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KNOWLEDGE AND THE GOOD IN PLATO'S REPUBLIC

BY
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OXFORD UNIVERSITY PRESS
LONDON: GEOFFREY CUMBERLEGE
1948

Oxford University Press, Amen House, London E.C. 4

EDINBURGH GLASGOW NEW YORK TORONTO MELBOURNE
WELLINGTON BOMBAY CALCUTTA MADRAS CAPE TOWN

Geoffrey Cumberlege, Publisher to the University

PRINTED IN GREAT BRITAIN

EDITOR'S PREFACE

THIS short study was written in September 1925 as part of the course of lectures on Plato's *Republic* which the author delivered in the University of Oxford. He would probably not himself have published it in this form since its style, as the reader will find, is very much that of the lecture. But the Platonic doctrine which it is concerned to expound was considered by him to be of very great philosophical importance, and yet was not the subject of any of the essays on Plato which he published in his lifetime.

I have divided the work into chapters and chosen titles for the chapters and for the book, but apart from a few minor verbal alterations which were obviously necessary, the text is as the author wrote it.

I am much indebted to Sir David Ross and to Mr. C. H. Salter, Scholar of New College, for their assistance in correcting the proofs.

H. L. A. HART

NEW COLLEGE, OXFORD
October 1947.

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CHAPTER I

THE PHILOSOPHIC EDUCATION AND THE GOOD

IN Book VI of the Republic, Plato leaves the defence of the great paradox that philosophers should be kings. It is agreed that knowledge or wisdom is the real qualification of a ruler—not any knowledge, but the knowledge of what is real or true which indeed is alone properly deserving of the name; and it is those whose life is absorbed in the pursuit of this knowledge and whose gifts fit them to pursue it, whom we should make rulers. And these are what Plato calls philosophers. The prejudice against philosophers is directed against men who masquerade under the name, but are not of the nature which Plato describes. It is an intelligible prejudice, because there are very few genuine philosophers, and men can only form their notion of philosophy from the miscalled counterfeit. Why there are so few has also been explained. And we must try to devise a remedy (502 c).

The passage which follows, from here to the end of Book VII, may be said therefore to contain a sketch of what Plato thought that a philosophic—i.e. the highest—education should be. It has been suggested[1] by Burnet that it gives us the programme of the Academy itself. It was Plato's ambition, I think, to train statesmen. In a sense he continued the work of the Sophists. They had promised to fit men for public life and the conduct of affairs of State. Isocrates undertook the same task. That the Sophists knew how to do it, Plato would never admit. How could they, as he asks in the *Gorgias*, if they did not know what was just, or if they thought (as in the *Theaetetus* he maintains that Protagoras' doctrine meant) that to be true for every man which to him seems so? Yet he had faith that it could be done.

At the same time the passage deepens and enlarges the conception of philosophy itself. For philosophy is not a thing, the nature of which can first be described, and then

[1] *Platonism*, pp. 101–2 (Berkeley: University of California Press).

the means of attaining it indicated. The process of attaining it is not external to it, nor can we understand it without understanding the road to it. And indeed it is only by ourselves travelling the road that we can understand it; just as the conclusion of an argument is not really known, without the premisses which are said to lead to it, and to know them in turn is not to believe them on report but to understand them. For, as Plato goes on to say, what is most real is the object of thought, and not of sight. Visible things may be put together for us by another, and given us to see. But the object of thought can be 'seen' only by thinking it oneself. Only the process of reaching it can present it to us reached. The road and the goal are distinguishable, but not separable. There are many who are incapable of travelling that road; for them, life has other tasks. There may be a divine intelligence, which is eternally at the goal, and does not need to follow the stages of man's travel to it. But those men who are capable of penetrating to the nature of things cannot do it by a leap, nor be shown it from the top of Pisgah. They must make the journey if they are to know what lies at the end of it.

For this reason, there is much in the present passage which is tentative and obscure. For though the road is to be pointed out, we are not now to be taken along it; and perhaps Plato did not think he had yet travelled it to the end himself. He knows what it is of which he is in search, viz. the Good; and yet he is not prepared to state its nature. 'Every soul', he says, 'pursues it, and all her actions are for the sake of it, for she divines that there is such a thing; yet she is in perplexity and cannot find out assuredly what it is, nor use any firm evidence as about other things, and loses therefore what advantage there may be from them' (505 D–E). It is ignorance of this which is the source of our troubles; knowledge of this which the best men in the State, to whom everything is to be entrusted, must have. And yet when Socrates is asked to state its nature, he draws back. 'I wish', he says, 'that I

could give and you receive the account of it' (507 A). But he gives only an analogue.

On what Plato meant by holding that the Good is the supreme object of knowledge Nettleship has excellent things to say in § x of his *Lectures* (pp. 212 sqq.). He calls attention to the light which the passage 502 C–504 E throws on the connexion between the earlier exposition in Books II–IV and the middle books. 'The principle upon which the original rulers were selected was that the best man to guard anything is the man who loves it most' (p. 215). Evil, thought Plato, is that which is really most to be feared: and Good that which is really most to be loved. What a man most loves, that he seeks to get and to maintain; and we said before that the ruler must be one who loves the State (503 A), who thinks its good his good. Men should therefore be tested in this devotion, and none be put in office who do not hold fast to it in all trials. But there was another sort of test which we did not at first venture to impose—an intellectual test. We had not then ventured to insist that rulers must be philosophers: and the qualities now to be insisted on are not easily nor often combined with those insisted on before. This opinion recurs in the *Theaetetus*, in the description which Theodorus there gives of Theaetetus (144):

I may freely say that in all my acquaintance, which is very large, I never knew anyone who was his equal in natural gifts: for he has a quickness of apprehension which is almost unrivalled, and he is exceedingly gentle, and also the most courageous of men; there is a union of qualities in him such as I have never seen in any other, and should scarcely have thought possible; for those who, like him, have quick and ready and retentive wits, have generally also quick tempers (*καὶ πρὸς τὰς ὀργὰς ὀξύρροποί εἰσιν*); they are ships without ballast, and go darting about, and grow mad rather than courageous; and the steadier sort, when they have to face study, are stupid and cannot remember. Whereas he moves surely and smoothly and successfully in the path of knowledge and enquiry; he is full of gentleness, and flows on silently like a river of oil; it is wonderful at his age (Jowett).

Yet it is the supremacy of the philosophic element, in Plato's view, which is the source both of that more dog-like devotion which was all he looked for in Book III, and of the fully intelligent guardianship which he here aspires to. As Nettleship says, the conception of the philosophic element in the soul which binds together the different things said about the philosophic nature from Book II to Book IX is of

> that which makes the soul go out of itself under the attraction of something that is familiar to it and akin to it, and in union with which it finds satisfaction. In all its various senses the philosophic element in man is the attraction to what is like oneself and yet outside oneself, whether it be attraction to other people, or attraction to beautiful things in art or nature, or attraction to truth. In these different things Plato seems to see the more and less developed stages of a single impulse in the soul, the highest stage being that in which the soul goes out not only to human beings, nor only to what is attractive through being beautiful, but to the truth of the world about it, in understanding which the soul finds a satisfaction of the same nature as that which it finds in union with its fellow men (p. 213).

I would add that only in understanding that, does it lay to rest its doubts about the goodness of that in which it had previously sought satisfaction.

Plato then reminds us in 503 C of the gifts and qualities needed of those who are to be guardians in the most perfect sense—*ἀκριβέστατοι φύλακες*; the members of the guardian class must be exercised in many branches of learning if we are to discover who can bear without flinching the burden of the greatest—the *μέγιστα μαθήματα*. The studies to be used for this exercise are indicated in Book VII. Here he gives us what inkling he can of the *μέγιστον μάθημα*.

Plato tells us that the course of study now to be prescribed (which presumably he endeavoured to carry out in the Academy) is that *μακροτέρα καὶ πλείων ὁδός* spoken of already in IV. 435 D, when the constitution of the soul was to be discussed. There Socrates said to Glaucon, that whether the soul has three kinds in it or not was a matter not to be

accurately known by way of the arguments in their present discourse, ἐκ τοιούτων μεθόδων οἵαις νῦν ἐν τοῖς λόγοις χρώμεθα. This does not mean that a later part of the dialogue will supply what is lacking; the νῦν ἐν τοῖς λόγοις must cover the whole conversation. But the *Republic*, if it gives a programme of the studies in the Academy, and an indication of their principles and purpose, might naturally say that these principles can only be fully justified to those who will submit to the discipline of its studies. What, however—we may ask—will be changed in our conception of the soul by those more accurate investigations, and where was our method in Book IV defective? Taylor,[1] so far as I understand, thinks that Socrates does not explain there how

> in the man who achieves his eternal salvation, the elements of 'mettle' and 'concupiscence' are, so to say, transubstantiated, swallowed up in intellect; and therefore we must take the doctrine of the tripartite soul, which Posidonius held to be Pythagorean, as no more than a working account of 'active principles' or 'springs of action', which sufficiently describes the leading types of 'goodness', as goodness can be exhibited in any form short of the highest.

I should think Plato held it more than that; whether he took over the doctrine from Pythagoreans does not much matter; Wilamowitz (*Plato*, i. 391 n.) sees in the distinction of the powers of the soul, not yet worked out fully in the *Phaedo*, a great step forward, and holds the discovery to have been later fathered on Pythagoras in forgeries which borrowed from Plato and imposed on Posidonius. But Plato seems to me to have held it true, though not accurately understood in the way of exposition given in Book IV. The defect there is perhaps this: that the existence of the three εἴδη was only shown regressively, by appeal to its effects in various contrarieties of attitude appearing in the soul. These spring principally from the presence in it at once of what is rational and what is not: which are called in *Timaeus* 69 c ἀρχὴν

[1] *Plato: The Man and his Work*, 4th ed., p. 282, n. 1.

ψυχῆς ἀθάνατον and ἄλλο εἶδος τὸ θνητόν respectively. How they can be combined is clearly a question not to be solved without understanding the relation of what is eternal and intelligible with what is transitory and sensible in the universe generally. That is really the task of the μακροτέρα περίοδος now to be sketched; and therefore we might expect better to understand the τριττὰ εἴδη ψυχῆς and the excellences or virtues of which they and it are capable, when we have taken this journey. Then we might see its true nature, τὴν ἀληθῆ φύσιν, εἴτε πολυειδὴς εἴτε μονοειδής, εἴτε ὅπῃ ἔχει καὶ ὅπως (as Socrates puts it in X. 612 A); but as it is, he adds there, we have sufficiently described its affections and forms in human life.

But there is another respect in which our present discussion is inadequate, and nothing short of the long studies now to be prescribed will serve. We have been asking whether justice is in itself profitable; and it was agreed in Book IV to be in the soul what health is in the body, so that it seemed absurd to question whether it were profitable to be just. I do not think we need here take the profit to be something lying as it were beyond the practice of justice, separable from and additional to it: as a profit of 10 per cent. is additional to the capital on which it is made; though we shall find Plato not free from this way of regarding it in Book IX. But here the question is whether justice is in itself good. Now that issue is fundamental, for Plato was not content, as some are, to say that if we *ought* to act justly, no further question arises: that to ask for assurance that our good lies in doing our duty is superfluous, not because it plainly lies there, but because our obligation is plain, whether it lies there or not.[1] Every soul, he says, seeks good and acts to get it, divining it to be, without knowing what it is (505 D); and unless men are satisfied that justice is good, they are not likely to guard themselves from neglect of it. But though men are ready enough to call

[1] Cf. H. A. Prichard, 'Does Moral Philosophy Rest on a Mistake?', *Mind*, N.S., vol. xxi (1912), p. 21.

things good—and not all of them the same things—they are not ready to explain what that being good which they ascribe to them is. Now if you do not know what it is to be a College, you will make mistakes in what you call Colleges; you will think institutions to be Colleges which are not; and so with good. It is true that (as we shall see) good is something far otherwise related to particulars of which it can be predicated than being a College is. But till we know and can show this —and till we know what it is—we shall be in danger of misjudgements. It is clear then that there is a subject of study which we have not yet attempted, and one of chief importance, if all men act for the sake of good: a *μέγιστον μάθημα* then.

