist, more dependent on individual moral development, more open to mystic ways of knowing, than that of Plato (and *a fortiori* that of Aristotle) had been. His doctrine of Divine illumination subordinated all human sciences to theology; since all stable knowledge is dependent upon God's light for its attainment, the knowledge best assured is to be found where the Word of God has been most clearly announced. Natural science is

possible and even desirable, since Nature is a sign through which God himself can be discerned.¹ Yet Augustine is at some pains to stress that such science is a snare, a vain curiosity, if it became an end in itself. It must function as a pointer, an auxiliary, unless it be 'strictly demonstrated'; it can be over-ruled by the lightest word of Scripture: 'That which is supported by Divine authority ought to be preferred over that which is conjectured by human infirmity.'²

This theory of knowledge was an ambiguous inheritance, as later Christian ages were to discover. On the one hand, it made of metaphysics a highly-disciplined conceptual undertaking, worlds removed from the misty Manichaean 'cosmic science' whose claims the disillusioned young Augustine had soon found to be fraudulent. On the other hand, its 'illuminist' categories encouraged a quest for the immediate vision of the mystic as a means of short-circuiting the weaknesses of language and proof apparently inherent in all ordinary human knowing. The next eight centuries saw a complex dialectic between the demands of rationality and those of faith, '*fides quaerens intellectum*'. The *fides* of the Hebrew and the early Christian disciple was succeeded by a more self-conscious faith, one which simply *had* to seek an *intellectus*, a self-understanding; the Greek philosophers had done their task too well for the demands of objectivity and conceptual elaboration ever again to be ignored for long in the West. Yet the tensions were great; to provide an adequate epistemology was immensely more difficult for the medieval Christian than it had been for the Greeks. Not only was there the overwhelming fact of Revelation itself to take into account, but also the visionary modes of knowing that were apparently canonized in *Daniel*, *Apocalypse*, and many other parts of the Bible. Respect for these modes did not, of course, entail that theology itself, or *a fortiori*, metaphysics should follow similarly visionary lines. One has only to think of a Pseudo-Dionysius and an Abelard, the allegorical natural 'science' of Chartres and the precise mathematical optics of the Augustinian Chancellor of Oxford, Grosseteste, to be reminded of the diversity that ruled in the speculative thought of those ages.

The revival of the long-forgotten 'natural works' of Aristotle in the early part of the thirteenth century predictably created quite a new situation. The conflict between the upholders of the novel Aristotelian ideas and the defenders of the older Augustinian orthodoxy convulsed the Church for more than a century. The major issue was an epistemological one: it seemed to the Augustinians that the methodology of Aristotelian 'science', as found in the *Physics* and the *Metaphysics* and especially in the *Posterior Analytics*, was basically a rationalist and secularist one which they roundly condemned as 'pagan' because it appeared to withdraw the whole domain of human science from the proper order of dependence upon God's Revelation

¹See my essay 'Augustine', *Dictionary of Scientific Biography*, New York, Vol. 1, 1969.

²*De Genesi ad litteram*, Migne, *Patr. Lat.*, 34, 271.

and special illumination. The 'necessary truths' of the new physics appeared to them to call in question the freedom of the creating God; the cosmos of Aristotle was, in their view, an opaque product of man's overweening pride, not the translucent sign of God it had been for Augustine. Aquinas's attempts to dissipate these suspicions and hostilities were only partly successful; his opponents could (and did) decry his work as rationalist, a 'sciential' metaphysics that failed to take seriously enough the role of faith and grace in bringing man to the truth in questions, not only of theology, but of metaphysics.

The disagreements during the next two centuries between Thomist, Scotist, Augustinian, nominalist, ran so deep that the conventional modern characterization of these schools under a single bland title like 'scholastic philosophy' can seriously mislead. It is even worse to classify all of them together with the Oriental religious thought of that day, Buddhist and Hindu, as 'perennial philosophy', by opposition to the allegedly 'sciential' style of Western metaphysics of a later day. It would be difficult to find a single doctrine they shared in common. The denial of the possibility of a metaphysics was hardly less emphatic among the nominalists of the fourteenth century than it was four hundred years later among the disciples of David Hume. When the Protestant Reformation swept across Europe, the reformers could find close affinities with the nominalists and with the Augustinians, but the tradition which they uncompromisingly rejected was that of Thomas and Aristotle. The Aristotelianizing of Christianity had for Luther been an unforgivable betrayal, an imprisoning of living faith in the unfaith of scientific demonstration.