CHAPTER II

THE IDENTIFICATION OF THE GOOD WITH PLEASURE AND WITH THOUGHT

WHAT the Good is Plato does not profess to tell us rightly now, but only indicates by comparisons and in a figure the place which a knowledge of it must hold in a complete system of knowledge. Some positive understanding of what is meant by good we should be able to gain this way; but he first refers to two doctrines which must be rejected. These are that the good is pleasure, and that it is thought, or thinking, φρόνησις. The same views are discussed and again rejected in the *Philebus*. That dialogue begins with a statement of them (11 B). 'Philebus says that every animal enjoyment, pleasure, and delight, and everything of that sort, is good. We traverse this, and maintain that wisdom, thinking, memory, right opinion, true reasoning are better and of more worth than pleasure to everyone capable of them; and that they are of all things of most worth to those now living, or who shall live hereafter, if only men have capacity for them.' But neither of them, pleasure nor thought, thus confronted in their claims at the outset, is allowed to be itself the good of man at the close of the dialogue: which does not raise the question of a good more comprehensive than the good of man. It was held by Zeller that the reference in the *Republic* to views discussed at so much greater length in the *Philebus* showed the *Philebus* to be the earlier dialogue, and referred to here. No one would date them so now, since the investigations into style, but neither is any such reference needed. For the two views were held both outside the Academy, and, as Taylor shows reason for thinking,[1] within it. The Cyrenaics held[2] that the end (τέλος) was always some particular pleasure; and Aristippus said pleasure was good even if arising from

[1] Op. cit. 409.
[2] Diogenes Laertius, ii. 87, R.P.[9] 266.

what is most unseemly;[1] for though the act may be improper, ἄτοπος, out of place, the pleasure arising from it is good and to be chosen: a good man (σπουδαῖος), however, will have regard to penalties and reputation; thought is good, but to be chosen for its results, not for itself. Euclides of Megara, on the other hand, declared that the good, though called by many names, was really one: it was called sometimes God, and sometimes thought (φρόνησις), and sometimes intelligence (νοῦς),[2] and so forth. Adam[3] refers also to the saying recorded of Antisthenes: τεῖχος ἀσφαλέστατον φρόνησιν,[4] and to Xenophon (*Mem.* iv. 5–6), where σοφία is said to be μέγιστον ἀγαθόν; and he thinks Plato is here criticizing or supplementing the view of Socrates, and even perhaps his own earlier view. The advocates of these views in the Academy, when the *Philebus* was written, after 367 B.C. and many years after the *Republic*, if Taylor is right, were Eudoxus and Speusippus respectively. It is not necessary to suppose that in the *Republic* there is any attempt to settle a controversy within the school, which according to the usual view was but just established; but if in the *Philebus* Plato is (as Taylor says) determining a *quaestio disputata*, like a 'moderator' in the schools of the middle ages, though he does so through the mouth of Socrates, I see no reason to think that in the *Republic* he was not equally discussing, through the mouth of Socrates, questions living in his own day, and expounding his own doctrine. It is not sufficient answer to this to point out that Socrates again takes the leading place in the *Philebus*, for the first time in any dialogue since the *Theaetetus*, because the subject-matter of the *Philebus* is one which Plato always represents to have been Socrates' own chief interest; his interest in ethical problems no one disputes; and the reason why in the *Philebus* we meet the Pythagorean antithesis of πέρας and ἄπειρον rather than what Aristotle says

[1] Diogenes Laertius, ii. 88, R.P.[9] 270.
[2] Ibid., ii. 106, R.P.[9] 290.
[3] *Republic of Plato*, ii. 523.
[4] Diogenes Laertius, vi. 13, R.P.[9] 282.

was the Platonic substitute *τὸ ἕν* and *τὸ μέγα καὶ τὸ μικρόν*, may be that the first is more suitable to Socrates as speaker.[1] Yet it remains that what is discussed by the mouth of Socrates is a question still alive for Plato.

Here, as in the *Philebus*, Plato seems to regard those who hold pleasure to be the good as farther from the truth than those who identify it with knowledge. His reasons for dissenting from them are more fully developed in Book IX. He is content at present to say that even its supporters admit some pleasures to be bad. One may suggest one reason in particular, connected with the argument of these books, for refusing this identification of good and pleasure. If we consider mere pleasure, in abstraction from all the apprehended features of what is found pleasant (and unless we do this, we have no right to say that it is the pleasure rather than the other features of what is pleasant that makes it good), we find that it is just feeling, of a certain sort, variable in intensity, and in its intensest forms least accompanied by any exercise of understanding or intelligence. The experience of the good would not then guarantee itself by the fact that we at the same time understood the goodness of it—which is what Plato wants. Nor would it be easy to find the key to an understanding of the universe in its goodness. For the system and harmony in it, and all that our efforts to understand it discover, seem to have little connexion with mere intensity of feeling, of which beasts may be as capable as men.[2] That the good is knowledge, or *φρόνησις*, Plato regarded also as an unsatisfactory doctrine; to know, or think, is good, but only if the object of your thought or knowledge is so. *ἢ οἴει τι πλέον εἶναι . . . πάντα τἆλλα φρονεῖν ἄνευ τοῦ ἀγαθοῦ, καλὸν δὲ καὶ ἀγαθὸν μηδὲν φρονεῖν* (505 B). Something similar is said by Aristotle.[3] He describes the divine life as pure intelligence; but it must be intelligence of what is best, *ἡ νόησις ἡ καθ' αὑτὴν τοῦ καθ' αὑτὸ ἀρίστου, καὶ ἡ μάλιστα τοῦ μάλιστα*.[4] There

[1] Taylor, op. cit., p. 408.
[2] Cf. Ross, *The Right and the Good*, p. 149.
[3] *Met. Λ.* vii. 1072[b] 18.
[4] Cf. Ross, *The Right and the Good*, p. 148.

is, however, in Aristotle's theory something we do not find in the *Republic*. Plato, as we shall see, seems to treat the Good as capable indeed of being known, and in fact the only object of complete knowledge; but also as there to be known, independently of the knowledge. At least he does not preclude this interpretation, though in the *Laws*, where Soul rather than the Ideas appears to be the most real of all things, he has perhaps passed beyond it. And Aristotle would have certainly rejected it, for he makes God, who is the supreme reality, the object of his own thought, so that there is no Good distinguishable from the intelligence which contemplates the Good. The ultimate separation of mind from reality, and the ascription of Goodness to this rather than to that, are not consistent with Idealism.

But though the Good is not knowledge or thought, and Plato rightly refuses to treat thought (in the way in which Professor G. E. Moore would treat Consciousness[1]) as indifferent to the variety of its objects, and the same while they shift —for the activity of thinking differs as its objects differ— yet the Good is akin to thought or knowledge, in that it is grasped thereby. If the universe is to be known to be good, its goodness must be intelligible, an idea and not a mere quality of feeling.

A mistake the same in principle with that which Plato imputes to those who identify *ἀγαθόν* and *φρόνησις* is sometimes made to-day, when we are bidden to find something good and admirable in the conformity to law displayed by the physical world. The intricate and varied detail in plants and animals, its connexion with the succession of the seasons, the whole stupendous procession of cosmic change, may all depend on comparatively few and simple laws. But it is only if the detailed result in which these laws are exhibited is good, that the laws can be called so. Mere conformity to law in the production of results, without regard to the nature of the results produced, is not good.

[1] *Principia Ethica*, p. 28.

And we should bear this in mind in trying to understand Plato's teleology. Nettleship, in the § x I have already referred to, does not bring this out.[1] The teleological view, he says, 'simply consists in seeing everywhere a certain function to be exercised, a certain work to be done, a certain end or good to be worked out.' 'The Good of anything is to be or do what it is meant to be or do.' 'To put the matter in a summary way: the word "good" means that which anything is meant to do or to be.' 'A man's life is morally good in proportion as it exhibits purpose, and not merely purpose, but a purpose going beyond himself.' All this identification of end and good ignores the question whether there may not be bad ends. No doubt we often use the word 'good' of that which fulfils its purpose, without regard to the nature of the purpose; Charles Peace may be a good burglar. But just as knowledge is not good because good is the proper object of knowledge, so neither is the end of a purposive activity good because good is the proper end of purposive activity. At least it must be shown, on the one hand, that only the good is completely intelligible, and therefore knowledge in the full sense can have no other object; and on the other hand, that only the good can be the object of rational purpose—i.e. of purpose in which there is no self-contradiction—and therefore purposive activity in the full sense can have no other object. Nettleship does not bring this out: but it is, I think, part of Plato's meaning.

Cf. pp. 222–8.

CHAPTER III

THE RELATION OF THE GOOD TO OTHER OBJECTS. THE SUN, THE LINE, AND THE CAVE

THE main positive teaching of Plato regarding the Good is of great importance to an understanding of his thought generally, and is contained in the passage 506 D–509 C, but the interpretation of it cannot be separated from that of the whole passage to the end of Book VII, and much controversy besets many sections in this passage. The general position is clear. The Good is the *μέγιστον μάθημα*, to a knowledge of which the rulers of the city must attain, if they are to know the true nature of their task and carry it out. We must therefore devise an education which will bring them to that knowledge; but as it is only by way of such education that it can be reached, the knowledge cannot be imparted to us now. All that is now possible is to indicate the relation of this to other objects of knowledge, and make us understand how and why the knowledge of it is so central and important, and why the education prescribed may be expected to help to the attainment of that knowledge. In pursuance of this undertaking, Plato offers us first a simile, in which the plan and function of the Good among other objects of knowledge is compared to that of the sun, its visible offspring, among other objects of sight (506 D–509 C). Then (509 D–511 E) he sets out diagrammatically, by help of a line divided in certain proportions, the relations of clearness and obscurity between different levels of understanding; and between their objects. Then at the beginning of Book VII (515 A–520 A), he offers us an allegory to depict the present state of men, whom he compares to prisoners in a cavern underground, and to contrast it with that of those whom education has rescued and brought to an apprehension of the real; and then proceeds to sketch the sort of education by which such a rescue may be effected. The divisions I have given are not sharp; later sections take

up again points in those before them. And the view you may take of the meaning of each section—the Simile of the Sun, or the Line, or the Cave—will depend on the view you take of the others. On many points that will arise, it is, I think, impossible to have a very definite opinion, though one may indicate the issues, and one's own inclination.

The Simile of the Sun, however, taken by itself, is, I think, not difficult to understand. Socrates cannot, he says, show us the good, but he will show us its offspring, which is most like to it. He recalls us to the old distinction between the many things of various kinds, and the kinds themselves or ἰδέαι; the first are objects of sight, the second of understanding. He goes on to say that there is the same distinction between the one form and the many sensibles in the objects of other senses, but does not here at any rate substitute for the contrast between νοητά and ὁρατά one between νοητά and αἰσθητά generally. On the contrary, he draws particular attention to a difference between sight and other senses which is of great importance for his Simile. In order that you may hear me, nothing more is needed than speech on my side, and hearing on yours; but in order that you may see me, it is not enough that there should be the visible surface of me on one side, and sight on yours: a third thing, light, is needed, if colours are to be seen; and the source of it is a god, the sun in heaven, whose light makes us see most clearly, and makes the seen clearly seen. Now of the sun in relation to sight we may say these things: (1) it is neither sight, nor the eye in which sight is found; (2) the eye, however, of all organs of sense is most akin to it, and gets thence its power; (3) being the cause of sight, it not only makes other things visible, but itself also; (4) it is the cause not only of things being seen, but of their generation, growth, and nourishment, though no more itself generation than it is sight. And what the sun is in the visible world, that the Good, or Form of Good, is in relation to intelligible things and to intelligence. As one is the source of light, so is the other of truth, and we may say:

(1) that it is not knowledge, nor yet (I suppose Plato would add) the intelligence in which knowledge is found; (2) yet truth and knowledge are of all things most akin to the good; (3) being the cause of knowledge, it makes not only other forms but itself known; (4) not only is it the cause of their being known, but of their being, though no more to be identified with being than with knowledge. So, as the eye sees clearly that on which the light of the sun shines, but blinks dimly in the presence of that on which only the lights of night are shining, the soul also understands that which is illuminated by truth, but has only dim and shifting opinion of that which becomes and perishes; and as the sun is the noblest member of the visible world, so is the Good supreme in dignity and power in the intelligible. And Plato adds in VII. 518 E that as you cannot put sight into a man, but only turn his eyes to the light that he may see, so understanding, *ἡ τοῦ φρονῆσαι ἀρετή*, is something which cannot be produced in a man by education and training, like other virtues which we call virtues of the soul, but which are almost like bodily excellences; its nature is more godlike, and it cannot lose its power, but by being turned to the good can be made helpful instead of mischievous.

Clearly here Plato's main purpose is to illustrate, by the Simile of the Sun's Light, and what it does for the growth of things in the visible world and the seeing of them, that which the Good does for the being of objects in the intelligible world and the understanding of them: so that if he had spoken of the sensible world, and considered other senses than seeing, the illustration could not have proceeded; and although in 508 D it is the world of generation and decay, *τὸ γιγνόμενον καὶ ἀπολλύμενον*, that is contrasted with the intelligible world, as what we dimly see under the stars is with what we see by daylight, this is mentioned as something belonging to what is symbolized, and not to the symbol. The point is of some importance in connexion with questions about the interpretation of the Line.

It must be admitted that when we press the analogy between symbol and symbolized, difficulties appear. Knowledge and truth apparently correspond with sight and light; but truth can hardly mediate between knowledge and reality as light is conceived to mediate between sight and colour. Nor does Plato's conception of the function of light as an intermediary bear investigation. But the analogy serves very well, nevertheless, to indicate to us the part which the Good plays in the universe and in our knowledge of it.

There is a well-known passage in the *Phaedo* (96 A–99 D), to which Leibniz more than once refers with admiration, where Socrates describes his discontent with the explanations of the φυσιολόγοι, and the causes they assigned for things, and tells with what excitement he first heard that Anaxagoras had declared mind (νοῦς) to be the cause of things. If that were so, says Socrates, a man seeking to explain the generation or destruction or the being of anything, should show how it is best for it so to be or change; about everything the proper subject of inquiry is what is best—τὸ ἄριστον καὶ τὸ βέλτιστον. But great was his disappointment, when on reading the book he found none but physical causes assigned after all (for the νοῦς of Anaxagoras was a very subtle matter which penetrated between the parts of grosser bodies and so disposed them), as if the reason why Socrates was sitting talking in prison, instead of being off to Megara or Boeotia, were to be found in his bones and sinews, and not in the fact that it had seemed best to the Athenians to condemn him, and to him to obey their sentence. These physical facts may be a *sine qua non*, ἄνευ οὗ τὸ αἴτιον οὐκ ἄν ποτ' εἴη αἴτιον. But the true cause, he was convinced, was the Good. And most gladly would he learn from anyone of this; but since he could neither discover for himself, nor learn of others, how it works, he had adopted as second best another line of explanation, through Ideas, which he goes on to describe.

What Socrates in the *Phaedo* says he could not work out, the explanation of things through the Good, is what here he

points to as the goal of philosophic education, and believes to be achievable, only that here nothing is said of an intelligence working: for he is not considering generation. And the distinction between explanation through the Good and explanation through Ideas corresponds with the unique position here assigned to the Good, although it is now called ἡ ἰδέα τοῦ ἀγαθοῦ. We may consider separately what is said of it as a source of intelligibility and understanding, and as a source of being in the objects of understanding.

That in some sense to know things is to know them through their causes is admitted by all who do not reject the notion of cause. The sciences attempt to satisfy men's desire to know, by showing how the existence of one thing is connected with the previous or simultaneous existence of others, and one event happens because others have happened before, the same general laws or principles of action being exhibited throughout. In this way coherence and some degree of unity are introduced into our view of the world. But it is a commonplace that this method of explanation falls short of its goal. It leaves us with an unexplained residuum: something which, if granted, makes the rest intelligible, but for whose own being no reason can be assigned. The ultimate, as opposed to the derivative, laws of nature are such a residuum. So are the material constituents of the world, for though we may reduce the multiplicity of the elements to protons and electrons diversely arranged, these at any rate we must accept as we find them; they are, in Bacon's phrase, *res positiva et surda*, and, for all we can see, might have been otherwise. Mill again has pointed out that what he calls the original collocations of matter are in like case. The solar system may be explained on the nebular hypothesis, but why was all that matter aggregated once in such a way that a solar system must arise from it? Herbert Spencer offered the instability of the homogeneous as a reason why the nebula should pass into this differentiated arrangement; but if the nebula was homogeneous (and of course it was not) it is as

much a brute fact that there was a homogeneous as that there should be a heterogeneous aggregate. Even mathematics, though free from the infinite regress of efficient causes that perplexes us in the physical sciences, and having no facts which we think might have been otherwise, may leave us asking why there should be such things as space and time or the number-series at all. At this stage of the problem, when things have been so far explained that, given certain starting-points, the rest appears coherent with itself and them, but no reason can be given why the starting-points are as we find them, the mind, as Bacon says, *ad ulteriora tendens, ad proximiora recidit.* It suggests an explanation through the end or final cause, as we explain our own actions. (It is true that Bacon thought this improper in science: the final cause, *tanquam virgo consecrata deo nihil parit.*) And this is in principle the same as finding the cause of things in intelligence or *νοῦς*, as Plato in the *Phaedo* indicates. For it is of the nature of intelligence to act purposively, whereas in a mechanical system changes occur as a result of what has preceded, without any reference to what may come. But the purposive action of an intelligent being is, in Plato's view, directed to what is Good; no such being would intentionally produce evil, and to produce it without intending argues defect either of power or intelligence. But here we are dealing with the uncreated. The reason for the existence of the whole then is to be sought in the fact that it is good. Now we think of such 'final causality' generally in connexion with a process in time, where the goodness of what is to follow is the ground for bringing into being the preceding means. But Plato thinks of it also in connexion with what is eternal. The goodness of the whole explains the detail of the parts. We may come back to this point in a moment; it is what he means by saying that the Good is the cause of being to all that is intelligible. But first we may consider how the fact of its goodness may be taken to render anything intelligible; and this is, of course, at the same time to say that the appre-

hension of that goodness gives us knowledge, or makes us understand. If we find anything evil, or indifferent and worthless, we ask why it should be, as we do not ask about what is good. The same reason in man which rebels against contradiction rebels against evil; and does not find intelligible what is evil, any more than what is contradictory. Coherence by itself is not enough. This is why we speak of the 'problem of evil': we should not speak correspondingly of a problem of good. In that we acquiesce and are content; but for what is evil we seek a reason why it is not otherwise. In this way ethical and metaphysical issues run together.

But it is important to understand the peculiar character of this predicate, Good. Its goodness, we may say, is not a quality of that which is good, but the whole essence or being of it. If honey is sweet, the sweetness is the same in each drop of the honey, and the nature of sweetness can be learnt by tasting any drop. But the goodness of what is good is not the same in each part or detail of what is good, for all the details are necessary to its presence, and if any were altered, this goodness would not be present, though some other character, not of perfect goodness, might be present instead. In the myth of Genesis, God saw the world that it was good; and it was because of what he had created in it. He could not have created the same things, but made it evil. There are other characters which in the same way are unitary, or belong to the unity which is constituted of many parts, without being a common quality of the parts. The genius of Napoleon, for example, is not anything of which we can conceive his nature deprived, yet remaining otherwise the same. But the best example is furnished by what is beautiful. The beauty of a beautiful thing—poem, or piece of music, or building—is one, but not as the colour of the sky is one when it is blue. It is not to be found in any part separately, nor in all of them together as an aggregate, but as they make a unity. That it should be there, the parts must be different from one another, having severally their own qualities; but those qualities are

not instances of the beauty in the whole, as the blue of the sky in the zenith is an instance of the colour pervading it. And if you ask what makes the poem beautiful, what can you do but recite the poem? There is nothing in it which does not help to make it beautiful, supposing it to be a perfect poem.

We try indeed to find general conditions common to the structure of all beautiful things, or to all of some one genus. But even if we were successful, they are insufficient to account for the beauty of any; since each beautiful thing has a distinct beauty. This detachment as it were of one beautiful thing from another is (as Collingwood pointed out in his *Speculum Mentis*, although he would not claim it for his own discovery) one of their most characteristic marks. Each act of aesthetic appreciation is new; they do not form a genuine whole. Nevertheless Plato speaks of beauty as if it were a single form, *αὐτὸ τὸ καλόν* (Collingwood indeed denies that *κάλλος* means beauty[1]). He may have thought that though particular beautiful things differed *qua* beautiful (as he points out in *Philebus* 12 E that colours differ *qua* colour, at the same time that they are the same *qua* colour) yet it was possible theoretically to exhaust the forms of beauty, and to see how the nature of beauty is capable only of differentiating itself into just these forms. The infinite reproduction of instances of the same form is a question with which in the *Philebus* he refuses to be concerned. In some cases this insight into the differentiation of a genus seems possible to us. We understand how number must be odd or even, a line straight or curved, a conic section elliptic, parabolic, or hyperbolic. Even so, the beauties of different beautiful things would not, by their diverse natures, make them parts of one absolutely beautiful thing: as in any one among them the features of its parts make them parts of one particular beautiful thing. Beautiful things remain detached, each complete in itself, not owing its beauty to the existence of

[1] 'Plato's Philosophy of Art', *Mind*, N.S., vol. xxxiv (1925), p. 161.

the rest. But the world might be better for containing them all.

Now of the Good, in Plato's view, that is not true. 'Good' is no doubt a common predicate of many subjects. But whether they are rightly called good we cannot know, so long as we do not look beyond them. A man, he says, is not satisfied with anything short of the absolute good, the good itself, the best, not in the comparative sense, as when we say 'the best of a bad lot', but what, as it were, completely fills the notion of goodness. And that must be one; for if there were any good falling outside it, the full nature of goodness would not be realized in it. Anything less than the whole therefore is incapable of displaying or containing the full goodness which the whole contains. Its justification is that it is necessary to the being of that full goodness in the whole of which it is a constituent part. So the goodness of Justice cannot be securely established, till we can see that the being of Justice, as one element in the whole scheme of things, is necessary to the being of that full goodness which only the whole scheme contains.