Let us recall now the first of Dr Ling's two central claims. Around 1450-1500, he says, there was a move away from a 'perennial philosophy' common to the Christian West, a philosophy in which mysticism, religious faith and contemplation played something of the central role they did in classical Buddhist thought; the Protestant reformers he sees as somehow bearing a major responsibility for the direction metaphysics subsequently took towards a self-contained naturalistic system in which mysticism and even religious faith itself were no longer at home. It will, I hope, be clear to the reader at this point why I think that these assertions are simply wrong. (1) There was no common 'perennial philosophy' of this sort in later medieval Europe. Even the Augustinianism of earlier times could not safely be characterized in this way. (2) If one wishes to trace the move from 'mysticism' to 'science' in Western metaphysics, the important dates are the fourth century B.C., the fifth century A.D., the thirteenth century A.D., and the seventeenth century A.D. The sixteenth century, the century of the Reformation, probably has less immediate significance in this respect than has almost any other century between the thirteenth and the present one. (3) If, however, one wished to 'pick sides' at the time of the Reformation and ask who favoured the older Augustinian emphasis on faith and opposed the

'rationalizing' influence of Greek metaphysics, it was assuredly the Lutherans and not the Catholics.¹ But it is not fruitful to seek a new impulse to a 'secularist' metaphysics on the Catholic side either. The Counter-Reformation affirmed the dominance of Thomism. And as for secularism, the earlier secularist disputes of the fourteenth century ought not to be forgotten. Secularism was not just an outgrowth of a new style of metaphysics; its roots were much more complex and much older than this. (4) The final 'de-theologizing' of metaphysics, which Dr Ling deplors, did indeed come about, principally in consequence of the development from 1610 onwards of an autonomous natural science, but this effect of the new science did not become evident until long after Galileo's death, though earlier adumbrated by Bacon and Hobbes.

The Christian understanding of nature

These new developments soon posed a challenge to the entire Christian world view. But to see the relation between that world view and natural science in proper perspective, it is necessary to go back to a much earlier period when the relationship between Christianity and the speculative systematic investigation of nature, far from being one of conflict and mutual distrust, was one of support. I would wish to defend six interrelated claims: (1) Christianity was *one* indispensable element in the formation of the attitude of inquiry that ultimately resulted in natural science as we know it. (2) The Judaeo-Christian attitude towards nature was from the beginning radically different from that of Oriental religions. This difference was significant in encouraging the development of natural science in the West and discouraging it in the East. (3) It would, therefore, be unlikely that a Christian would find in Oriental religion a solution to the human problems raised today by the rapid and extraordinarily successful development of science and science-dependent technology in the West. (4) Indeed, the manifest *success* (in its own terms) of this development already faces Oriental religion with a far more serious challenge than science ever posed to Christianity, with whose general patterns of value and intelligibility it had so much affinity. There is a real and pressing problem as to whether and how the Oriental type of religion can survive in a world dominated by science. (5) The option of repudiating science or even severely limiting its growth is not a genuine human option given the present state of development of culture on a world-wide scale. (6) Consequently, the Christian must look to a future in which science will play an ever-increasing part. His task must be to 'humanize' and 'divinize', to work out a theology of science that will be based, not on Oriental principles (which seem, at bottom, incompatible with a world of expanding technological control and deepened

¹For a good analysis of the contrasting 'rationalist' tendencies of Catholicism and the 'fideist-mystical' tendencies of Lutheranism, see J. H. Randall, *The Role of Knowledge in Western Religion*, Boston, 1958.

theoretical understanding), but on the original Christian 'theology' of nature, which gave science an early encouragement and is presumably better fitted in consequence to provide a framework of evaluation for its future development.