The expressions *αὐτὸ τὸ ἀγαθόν* and *ἡ ἰδέα τοῦ ἀγαθοῦ* mean the same thing. But what I am trying to bring out can perhaps be made clearer, if we regard *τὸ ἀγαθόν* as goodness, *ἀγαθότης*, and *τοῦ ἀγαθοῦ* as genitive of a *τὸ ἀγαθόν* which is not goodness, but the subject displaying goodness. That subject is the *νοητὸς κόσμος*, the system of ideas, the eternal plan, perhaps we might say, imperfectly realized in the sensible world. Its goodness gives the reason for the details of it, and they are good because it is shown in them.

It is in this way that I think we are to understand the statement of 509 B, that to what is known not only its being known comes from the good, but also *τὸ εἶναί τε καὶ τὴν οὐσίαν προσεῖναι*. It has sometimes been objected to Plato that he ought to have spoken thus not of any abstract character in the real, but only of a spiritual being, or God: at any rate, that he here assigns to the Idea of Good the

function which others, and he elsewhere, assigns to God. 'In the *Timaeus*', says Nettleship (op. cit., p. 232), 'the supreme power in the universe is described in a personal way, in the *Republic* it is described in what we call an abstract way. . . . The "form of the good" in the *Republic* occupies the place in regard both to morals and to science which the conception of God would occupy in a modern philosophy of morals and nature, if that philosophy considered the conception of God as essential to its system.' This does not seem to me correct. The *Timaeus* is concerned with explaining the sensible world,[1] in which there is coming to be and passing away, and God, or the δημιουργός, is said to have looked to the Good and to have fashioned the sensible world as nearly as possible after the likeness of that. Here we are concerned with the intelligible world, in which there is no coming-to-be nor passing-away. The Good, therefore, cannot be a cause of being to what is known precisely as the sun is of growth to what is seen; for in this there is process, but not in that; what is known has no Creator. I described the intelligible world just now, in which alone complete goodness is displayed, as the eternal plan of things. It is this and not the goodness of it which might be said to take the same place in the *Republic* as the Creator takes in the *Timaeus*. If Plato, as has been said, here 'hypostatizes an abstraction', it is because he finds the ultimate reality in a system of Ideas, rather than because he finds it in the Form of the Good. For that we cannot substitute God for the Form of the Good may be seen from the fact that what Plato says of the relation of the Form of the Good to the intelligible world might be said equally of its relation to God. In the sense in which the being and essence of the intelligible world are due to it, the being and essence of God might equally be said to be. We do not ask why God exists; we can ask, as Aristotle says, τί ἐστιν ὁ θεός; but not διὰ τί; For to ask why that exists which is the ultimate real, and whereon all else depends, is self-

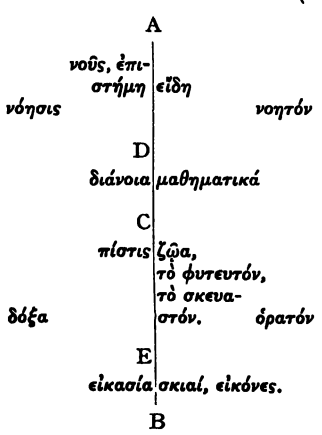
[1] Cf. the passage from the *Phaedo* mentioned on p. 6.

contradictory; it implies that a condition can be found on which that which is the condition of all else depends. It asks why anything exists at all; and that question posits as conceivable, that there might be nothing at all, and since it is conceivable, asks why it is not actual; whereas in putting the question, we unconsciously show that we have failed to conceive the case alleged to be conceivable. We have asked why what is possible is not actual, forgetting that it is meaningless to speak of possibility, except in some set of actual conditions, so that we have not conceived complete non-existence as possible, since if nothing is, nothing is possible. How can there be anything in the nature of things preventing the otherwise possible alternative that there should be no nature of things? We should give as a reason why there is not nothing, the fact that there is something, and offer what is as the explanation of itself. A question that can only be answered thus is a senseless question, which ought not to be asked. But though we must not ask, why anything at all is, we may ask why what is is thus and thus; and Plato says that the only adequate answer is, that being thus it is good. Similarly, if we asked why God is thus, we could give no other answer. Leibniz held that the created world is as it is, because if it were anywise different it would be less good: in that sense it is the best of all possible worlds. But it was brought into being by the free decrees of God, to whose intelligence the natures of all possible worlds are eternally present. If we then ask, why God freely chose to bring this world rather than one of the other possible worlds into being, we can only say 'because he is good'. But a God whose plans and whose activities were different would himself be different. The reason therefore why God is as he is, is to be found in his goodness: that is to him the cause, in the same sense as for Plato to the intelligible world, of *τὸ εἶναι καὶ τὴν οὐσίαν προσεῖναι.*

The Form of the Good then is not one among the other forms, to which being belongs and which are objects of

knowledge. From one point of view, reality is exhausted in them. That which is good, and the goodness of it, are the same; for nothing of what is good fails to contribute to that goodness which consists in its being just all that it is. From another point of view, its goodness is something beyond everything contained in our description of what is good: for we describe it by running over its constituent parts, the Forms which are the various objects of our knowledge; and its goodness is none of these. This, which I think we can understand in principle, though we cannot verify it in a complete apprehension of the real and of its goodness, is what Plato means when he says that this goodness is *ἐπέκεινα τῆς οὐσίας πρεσβείᾳ καὶ δυνάμει ὑπερέχον*, as the sun surpasses everything else in the visible world. (Cf. the scholastic doctrine that God is not good but goodness.)

509 C–511 E. In further development of the same Simile of the Sun, *τὴν περὶ τὸν ἥλιον ὁμοιότητα*, Socrates introduces the diagram of the Line. He proposes thereby to help out his account of the relation of the visible to the intelligible, in which the Sun and the Good are respectively sovereign. Of the interpretation of his Simile so far I feel little doubt. What is to follow raises questions much more uncertain.



We are to take a line (a vertical line, as the *ἀνωτέρω, κάτω*, and *ἀνωτάτω* of 511 A and D imply) and divide it into unequal parts: the upper represents the intelligible, *τὸ νοούμενον*, and the lower the visible, *τὸ ὁρώμενον*; and the upper is the longer; for the ratio of their lengths symbolizes how the two spheres are related in respect of clearness and obscurity, *σαφηνείᾳ καὶ ἀσαφείᾳ*. We are then to subdivide each segment in the same ratio, so that there are

four parts in all, and the first : the second :: the third : the fourth :: the first and second together : the third and fourth together. It follows from this, though Plato does not mention it, that the second and third are of the same length. The lower line representing the visible, its segments represent respectively animals and plants and things of men's making, and the shadows of these and their reflections in water or any smooth surface. These images (*εἰκόνες*) are to their originals in respect of truth or falseness as are the objects of opinion, *δοξαστά*, to those of knowledge, *γνωστά*. The upper line, representing the intelligible or knowable, is to be subdivided in a way described in 510 C–E. Summarily, the higher portion represents the ideas or forms studied in the process of dialectic, the lower what is studied in geometry and the kindred sciences. And corresponding to the contents of these four segments, or objects respectively of knowledge and opinion, Plato names four conditions of the mind or soul, *παθήματα ἐν τῇ ψυχῇ* : to the *νοητόν* generally *νόησις*, and to the *ὁρατόν*, *δόξα*; but to the Ideas, *νοῦς* or *ἐπιστήμη* as one form of *νόησις*, and to the objects of mathematical study, *διάνοια*, while within *δόξα* he distinguishes *πίστις* as the mind's condition in face of the visible originals, and *εἰκασία* as its condition in face of their images. These terms, however, are not all used quite consistently: in 511 D *νόησις* is used, in distinction from *διάνοια*, as appropriate to the *εἴδη*, equivalently to *νοῦς*, though in 533 E he reverts to using *νόησις* in the more comprehensive sense, and takes *ἐπιστήμη* as the term appropriate to ideas.

The relation insisted on between the *νοητόν* and the *ὁρώμενον* or *δοξαστόν* generally, and again within each between the objects of dialectical and those of mathematical and scientific study, and between visible things and the shadows and images resembling them, is (as was said) one of truth or clearness. In each proportion, the upper term is truer, more clear, than the lower. *ἀληθές* in Plato is often used of what true thought grasps, the real; and that is clear, *σαφές*, which

does not leave us puzzled about itself or mistaken—a thing clearly seen, so that we recognize it for what it is, words distinctly heard, a message leaving us in no doubt as to the events, an oracle that does not mislead. As the whole passage professes to continue the Simile of the Sun, we might suppose Plato to mean that as the sun's light shining on them is the cause of the greater clearness of the higher visibles, so, in a sphere anyway clearer than are they, is the good the cause of the greater clearness of the higher intelligibles. But he has been held to mean a great deal more than this.

514 A–517 A. The reason for imputing these profounder meanings lies in the Allegory of the Cave, which immediately follows the account of the Line, and by Plato himself is connected with it. This allegory is a figure of our state in respect of education and its contrary, *παιδείας τε πέρι καὶ ἀπαιδευσίας*. I think it is important to ask what is meant by *ἀπαιδευσία*. An infant is in a sense *ἀπαίδευτος*, but its state is not that of an uneducated man. *ἀπαιδευσία* is not that undeveloped phase, of which *παιδεία* is one possible development: it is the other and contrary development of this. *Gorgias* 527 D gives an excellent example of its meaning. 'It is a shame', says Socrates, 'that being as it now appears we are, we should then plume ourselves as men of some worth, whereas on the same matters we never keep to the same opinions, and those matters the greatest—so rude are we become', *εἰς τοσοῦτον ἥκομεν ἀπαιδευσίας*. It is this state of men, and the contrasted state which by a proper education may be gained, and the nature of the transition from one to the other, that the Allegory of the Cave presents.[1]

Plato is supposed to have been thinking of a cave in the hills between Athens and Sunium. There is a slit in the hillside, like a deep hole, running about ten feet down, steep and smooth, on to a sort of platform; and thence steps have been cut to a lower level whence the ground slopes away into

[1] Cf. also *Gorgias*, 510 B, *ὅπου τύραννός ἐστιν ἄρχων ἄγριος καὶ ἀπαίδευτος*.

several mysterious passages. Plato imagines such a passage, wide and opening into a cave-chamber, and along the opening men are sitting bound since childhood by their legs and necks, so that they cannot look round, but only before them towards the inner face of rock; while behind, on a higher level and some way back, a fire is burning. Between this and the prisoners, but above them, all along the width of the opening, a wall has been built, and under the wall, on the fire side of it, men go to and fro, holding up above it figures of men and animals and things of all sorts. Of these the prisoners see the shadows pass and repass, and that is all they see. Those who carry these marionettes sometimes speak, and their voices come to the prisoners in echo from the face of the cave; but the prisoners think it is the shadows that are speaking. The galanty show is their world; they have no acquaintance with any other. How then can they be freed from their chains, and cured of their folly, *ἀφροσύνη*? If one of them were released, and made to stand up and turn round and walk towards the fire, and raise his eyes towards it, the whole process would be painful to him: *πάντα ταῦτα ποιῶν ἀλγοῖ*, 515 c. He would be dazzled, so that he could not clearly see the things whose shadows he had seen before; he would not be able to recognize and name them, and if he were told they were more real, and the shadows but foolery, would refuse to believe. And if he were made to look directly at the fire itself, the pain would make him turn away back towards the shadows. If then he were forcibly dragged up the rough and steep ascent into the light of the sun, he would at first be in agony, and on first coming out would be unable to see anything. But as his eyes grew stronger, he could bear to look first on the shadows of things, and then on their reflections in water or other images of them, and then on things themselves, and then upon the stars and the heavens by night, and at last upon the sun itself and not an image of it, and understand how it brought the seasons and years, and ruled all in the visible world, and was the cause in a way of what

even the prisoners saw. If then he remembered whence he had come, and what had counted there for wisdom, where it was counted knowledge to guess from their order in the past how the shadows would follow each other in the future, he could set little store by the praise of those men, and think any lot in the sunlight better than to live and believe as they did. And should he return to his old seat, at first the now unfamiliar darkness, like the unfamiliar light before, would confuse his sight, and his judgements about the shadows would be less correct than those of his old fellow-prisoners; and they would jeer at him, and say that he had ruined his eyes by his ascent, and threaten with death anyone who should try to release them and lead them up.

This figure or allegory, Socrates says, is to be connected in its entirety—*ταύτην τὴν εἰκόνα προσαπτέον ἅπασαν*—with what was said before, likening (*ἀφομοιοῦντα*) to the Cave this visible seat, and to the firelight in it the sun's power; while the ascent to the sight of things above means the soul's ascent to the intelligible world, where it sees at length and hardly the Form of the Good, and understands how it is the cause of all that is right and fair, begetting light and its lord the sun in the visible region, giving truth and intelligence, so that it must be seen by whoever is to live wisely as private man or statesman. And those who have reached this vision do not willingly thereafter mingle in the business of men, and at first if they come back to it cut a poor figure in law-courts and elsewhere, compelled to contend with men about shadows of what is just, or images by which the shadows are cast (*περὶ τῶν τοῦ δικαίου σκιῶν ἢ ἀγαλμάτων ὧν αἱ σκιαί*, 517 D). But a wise man will remember that one may be blinded by passing from light to darkness, as well as from darkness to light, and not jeer equally at the first with the second. And we have to ask what education will effect the conversion of the soul, so that it may see the light, for we cannot trust the State to those who have not been so trained; but neither must they stay always in those speculations. The best natures must

first learn the great lesson, and then descend again among the prisoners, even though unwillingly; for we remember that the well-being of one kind in the state must give way to that of the whole, and these men's privileges have been given them that they may serve the rest, as all should, and that state is best ruled where men are least anxious to rule it, because they know of something better than what power can secure. And it is the philosopher who has this knowledge; so that we may next consider what education will bring a man to philosophy. This brings the conversation to a discussion (521 C–531 C) of certain mathematical studies which should belong to this education: a discussion which we may defer for the present. They belong to the level of *διάνοια*, and are only an overture to the main melody. Success in them does not make a dialectician. It is only by a training in dialectic (532 A) that the scholar may come to know what he needs must know—that intelligible melody (*νόμος*) of which sight furnishes a figure or imitation—sight, which we said should strive to look on living things themselves (and not their shadows) and the stars and at last upon the sun. The training in the mathematical sciences is for the soul a preparation whereby its best power may be brought to see what is best in the realm of being, as the successive stages in the prisoner's release up to and including his looking on the shadows and reflections of things in the sunlight were a preparation, whereby the clearest of the bodily senses might be brought to gaze on what is brightest of bodies and in the visible sphere. But Socrates refuses, as one may say, to produce this dialectic; Glaucon must be content with the figure which he has given of it. Something more is said, however, about the difference of procedure between it and the thinking of *διάνοια*, mathematical thinking, as we may call it; the word *διάνοια* is defended, because we want to indicate something clearer than *δόξα*, though less clear than *ἐπιστήμη* (as had been said in 511 D, *μεταξύ τι δόξης τε καὶ νοῦ*); anyway, we are reminded (533 E–534 A) that there are these four divisions, *ἐπιστήμη*

διάνοια πίστις εἰκασία: that the first two are νόησις, the second two δόξα, concerned respectively with οὐσία and γένεσις; and that what οὐσία is to γένεσις, νόησις is to δόξα; and what νόησις is to δόξα, ἐπιστήμη is to πίστις and διάνοια to εἰκασία; the same relation among their respective objects we need not dwell upon. The relation throughout is doubtless one of clearness and obscurity. The rest of the book is concerned with more practical details about the selection of those suitable for this training and the years to be devoted to the several parts of it.

CHAPTER IV

THE LINE AND THE CAVE—DIFFICULTIES OF INTERPRETATION CONSIDERED

I HAVE tried in this abstract to emphasize the parts which have most bearing on the problems connected with the interpretation of the whole. If we had only the Simile of the Sun, I do not think there would be much difficulty; if we had that and the Line, we might think the second did not help much, but we should be prepared to treat it as being what Plato seems to offer it for, a continuation of the Simile. The Sun and its place in what is visible are an analogue of the Good and its place in what is intelligible. It was called the offspring of the Good. We are now given a new metaphor of the relation between the γνωστόν and the δοξαστόν, that of an original and its copy, and we may expect to find in the copy something which will illustrate what is to be found in the original. That the copy is called δοξαστόν instead of ὁρατόν need not surprise us. Our main theme is that the vision of the Good alone makes the true nature of being clear to us; what is illumined only by its offspring or image will be less clear than what is illumined by itself, and will be matter therefore of δόξα, not of γνῶσις. Within each field, the clearer and the less clear, we may distinguish parts in the same relation; in the visible world, we may study things in their shadows or reflections, or may study them directly; in the intelligible world we may study forms, ideas, as they appear to the mathematician, who helps himself out by sensible diagrams and models, or we may study them directly, with no appeal to sense; and as the greater clearness about visibles comes when we look at them in direct relation to the light of the sun, and not at one remove, in the shadows or reflections of them which the sun produces, so the greater clearness about intelligibles is reached when we look at them in direct relation to the light of the good.

This, I think, is a fair account of the interpretation of the Line advocated by Professor Stocks.[1] On this view, the reference to the realm of δόξα is illustrative only. The Line no doubt is a whole, divided into four segments, within each of which are placed certain objects of the mind's consideration. But the Line does not represent the whole range or gamut of being, and there is no attempt to classify exhaustively all possible objects of our consideration. Again, we pass within the visible from εἰκασία to πίστις regarding the same things, as we pass within the intelligible from διάνοια to νοῦς. It is not Plato's point that there are four levels of being, and four corresponding stages of intelligence, and that the mind of man starts at the lowest, and may gradually advance through the intervening stages to the highest. There is a transition from δόξα to νόησις; and each may apprehend its own objects more or less clearly, so that there is also a transition from εἰκασία to πίστις, and again from διάνοια to νοῦς or ἐπιστήμη. But these are not, so to say, on the same journey as that from δόξα to νοῦς. The proportions of the Line are against this; for as we saw, the second and third segments are equal: whereas if Plato had wished to set forth a progress in four stages, he should have given us a continuous proportion in four terms; and his resources, mathematical and linguistic, were equal to it. εἰκασία is not the name of a complete attitude of mind, in which we live before we pass out of it into πίστις, as is implied when Nettleship speaks of four stages of intelligence; neither is διάνοια; though δόξα and νόησις are. εἰκασία is a state of conjecture or doubt, as opposed to assurance, about the nature of certain things—not of the εἰκόνες, for they may be apprehended clearly enough, but of the things whose images they are: and therefore in εἰκασία our general view of the nature of the real is the same as in πίστις: it is a world of things in space; our doubt is about the particular nature of these things. Similarly in νόησις, we take as real the intelligible unities which are somehow copied in

[1] *Classical Quarterly*, 1911, p. 73.

the visible sphere; but at the level of *διάνοια* we do not clearly apprehend their particular natures. *διάνοια* is not concerned with a different kind of intelligible object from ideas. That view has been held. We know from Aristotle that Plato did at some time come to the view that mathematics was concerned neither with ideas nor with sensibles, but with an intermediate kind.[1] (*Met.* A. vi. 987^{b}14: *ἔτι δὲ παρὰ τὰ αἰσθητὰ καὶ τὰ εἴδη τὰ μαθηματικὰ τῶν πραγμάτων εἶναί φησι μεταξύ, διαφέροντα τῶν μὲν αἰσθητῶν τῷ ἀΐδια καὶ ἀκίνητα εἶναι, τῶν δὲ εἰδῶν τῷ τὰ μὲν πόλλ' ἄττα ὅμοια εἶναι, τὸ δὲ εἶδος αὐτὸ ἓν ἕκαστον μόνον.*) It is plain enough why Plato came to suppose this —arithmetic is concerned with addition, &c. of units, and its units are not sensible things, nor yet are they the common nature of them all, unity; geometry is concerned with lines, which are not three-dimensional wires or trails of chalk, but neither are they linearity—or with intersecting circles, not the roughly round rings used in the demonstration, but also not circularity. I will come back to this distinction, and the evidence in the text for and against the view that Plato has it in mind in the *Republic*. It is one of the most contested points. But, on the present interpretation of the Line, he has not.

But we have not only the Simile of the Sun, and the Line: there is also the Allegory of the Cave; and of that we are told, *προσαπτέον ἅπασαν τοῖς ἔμπροσθεν λεγομένοις*. It is plain, too, that a conversion and updragging of the soul by means of education from its present to a clearer state is somehow figured; and 532 B seems to describe as stages in a continuous process within the figure the turning of the prisoner from the shadows to the marionettes, and then to the fire, and then to the shadows and reflections up above, before he is made to look on things themselves. Does not the allegory then imply that there is a continuous process from contemplating the objects of *εἰκασία* to contemplating those of *πίστις*, and then

[1] See J. Cook Wilson, 'The Platonist Doctrine of the *ἀσύμβλητοι ἀριθμοί*', *Classical Review*, 1904, p. 247, § 4, and *Statement and Inference*, i. 351.

of διάνοια, before the Forms? And are not those right who see in the Line a setting out of four stages of mental development, in which men come to know more and more of the nature of reality, as they ascend? (Nettleship, pp. 238–41.)

A consideration of this issue is necessary. And we shall find a great variety of view among interpreters. Nettleship's view has the support of Adam,[1] to some extent of Jowett and Campbell, and of E. Caird, and of Professor H. J. Paton in a paper to be found in the *Proceedings of the London Aristotelian Society*, 1922. On the other side you may consult Professors P. Shorey,[2] H. Jackson,[3] J. L. Stocks,[4] and A. S. Ferguson.[5]

The crux of the matter, if we are to make the Allegory of the Cave correspond with the Line, is in the lowest stage. The contents of the lower division of the ὁρατόν are σκιαὶ καὶ εἰκόνες, and the prisoners see nothing but shadows; do the prisoners typify men who see no more of what exists than objects of εἰκασία? The correspondence of Line and Cave seems to require it, and yet surely it is not true. Who lives all his life at this level? Do not common men take for real the animals and plants and human works they see, of which the lower ὁρατά are shadows and images, as the shadows in the cave are of the marionettes? And yet the prisoners are unaware of the marionettes until the conversion which few undergo begins.

Various methods of dealing with this difficulty have been tried. Jowett[6] boldly says that the first term of the series, i.e. εἰκασία and its objects, 'is nowhere else mentioned, and has no reference to any other part of ⟨Plato's⟩ system. Nor, indeed, does the relation of shadows to objects correspond to the relation of numbers to ideas. Probably Plato has been led

[1] Appendix i to Bk. vii.

[2] 'The Idea of Good in Plato's Republic', *University of Chicago Studies in Classical Philology*, vol. i, p. 194.

[3] *Journal of Philosophy*, vol. x, p. 132.