It would take far more space than I have at my disposal here to give even the beginnings of an adequate argument for each of these claims. Taken together, the point they make is admittedly controversial, with ramifications both in the past and the future of Western and Eastern patterns of thought and action. The issue is a desperately important one, and my hope is that these assertions will at least invite reflection on the part of the reader, even if they do not lead him to agree with their general drift.

The early Christians insisted that their God was *creator* of the universe, that is, responsible in every respect for its being. This was a bold doctrine, one that set them off from both Greek philosophy and Oriental religion. It was bold because it appeared to attribute responsibility for evil and for all the manifest defects of human life to God. Both Greek and Oriental thinkers were so profoundly aware of the imperfection of the world that it seemed impious or contradictory to them to attribute it to the work of a good and wise God. The effect of the Christian doctrine was to face Christians with a disturbing problem of evil, now that the easy path of dualism had been refused. But the notion of creation also led to the conviction that the universe is somehow the *sign* of God, that it is intelligible therefore, that it is good through and through, and that it is a worthy object of man's study provided that it serve to turn his mind ultimately to God. Nature was not sacred (as it was for some Oriental religions); it was not the dwelling-place of God nor of spirits. But it *was* God's handiwork, and this alone was enough to suggest that the objective study of nature could be a worthy occupation for the Christian man. The doctrine of the Incarnation, making God enter his creation as a part of it, elevated nature even further. Since God took on the nature of man, and since man somehow assumed all of creation in himself, nature was ennobled not in a way that set it off but in a way which made its understanding seem important. This realization is clear in the work of Augustine, but it only came to full expression in the early Middle Ages, in the school of Chartres for example, or among the great scientists of the thirteenth century, men like Grossteste and Albertus Magnus.

A second facet of the Judaeo-Christian world view that marked it off from the Greek one that preceded it was its emphasis on *labor*, on the transformation of nature to meet human ends. There had been a sharp division between *theoria* (contemplative understanding) and *technē* (technical manipulation) in the Greek world, a division that was reflected in all sorts of ways in the social and economic structures. But the Christian monks were both contemplatives and labourers at once. The monastic ideal (as Lynn White has effectively

brought out in some recent essays¹) was the first in which the goals of contemplation and technology were united as no more than different aspects of the same quest. This radical alteration in the notion of contemplation has been discussed by a series of authors;² it seems to be fairly well agreed that the Christian notion never carried with it (other than in the short-lived and Eastern-inspired Egyptian hermit movement) the overtone of separation from the temporal order, of withdrawal from the responsibilities of the world of change, that characterized the contemplative ideal in both Greek and Oriental thought. *Laborare et orare*, to labour and to pray, would have been an unthinkable motto for a Platonist, but St Benedict made it into an effective reality in the network of monasteries that sprang up under his inspiration from the fifth century onwards. The indispensable (and until quite recently overlooked) contributions of the monastic system to the rapid growth of technology in Europe in the troubled period between A.D. 600 and A.D. 1200 are now coming to be appreciated and emphasized by historians of science.³ There was a definite impetus to technological innovation in those disturbed years, long before the impulse to theoretical innovation was felt.

The reason for this is not far to seek. The central Christian precept of effective love of neighbour gave men the responsibility for *improving* the lot of others, even in this life. The sign of a genuine love of God was a genuine concern for the welfare, both spiritual and temporal, of others. If a man has a sick or hungry child, the way in which Christian love can best be manifested towards him is by curing or feeding his child. Medicine and agriculture immediately become instruments, therefore, for the Christian transformation of the world. It would be too facile to suppose that these far-reaching implications were realized right away. They were not; there was an equally heavy emphasis in early Christian preaching on transcendence, on the final 'other-worldly' destiny of man as making good all the defects of the present order. The dialectic between these two apparently contrary impulses made an adequate Christian theology of the temporal order slow to crystallize; it is only within the past century that the implications of the Christian precept of love have become revolutionary at the point when man has for the first time the capacity to *transform* nature and not merely to utilize it.