[4] *Classical Quarterly*, 1911, p. 73.

[5] 'Plato's Simile of Light', ib., 1921, p. 131, and 1922, p. 15.

[6] *The Dialogues of Plato Translated into English*, vol. 3, Introd., p. xcv.

by the love of analogy (cf. *Timaeus*, 32 B) to make four terms instead of three, although the objects perceived in both divisions of the lower sphere are equally objects of sense.' So Shorey (op. cit., p. 229) speaks of the fourth segment as 'playfully thrown in to secure a symmetry of subdivision in the two worlds and to suggest a depth below the lowest depth'. This surely is inadequate. Campbell,[1] while finding a reason for the distinction of πίστις and εἰκασία not in Plato's love of symmetry, but in his desire to mark a distinction between Appearance and Reality in nature, nevertheless regards reality in nature as something which is not sensible. He might be supposed, therefore, to make the shadows of the Cave correspond to the objects of εἰκασία, and the ἀγάλματα to those of πίστις; but though the objects of πίστις are said to be seen, and things on which the sun shines, he says (p. 17) that the ἀγάλματα 'constitute a lower stage of the ideal . . . not the immediately visible, but the truth of phenomena . . . the *infima species*', and are not known till we get behind what is seen, though themselves images of something higher. So in 517 E the ἀγάλματα ὧν αἱ σκιαὶ τοῦ δικαίου are laws, rules of right, intermediate between Justice itself and particulars that are just. A somewhat similar view is offered by E. Caird.[2] The shadows in the Cave being what common men take for real, one might expect them to be shadows of the things in the sunlight: for these typify what is intelligible, and the intelligible is the real of which the sensible is an image. Yet they are shadows only of marionettes. 'What Plato would suggest by this is, I think', says Caird,

> that individual things are not seen as what they are till we have turned away from their first appearance and tried to define them. Then we find, as Plato shows in the fifth Book, that they cannot be defined. They are great or small, good or bad, according to the reference in which they are viewed. We thus discover that they are σκευαστά, combinations of elements which have no real unity, but are merely imitations of real things. We are therefore obliged

[1] Jowett and Campbell, *The Republic of Plato*, ii. 16.

[2] Ib., ii. 14 n.

to go up to the intelligible world in order to find real things, first in the sciences under their subordinate principles, and finally in dialectic. The process of rising to true knowledge involves *two* steps: first to turn from the shadows to the marionettes, and then to discover that they are merely artificial figures, and to turn from them to the realities they copy.

This is ingenious; but do not both Campbell and Caird really make the shadows of the Cave correspond to the contents of both divisions of the ὁρατόν in the Line? It is true Plato compares the Cave and ἡ δι' ὄψεως φαινομένη ἕδρα (517 B), but in the same passage he compares the firelight in it to the power of the sun; for what the comparison is worth, therefore, fire and marionettes and shadows should all correspond to sensibles, and the sight of the marionettes and of the fire (like that of the shadows) to something in ordinary sense-experience, not to stages in the soul's attempt to pass beyond this.

We may say with Cook Wilson[1] that there is no such differentiation in the Cave as corresponds to the division of the lower part of the Line, and blame the natural stubbornness of allegorical material for this failure of correspondence. But if the distinction between the objects of πίστις and of εἰκασία as it is explained in the account of the Line does not appear in the Cave, whence, rather than from the Line, the notion of stages in the soul's continuous ascent to knowledge must be fetched, why did Plato make such a point of it in the Line? Can we not after all find an interpretation of εἰκασία and its objects, other than that of seeing the shadows and reflections of things produced by the sun, which will give more importance to that level of men's experience than belongs to the sight of these shadows and reflections?

That solution has also been tried. Jowett,[2] in spite of having ascribed the distinction between πίστις and εἰκασία to a mere love of analogy, says that the shadows and the images (i.e. the marionettes) correspond respectively to the

[1] In an unpublished MS.

[2] Op. cit., vol. iii, Introd., p. cviii.

realm of fancy and poetry and to the world of sense, and he refers to the early education of childhood and youth in the fancies of the poets, though he has said that the distinction has no reference to any other part of Plato's system. Nettleship[1] similarly includes in the state of mind called εἰκασία the illusion produced by poetry and rhetoric. 'When Plato talks of images', in the *Republic*—and the εἴδωλα there must be placed in this lowest segment along with the σκιαί and εἰκόνες mentioned in Book VI—'he is not thinking specially of pictures or statues, what he is primarily thinking of is images produced by words'. 'The literal translation of εἰκασία is imagination', not in the deeper sense in which we say a poet is a man of great imagination, but in the superficial sense in which we call a man 'a slave of his own imagination'. The great body of men are, in Plato's view, in that sort of state. What occupies their minds and what they take for real is of the nature of shadows, illusion. They have not come into first-hand contact with facts, and so their judgements are conjectural. When they learn of things directly, and not through report of others and popular prejudice, they have πίστις, certainty. But for the most part we take the shadows for real (the picture, say, of the British Empire raised in men's minds by the Communist Press), like the prisoners in the Cave, and are at the level of εἰκασία.

Much the same view is taken by Adam. Noting that the ὁρατόν of the Line is also called δοξαστόν, he treats as unimportant in connexion with the interpretation of this segment the peculiar stress laid on sight among the other senses in the Simile of the Sun, and goes back to the account of δόξα in 476 B–480 A. There we find among objects of δόξα, τὰ τῶν πολλῶν πολλὰ νόμιμα καλοῦ τε πέρι καὶ τῶν ἄλλων. The visible εἰκόνες, which alone are mentioned in the passage on the Line, he allows to be 'of little or no metaphysical importance'; it is the εἴδωλα spoken of in the Cave, 520 C, καλῶν τε καὶ δικαίων καὶ ἀγαθῶν πέρι (cf. 517 D), which are the important con-

[1] Op. cit., pp. 243–5.

tents of the lowest segment of the line, and 'the whole domain of imitation' criticized and condemned in the Xth Book, where Plato justifies the banishment of the poets. And Adam finds confirmation of this interpretation in the description offered in the *Sophist* of the sophist's activity. His art is described in 236 D as a branch of εἰδωλοποιική. We may distinguish in this the making of εἰκόνες—images, that is, which are really like their originals—and the making of φαντάσματα, which pretend to a likeness they do not possess. And in 265–8 we find language to the same effect. μίμησις is a kind of ποίησις, a making of εἴδωλα. Some of these—dreams and the shadows and reflections in water of things around us—are the work of a divine ποίησις. This branch of image-making we may call εἰκαστικόν. But there is also human image-making, φανταστικόν, in which what is false parades as something real. And the maker of these φαντάσματα may know that which they travesty, or may not; and if not, he may think he knows it, or suspect that he is ignorant; and the sophist is of the last sort, producing with words illusory views about the nature of that which he is conscious he does not know.

Now I think it is true that the state of mind here said to be produced by sophists is much what Plato in the Allegory of the Cave ascribes to those prisoners. I think Professor A. S. Ferguson is right in holding that the Allegory of the Cave is not epistemological, nor intended to illustrate the transition from sense to understanding, but political. The prisoners' lot in the Cave is a figure of that which has been described already in 492 as the case in which men now live; and one of philosophic nature can hardly grow up unspoiled

when a multitude sits packed together in assembly or law court or theatre or camp, or any other common place of gathering, and with much tumult blames some things that are said or done, and praises others, and either in extremes, shouting and clapping, till the rocks and the place where they are sitting echo and redouble the tumult of their blame and praise. What heart, as

they say, do you think a young man will keep in such a case? or what home training will hold out, and not be overwhelmed by such blame and praise, so that he will be carried headlong with the stream, and will call noble or base what they call so, and do what they do, and be as one of them?

The real sophist is there said to be the public opinion of the multitude, but its work is the same as is given to the sophist in the dialogue of that name. And it is true also that Plato charges poetry with a fault of the same kind, producing false opinions in matters of good and evil when the poet does not know. It is natural enough, therefore, that the language of the *Sophist* and *Republic* enables us to fill out the description of the shadows in the Cave; but the question is whether all this was in his mind in the account of the Line, and we should similarly fill out the sphere of its εἰκασία. It is surely surprising, if Plato meant the fourth segment of the Line to include all this, that he mentioned only the shadows and reflections of things which the sun's light produces: we may notice, too, that in *Sophist*, 236, where these are mentioned again, they are the work of a divine εἰδωλουργική; it is that which is called εἰκαστικόν; and it is just as much contrasted as connected with the φανταστικόν which is the work of the sophists, and of which the prisoners in the Cave are victims. I think it is a mistake to ground too much, in the interpretation of these books of the *Republic*, upon verbal resemblances between them and other dialogues, as if when Plato wrote the others he must have had the imagery of the *Republic* in his mind and he intended to conform to it. He chose his words as they were suitable to expound his theme at the moment. But for what they are worth, the verbal resemblances between the *Republic* and the *Sophist* do not seem to me to bear out this enlargement of the sphere of the εἰκασία of the Line.

Still less do I think that the more generous enlargement proposed by Professor Paton is tenable. Like Adam he includes the work of the artist and the φαντάσματα of the *Sophist*; but

he adds all objects of αἴσθησις—proper sensibles. For defence of this he relies upon the *Theaetetus*, where the doctrine that ἐπιστήμη is αἴσθησις is examined, and held to be identical with the Protagorean maxim that to each man things are as they appear to him. That being irreconcilable with there being any truth, a distinction is drawn between αἴσθησις and δόξα, and it is suggested that knowledge is ἀληθὴς δόξα (*Theaetetus*, 195 C); αἴσθησις is conceived as a stage below judgement, with which alone truth and falsehood arise. 'In the tenth book Plato practically identifies the sensible appearance with the εἰκών of the artist or the mirror.' 'These appearances then we may treat as εἰκόνες and so long as we take them merely at their face value, so long as we are satisfied with making them clear to ourselves and do not seek to go behind them, we are in εἰκασία' (pp. 85–6). 'εἰκασία is the first ingenuous and intuitive vision of the real. Its object is simply what appears, τὸ φαινόμενον. It makes no distinction between the different levels of reality' (p. 76). Further, it is held, following Croce's theory of aesthetic, that the artist is in the same state of ingenuous and intuitive vision, outside the sphere of affirmation and negation altogether, and that Plato in *Republic*, X, teaches this; a view which Professor Collingwood also makes the basis of Plato's Philosophy of Art, in his article under that title.[1]

But it is surely strange that when Plato named as objects of εἰκασία the shadows and reflections of things, he meant to include the sensible appearances of things as we perceive them and not their shadows and reflections; nor, when Plato says that the poet is twice removed from truth, can I persuade myself that he means he is removed altogether from truth and falsehood. The charge throughout against him is that he deceives, he makes a lie. So in *Theaetetus*, 167 D, Socrates supposes Protagoras to say, in defence of the doctrine that ἐπιστήμη is αἴσθησις, οὐδεὶς ψευδῆ δοξάζει. But that does not mean that we live below the level of judgement, but that all

[1] *Mind*, N.S., vol. xxxiv (1925), loc. cit.

judgements are true. The artist is said to bid farewell to truth—χαίρειν τὸ ἀληθὲς ἐάσαντες—(cf. *Republic*, 600 E, τῆς δὲ ἀληθείας οὐχ ἅπτεσθαι)—but what warrant is there for adding 'and therefore to falsehood'? (p. 93). Again, it must be remembered that, if we are to find in the Cave a quadripartite scheme corresponding to that of the Line, εἰκασία will be the condition of the common man. Yet nobody lives all his life in that 'first ingenuous and intuitive vision of the real' which has not yet been troubled by affirmation and negation. It is suggested in answer to this objection (p. 100) that perhaps Plato thought most men are always in εἰκασία; 'most men are satisfied with the seeming good and do not go behind it'. But 'the seeming good' is what we falsely judge good: the notion of good does not belong to the level of εἰκασία as thus interpreted. Moreover, this answer considers only the political bearing of the Allegory of the Cave: whereas Plato is supposed in this theory to be offering an epistemological doctrine as well.