As learning was gradually restored in medieval Europe, the sciences of nature predictably received special emphasis. After theology itself, metaphysics and physics were the two major focal points of speculative interest among Christian thinkers. The period of little more than a century separating Grosseteste (A.D. 1200), first Chancellor of Oxford and brilliant pioneer of the science of optics, from Buridan,

¹See for example, his essay, 'What accelerated technical progress in the Western Middle Ages?' in *Scientific Change*, ed. by A. C. Crombie, London, 1963.

²Notably in N. Lobkowitz, *Theory and Practice*, Notre Dame (Ind.), 1967. This is a detailed history of the interaction of these concepts from Aristotle to Marx.

³Lynn White, *loc. cit.* and G. Ladner, 'The impact of Christianity', in *The Transformation of the Roman World*, ed. by L. White, Berkeley, 1966, pp. 59-91.

Chancellor of the University of Paris and creative fashioner of the physics of impetus (A.D. 1350), was by all odds the most productive epoch in the history of the natural sciences between the fourth century B.C. in Greece and the seventeenth century A.D. in Western Europe. The fifteenth century by contrast was a time of relative decline; even the sixteenth century did not live up to the high standards in physics of the Mertonians of Oxford or of the Parisian theorists of impetus. The causes for this decay are controverted and complex.¹ But there can be no doubt that the initial impact of Renaissance humanism on speculative natural science was much more negative than positive. And the theological battles that marked the sixteenth-century Reformation had an even more negative effect in this regard. Isolated non-university thinkers like Cusa, da Vinci, Copernicus, Bruno, were laying fuses to the powder-magazine of the Aristotelian fortress. But the explosion would come only with Galileo, Descartes, Bacon, Boyle after A.D. 1600.

With the 'new' science came all sorts of challenge to the Christian world view. The universe, which had been a translucent 'sign' of God for the medieval physicists, all of a sudden turned dark, as mechanical modes of explanation succeeded teleological ones. Man himself became problematic; there seemed to be little option between the extremes of Hobbes (who saw in man no more than a complicated piece of matter) and Descartes (who withdrew the human spirit from scientific scrutiny entirely). From the point of view of the traditional Christian anthropology, these extremes were both distasteful. With the new emphasis on proof and empirical evidence, the claims of faith seemed disreputable to a growing number of thinkers. The metaphysics of the seventeenth century was not, however, much more 'sciential' than that of Aristotle had been. It was only much later that positivism, the denial of the very possibility of a metaphysics of the classical style (which is what, I think, Dr Ling basically means by his pejorative term 'sciential') became widespread. It would be true, nevertheless, to say that the seventeenth-century developments in physics and physiology helped to make the older Augustinian style (and *a fortiori* the Oriental 'wisdom' approach) psychologically unacceptable to the Western mind. There would be a strong negative reaction to science on the part of Romantic thinkers like Herder and Goethe later on, but their reaction was ultimately unsuccessful, and in no way disturbed natural science from the dominant position it had gained in delimiting for the Western mind the range of acceptable types of metaphysics.

There can be no doubt that Christian ways of thinking about nature, man, and God, played an important part in forming a spiritual climate in which natural science could flourish. In this sense, indeed, it must bear a responsibility for the many grievous

¹I have discussed some of them in 'Aristotelian and Modern Science: continuity or discontinuity?' *Intern. Philos. Quarterly*, 5, 1965, 103-120.

science-induced problems that face man today.¹ How can this responsibility be met? Surely not by limiting the progress of scientific theory or by stopping the technological transformation of Nature. The understanding of God's universe is still as desirable a goal today as it was in the time of Augustine. And the demands of effective Christian love, in a world where hunger and disease still threaten uncounted millions, surely ought to convince us, as it convinced Benedict's monks, of the importance of technology. The need today is to make a new earth, in the Johannine phrase dear to Teilhardian and Marxist alike. It can be built only by channelling science in a properly 'human' direction, not by damming it up entirely. There can be no deliberate return to 'simpler' days, though a dreadful forced return to them may be brought upon us one day if human maturity does not catch up on man's new capacity to destroy in an instant all that man has ever made. What we need, then, is a theology of the temporal order that will once again make it transparent as it was to the Augustinian of old, but in a quite different way. The obstacles in the way of this are awesome ones, but no more awesome than those faced by the early Christian theologians of the fourth century when they tried to make sense of their faith in a world dominated by the canons of rationality of Greek philosophy.