It seems to me hopeless to seek in the Allegory of the Cave for four stages in the soul's journey towards the apprehension of Reality that can be made to correspond with the distinction of the four παθήματα τῆς ψυχῆς in the quadripartite Line. I do not think Plato was repeating in the Allegory what he had set out diagrammatically in the Line. We must give some other meaning than such interpretations do to the injunction of 517 A–D, ταύτην τὴν εἰκόνα προσαπτέον ἅπασαν τοῖς ἔμπροσθεν λεγομένοις. This has been attempted, as I said, by Henry Jackson and by Professor A. S. Ferguson in his two papers on 'Plato's Simile of Light', to which may be added another essay of his, 'Plato and the Poet's εἴδωλα',[1] criticizing the theory we have been last considering. In the following suggestions I am building on their work, and Professor Stocks's.

[1] In *Philosophic Essays Presented to John Watson* (Queen's University Kingston, Canada, 1922), p. 115.

I suggest then that Professor Stocks is right in saying that the Line schematizes no 'Four Stages of Intelligence'. We are not being taught that the mind begins at a level of εἰκασία, in which it merely has the 'impressions and ideas' into which Hume would resolve it, and passes thence to an experience in which it has judgements or opinions about things taken to be real, and so forth. Such genetic psychology is far from Plato's thoughts. In the lower segment of the Line we are throughout at the level of δόξα. There is a contrast between this, in which what we see and otherwise sensibly perceive is held real, and νόησις, in which that is held real which we can only grasp by thought; and Plato's primary purpose is to hint to us how we may come, in the work of thought, to know the intelligible forms, and this depends on their connexion with the Good, by noticing how we come, in the work of sight, to know visible things, and this depends on their connexion with the sun. In the Line, and by means of the analogies in it, he is continuing, as he professes, his attempt to indicate the nature and the need of that μέγιστον μάθημα, and the training for it, without their rulers reaching which, States will never be made secure from their present troubles. Their fate depends on finding for their rulers the true παιδεία; and the Line is meant to throw light on the nature and goal of it.

In the Allegory of the Cave Plato sets before us the present plight of mankind, living without the guidance which a knowledge of the Good would give, victims of false doctrine. The Cave is indeed this visible world—he tells us so; and its fire is our sun; and the sunlit world outside is the eternal order which the philosopher will know; and the upward struggle of the rescued prisoner is the philosopher's escape from the bondage of false opinion to the truth. But the Allegory does not report, in its description of affairs in the Cave, what the lower segment of the Line was to teach us, by an analogy, about the nature of a philosophic education, and how the vision of the Good is the culmination of it and the

condition of its success. Its imagery is not to be 'applied' in one–one correspondence to the account of the Line, but, as Jackson says, 'attached' to it; it is an extension of the attempt to teach by figures, not an alternative. The sunlit world of the Allegory is a figure of the intelligible, it represents or stands for it; the visible world of the Line does not stand for it, but exhibits relations analogous to relations in it. In the Line it was the sunlit world of you and me; in the Allegory it is that to which the prisoners typifying you and me may rise. Therefore in the Allegory our world, which is used as a figure to represent something else, needs a figure to represent it if anything is to be told about it; and that is the Cave; but the purpose is not to show again how relations within the visible may illustrate relations within the intelligible world. The Allegory figures the soul's rescue; the Line did not, though when Socrates described it his hearers already knew that the philosopher must pass from δόξα to ἐπιστήμη. The favoured of heaven, or philosophic spirits in a rightly ordered state, must rise to the level of ἐπιστήμη by stages, but for them the progress might be continuous, it need not pass through ἀπαιδευσία. They would pass through so many 'Stages of Intelligence'; for doubtless the individual mind must develop. And all of us must travel a certain distance along that road. But this development necessary to all is not what Plato is setting forth. The soul's rescue is not just an advance beyond that level to which in our development we all, and rightly, come; it is a conversion, as Professor Ferguson insists, from a plight into which we ought not to have come. ἀπαιδευσία, as I said before, is not the mind's case before education begins, when the baby lives in a stream of impressions and ideas,[1] and has not yet made to itself the distinction of real and unreal (ib., p. 84), but has an 'ingenuous and intuitive vision' without affirming or denying. It is the case of grown men through evil training judging falsely. For men cannot live without institutions of some sort, and these

[1] Paton, op. cit., p. 82.

must bring good or evil, truth or falsehood: they cannot be neutral. It is a mistake often made, that you can remove the influence and pressure of existing institutions, and leave men free to develop naturally; you will inevitably let other pressures begin to act on them. And it is the pressure of lies that acts on us all in States as they now are; and only by a hard struggle can a man reach, and only in face of obloquy and opposition from those whom it disturbs can he teach, the truth. That conversion is figured by the Allegory, but is not a step in some orderly development of the intelligence figured by the Line. It is true that in 533–4, long after the Allegory has been given, when the sciences of the Propaedeutic, which form the work of *διάνοια*, have been described, Socrates reverts to the relations of the four *παθήματα τῆς ψυχῆς* belonging to the Line. But he does not try to fit them to stages in the prisoner's progress. He is concerned there with the steps of the true *παιδεία*, not with the conversion that must precede it, if a man brought up in the false valuations of the world is to enter upon it; and in particular he is reminding us how a training in the mathematical *τέχναι*, useful as they are to make us realize the distinction between the objects of intelligence and of opinion or *δόξα*, is still not the genuine way of dialectic. Therefore he reiterates that we may call the apprehension of the mathematician *διάνοια*, not *ἐπιστήμη*, and that their relation within intelligence is analogous to that of *πίστις* and *εἰκασία* within opinion; and his thought has gone back to what he was indicating by the quadripartite Line, without equating the illustrative function of the lower segment of that to the illustrative function of the Cave in the Allegory.

This seems to me a possible interpretation that avoids the difficulties of the other views put forward about the significance of the lower Line. It is true that the metaphor of copying, in images or shadows, comes both there and in the Allegory: in the sunlit world of the Allegory, with the same application as in the Line; in the Cave of the Allegory,

rather as incidental to the picture, and having meanings of its own (as the language of 517 D suggests), than to repeat its application in the lower Line. And the same imagery or metaphor comes in *Republic* x, and in other dialogues where other, though sometimes connected, issues are discussed. But Plato's fondness for it, and the significance which he thought he found in it, should not lead us to make equations which introduce confusion into the passages of the Line and the Cave, or saddle these with meanings so difficult in themselves and so remote from the natural interpretation of his statements elsewhere as some of those we have considered.

CHAPTER V

MATHEMATICS AND THE DIALECTIC

WE must now pass to the other main issue raised by these passages, concerning the status of the lower *νοητά*, the objects of *διάνοια*. I have already spoken of the Platonic doctrine, about which we learn from Aristotle,[1] which made the *μαθηματικά* neither Ideas nor Sensibles, but something intermediate. It is clear, I think, that Plato was right when he denied that the mathematician studied Ideas: less clear that he had come to deny it when he wrote the *Republic*. An Idea is the common nature of many individuals, the circularity of all circles, the duality of all pairs, &c. Plato points out the necessity of recognizing these forms in *Phaedo*, 100 D–101 E. 'Again,' says Socrates, 'would you not be cautious of affirming that the addition of one to one, or the division of one, is the cause of two? and you would loudly asseverate that you know of no way in which anything comes into existence except by participation in its own proper essence, and consequently, as far as you know, the only cause of two is the participation in duality.' For it is not because I add them that my eyes are two, but because the group is a two-group that I find them to be two by adding. Considerations of this sort are of no importance in the procedure of mathematics. But they led Plato to recognize what he, or Aristotle for him, called *ἀσύμβλητοι ἀριθμοί*: unaddible numbers: the numerical characters, that is, of divers aggregates, the dozenhood of the months and the apostles and the signs of the zodiac, the hundredhood of the runs in an innings when a man is bowled at that figure, and of Sir John Lubbock's list of best books. You cannot add these characters; what you add is the units, or aggregates of units, that exhibit unity or one of these forms of multiplicity. I do not see how you can

[1] Ross, ed. *Ar. Met.* i, p. 166; cf. *Met.* A. vi. $987^{b}14$; B. ii. $997^{b}2$; Γ. iv. $1006^{b}12$; *Theo. Smyrn.*, ed. Hiller, p. 21. 5.

refuse to admit these universals, if you admit universals at all. It is true that some mathematicians, Lord Russell among them, have wished to substitute for the common dozenhood of all groups of 12 the group itself, defining a number—i.e. the ἀσύμβλητος ἀριθμός, the being thus many—as the class of all classes similar to a given class. But I think that only shows that the question is not of interest to the mathematician in his procedure, and that when a mathematician philosophizes, he can go wrong about it without being any the worse mathematician. But what is it that he studies, if it is not these ideas?

Aristotle ascribed the peculiar accuracy of mathematics to their abstraction; i.e. in considering the figure, or quantity, or number of subjects, we may disregard all other characters in the subjects, and no error will be involved. That is not so in all inquiries: if you study, e.g., the colours of bodies disregarding their temperature, you will not do much good. Now it is quite true that no difference is made to the relation of length between the side and the diagonal of a rectangular table-top by differences in the material it is made of, the cloth it is covered with, and so on. And so you might think that in the table you have an instance of rectangularity, and can safely study the rectangular figure of it without troubling about any other of its characters. But are you sure that its figure is really rectangular? The angles perhaps are not quite true, and if so, the ratio of sides to diagonal which you ascertain is not exemplified there. You must have abstracted not only from the other characters of the table-top, but from the defects of its figure. There is an ambiguity, however, in that language. When I abstract from the other characters of it, the figure is still there, in the actual table-top, complete. When I abstract from the defects of the figure, the perfect figure is not there. A trapezium is not a rectangle plus defects.

The rectangle which I study then is not the figure of this table-top. And Plato notices that. Consider what he says, in

510–11, about the division of the upper half of the Line. It is to be divided so that the soul is forced to investigate the one part of it (i.e. the lower) from hypotheses by using as images what was copied in the visible sphere, proceeding not to a starting-point but to a result, but the other part by going from an hypothesis to an unhypothetical starting-point, making its way among ideas by means of ideas themselves. (I have, with Adam, adopted here in 510 B 6 Ast's proposal to omit τό after ἕτερον, though Burnet reads it. In order to make a contrast between the two procedures, since both are ἐξ ὑποθέσεων, there must be a difference of direction; the first is οὐκ ἐπ' ἀρχὴν ἀλλ' ἐπὶ τελευτήν, the second ἐπ' ἀρχὴν ἀνυπόθετον; but these words cannot be constructed with ἐξ ὑποθέσεως ἰοῦσα unless τό before ἐξ ὑποθέσεως is omitted.) Socrates elucidates this as follows. In geometry and arithmetic, he says, we take for granted odd and even, the figures, the three kinds of angle and such like: these are our hypotheses, and we do not attempt to give any account of them to ourselves or others, as if they were plain to everybody: and starting from these we go through our demonstrations and arrive at an agreement on the question under investigation. It must be remembered that Plato has in mind discovery, not instruction. The instructor has proved his conclusion before he begins expounding. To the discoverer it is a problem, πρόβλημα; what relation is there between the angles in the same segment of a circle? Can I divide a straight line into two unequal parts such that the whole is to one as that is to the other? And in tackling these problems, we take certain things for granted, the definitions, postulates, and axioms. We need not go now into a discussion of the differences between these. Further, we use and we talk about the figures we draw (τοῖς ὁρωμένοις εἴδεσι); but we are not thinking about them but about what they are like; our argument is on behalf of the square itself and the diagonal itself, not the diagonal drawn; and so as to the rest, our models or drawings, which have their shadows and images in

water, we use these as images, but we seek to see those things themselves which a man may see with the mind only. There are two features then signalized in the mathematician's procedure. He starts from ὑποθέσεις above which he makes no attempt to rise, and he uses sensible figures (or counters or dots in arithmetic) as images of what he is really thinking about and cannot perceive by sense. At the moment we are concerned with the latter feature. What is he really thinking about? What is it which these models or drawings are like?