Does Christianity hold within it the resources for developing such a theology of the world? I would argue that it does, chiefly on the grounds that Western science is, after all, in some sense its own child. The analogy is a limping one, because we are speaking of filiations of idea and value, rather than of gene and upbringing. But one thing is clear. Christian thinkers as diverse as A. N. Whitehead and Teilhard de Chardin have opened up in recent years exciting glimpses of what a temporal order built on human love and theoretical science might be like, and how such an order could open man's vision toward God.

The situation in the East is much less clear, much less hopeful. I have argued above that it may well have been the *differences* between Western and Eastern attitudes towards Nature that fostered theoretical natural science in the West and hindered its development in the East. It is notable that despite the sophistication of technological discoveries at an early period in China, no autonomous theoretical science of nature (comparable with, say, medieval mechanics) ever developed there. China today is in a spiritual turmoil of an intensity unparalleled in its long and not especially peaceful history. The successive upheavals due to the imposition of the Western doctrine of Marxism on a society whose most basic cultural and spiritual ideals were violated by it, have led to the truly extraordinary situation of a 'Cultural Revolution' in which giant forces strain at one another far beneath the surface, and even the

¹Because of the destructive potential that twentieth-century science has manifested, Lynn White would see in Christianity's responsibility for aiding the original development of theoretical science, if not a cause for grieving, at least no cause whatever for self-congratulation. See 'The historical roots of our ecologic crisis', *Science*, 155, 1977, 1203-7.

most astute Sinologist is at a loss to know what is *really* going on. Marxism is a this-worldly activist ideology which aims to transform history, not to transcend it. It finds its deepest roots in the Judaeo-Christian tradition itself, with the balance swung away from transcendence, and a corresponding secularization of the virtues of faith, hope, and love. It aims to transform the lot of man by using science and technology to produce an earthly Utopia, in which only the worker will have right of citizenship.

It is hardly necessary to stress how remote all this is from the traditional Chinese conceptions of man, of Nature, of time, of contemplation.¹ No wonder there has been such a violent attempt on the part of the Communist leaders to destroy the past, to set youth against age, peasant against bureaucrat. There could be no smooth transition, even over a long period, from the China of the past to that of Chairman Mao. Can Chinese religious beliefs meet the shock? It is much too early yet to answer with any assurance. The history of the last century in Japan (admittedly a very different sort of nation, culturally, than China to begin with) does not give much ground for confidence. Even in a country like India, which has been following a much more peaceable road to scientific socialism, there are disturbing signs of an almost irreconcilable tension between 'scientific' modes of thought and the religious doctrines of traditional Hinduism.² There does not seem to have been enough ground within Oriental religion to support critical technologically-oriented thought, without radically transforming its own theological basis. And the shock came so suddenly, the period allowed for assimilation has been so short, that the tendency has been rather to secularism than to a renewed new religious form.

But the outcome of these cataclysmal changes cannot be predicted. It would be a hardy prophet, indeed, who would venture to say what the religious scene will look like in China or India in a century's time. My aim here has been a much more modest one: simply to maintain that faced as we are in the West with a powerful science, at once a threat and a promise to man and to Nature, we would do well to look a bit more closely at our *own* religious traditions to see how we may best shape a world view in which a free man may still see beyond and through the Nature he has transformed to the God who is its Author.

¹Generalizations like this are of course risky, since the intellectual history of China has been such a rich and complex one. There were schools of thought in ancient China (like the Mohist one in the fourth century B.C.) which were much more akin to Western activism. But I have been speaking here of the prevailing Confucian and neo-Confucian passivist tradition, rooted originally in the fixed agricultural patterns of the Bronze Age and later incorporating Buddhist and Taoist ideas. See Joseph Needham's magisterial work, *Science and Civilization in China*, five volumes of which have now appeared (Cambridge, 1954—).

²See F. S. C. Northrop, *The Meeting of East and West*, New York, 1946.