You may ask either for the true answer to the question or for Plato's answer. They need not be the same. The true answer is very difficult to find. In geometry it might be said we are thinking of perfect particulars, which indeed do not exist, but being particulars, can be like our models or drawings, which are also particulars; yet to be like them they must be sensible, and though, so far as I can see, there is nothing inconceivable in a sensible line being perfectly straight and perfectly at right angles to another, it cannot be without breadth. When we pass to non-Euclidean geometry, and ask what that is about, it is still harder to say; for certainly it is about what no sensible model or drawing can be like. And in arithmetic, if we abstract altogether from the nature of what is counted, we shall be left with units that are not like the counters or the dots we use, or the men or sheep that we enumerate.

As to Plato's answer, what he says our models and drawings are like is τὸ τετράγωνον αὐτὸ καὶ διάμετρος αὐτή, and so forth. And these phrases naturally mean squareness and diagonality. Adam thinks that here they mean the intermediates, and that the context in 511 D, where διάνοια is said to be intermediate between δόξα and νοῦς, is enough to suggest that the expressions here for its objects refer to something intermediate. And there are passages enough where Plato uses language which is appropriate to the intermediates. In *Republic* vii, 526 A he points out that the units spoken of

in arithmetic are nothing divisible, but *ἴσον τε ἕκαστον πᾶν παντὶ καὶ οὐδὲ σμικρὸν διαφέρον, μόριόν τε ἔχον ἐν ἑαυτῷ οὐδέν*, and objects therefore of thought only. In *Phaedo*, 74 C, he distinguishes between sensible equals, which to another observer may appear not to be equal, and *αὐτὰ τὰ ἴσα*. In *Philebus* 56 E, we read of *μονάδα μονάδος ἑκάστης μηδεμίαν ἄλλην ἄλλης διαφέρουσαν*.[1] Adam thinks also that in *Philebus*, 23 C, D, where Socrates distinguishes *πέρας*, *ἄπειρον*, *τὸ ἐξ ἀμφοῖν τούτοιν ἕν τι συμμισγόμενον*, and the *αἰτία τῆς μίξεως*, the *πέρας* is mathematical forms, and the *αἰτία τῆς μίξεως* is the Ideas; and that in *Timaeus*, 50 C, there is another reference to them.

On the other hand we nowhere find in the dialogues any such explanation of the distinction between the *μεταξύ* and the Ideas and Sensibles respectively as Aristotle gives us, whereas it would have been quite easy to give it, if Plato had intended to distinguish them, and in the present passage it seems almost required. Moreover, the passage in *Phaedo*, 74 C, rather seems to show that he had not then himself seen the distinction, for he is expounding the doctrine of *ἀνάμνησις* as an argument for the Ideas, and in 74 A it is *αὐτὸ τὸ ἴσον* of which he spoke as *παρὰ πάντα ταῦτα* (i.e. sensible equals) *ἕτερόν τι*. *Philebus*, 56 E, has merely the same point as *Republic*, 526 A, and this passage occurs in the course of explaining why arithmetic is a suitable study for those who would be philosophers: now the philosopher must recognize the difference between intelligible form and the many sensibles that exhibit it; and arithmetic requires us to distinguish its units from the sensibles taken as such. Does it not look as if Plato had not here distinguished between the insensible unit and the insensible form, because neither is sensible? The other passage in *Philebus*, 23 C, D, ought not, I think, to be cited. I doubt if the *αἰτία τῆς μίξεως* is the Idea, or the *πέρας* the *μαθηματικά*, any more than the *ἄπειρον* can be identified with the contents of the lowest segment of the

[1] These two references are given by Ross, ed. *Ar. Met.* i, p. 167.

Line;[1] the Line was probably not in Plato's mind there at all. And the εἰσιόντα καὶ ἐξιόντα of *Timaeus*, 50 C, which Adam identifies with the μεταξύ appear to me to be sensible things.

I should conclude, though not very confidently, that Plato, when he wrote the *Republic*, supposed the mathematician to be thinking about Ideas, and had not yet distinguished between these and the μεταξύ, although recognizing such facts as are mentioned in 526 A, which later helped him to make the distinction. And I would suggest one or two considerations making it not unlikely that he may have confused an Idea with a μαθηματικόν—i.e. have been really at times thinking of the latter without appreciating it, still supposing himself to be thinking of the Idea.

It seems to me very easy to think of the Form of a sensible circle as an outline into which it will fit. The same ring will fit many discs. Let the ring be refined away till it is like the grin without the cat, and it may seem to be just the shape common to all the discs, which because fitting each is *its* shape when fitted. And εἶδος means shape, in ordinary usage. Of course this is wrong; for if our discs differ in radius, they will not all fit into the same ring, whereas their form, circularity, is still the same.

My second point is this, that we find people to-day often saying of the sciences what Plato erroneously says of the mathematician, if τὸ τετράγωνον αὐτὸ καὶ διάμετρος αὐτή in 510 D did mean Ideas. It is often said that scientific generalization establishes connexions between universals. Now it establishes universal propositions. But a universal proposition does not state a connexion between universals, at least not that connexion in which a man of science is interested. If the destruction of a fuse wire causes the electric lights in the circuit to go out, that is a connexion between one particular event and another. The common nature of all such destructions does not cause the common nature of all such extinctions of light. Doubtless the connexion between the

[1] Cf. Sidgwick, *Journ. Phil.* ii. 103, who rejects this 'plausible theory'.

particular events occurs in virtue of their natures, but it is not an instance of a causal connexion between their natures, as they are instances of those natures; just as the diagonal is incommensurable with the side of a square (for that is the demonstration Plato had in mind) in virtue of the general nature exhibited in those lines—if you like, of diagonality and side-of-square-ness; yet diagonality is not incommensurable with side-of-square-ness. That universal connexions between particulars are not instances of some corresponding connexions between universals, and yet are often spoken of as if they were, is a matter which may well make us think it possible that Plato in the *Republic* failed to see that universal connexions between perfect mathematical particulars were not connexions between mathematical universals, and so did not distinguish Forms and the *μαθηματικά*.

But arguments of another sort have been adduced in favour of the view that he did make the distinction, drawn from the other feature of the mathematician's procedure which he signalizes and from the general interpretation of Line and Cave. He says the mathematician starts from hypotheses and proceeds to a conclusion, *ἐπὶ τελευτήν*, whereas dialectic goes to an *ἀρχὴ ἀνυπόθετος, αὐτοῖς εἴδεσι δι' αὐτῶν τὴν μέθοδον ποιουμένη* (510 B). He makes *μαθηματικά* objects of a faculty, *διάνοια*, intermediate between *δόξα* and *νοῦς* (511 D), and according to the doctrine of V. 476 sq., where *ἐπιστήμη* and *δόξα* were distinguished, different faculties have different objects. Again, *νόησις* : *δόξα* in the Line :: *νοῦς* : *διάνοια*, and the *νοητόν* and *ὁρατόν* are confessedly different; while those who hold the quadripartite line to be a classification of the contents of the universe, and equate with them so many different sorts of objects in the Allegory of the Cave, are naturally committed to distinguishing the superior and the inferior *νοητά*.

Against these arguments may be set what has already been said about the interpretation of the Line and the Allegory of the Cave; and we may call attention also to other points in

Plato's language. Though the mathematician contemplates these objects with his thought, *διανοίᾳ*, and not with his senses, yet by reason of his considering them *ἐξ ὑποθέσεων* and not after ascending to an *ἀρχή*, he has not intelligence of them, *νοῦς*; nevertheless they are *νοητὰ μετὰ ἀρχῆς*. Adam, it is true, translates this 'intelligibles with a principle of their own'; but the usual translation, 'intelligible with a principle'—i.e. after ascending to the *ἀρχή* just spoken of—seems preferable. And in VII. 533 B, the mathematical sciences, so long as they leave unmoved the hypotheses they use, are said to dream *περὶ τὸ ὄν*, and to be incapable of seeing it *ὕπαρ*. This language is at least consistent with regarding the objects of *διάνοια* and *νοῦς* as the same. I do not press it; for when I dream of Jerusalem, there is a dream-picture, which is not Jerusalem. 'Last night I saw you in my dreams, And how your form and face were changed.' But after all it is Jerusalem itself that the dreamer is thinking of; and the dream-picture perhaps corresponds not to the *μαθηματικά*, but to the sensibles by aid of which I think of them.

There is, however, a difficult passage in 533 C, D which we must finally consider. In contrast to the *μαθηματικαὶ τέχναι*, which leave their hypotheses *ἀκίνητοι*, dialectic proceeds *τὰς ὑποθέσεις ἀναιροῦσα, ἐπ' αὐτὴν τὴν ἀρχὴν ἵνα βεβαιώσηται*. In what sense does Dialectic destroy the hypotheses of mathematics? You remember the examples given of them—odd and even, the figures, the three kinds of angles. Are we to give up the proposition that every number is odd or even, and our definitions of geometrical figures? The suggestion is so difficult that Stallbaum wished to construct *ἀναιροῦσα* with *ἐπὶ* and translate it 'taking up to'; while others have proposed *ἀναίρουσα*, 'raising to', or *ἀνείρουσα*, 'fastening to'. Adam, however, takes it as a reference to the constant procedure of Plato shown in dialogues, of setting up one theory after another, and showing its inadequacy (as Polemarchus' and Thrasymachus' definitions of Justice are treated in

Book I), until something is reached which will stand all scrutiny, διὰ πάντων ἐλέγχων διεξιών, as is said in 534 C. But the inquiries to which he refers were none of them mathematical, and it hardly seems true that the hypotheses of mathematics are overthrown like bad definitions of Justice in the *Republic* or of Knowledge in the *Theaetetus*. We might think that Plato has in mind that procedure which Aristotle, *Topics*, I. ii, names among the uses of what *he* calls Dialectic—πρὸς τὰς κατὰ φιλοσοφίαν ἐπιστήμας. By investigating difficulties on either side of a question we are helped to distinguish what is true, and where ἀρχαί or starting-points are in question, which cannot be demonstrated from anything more ultimate, we may follow out the consequences of accepting and of rejecting them, and confirm them by showing the contradictions or paradoxes to which their rejection would lead. This, I think, is what Plato does in the second part of the *Parmenides*; though the purpose of it is much disputed, it seems to me intended to show the contradictions that arise if either the assertion that the real is one, or the assertion that it is many, be taken in a sense excluding the other. With this interpretation, ἵνα βεβαιώσηται will mean 'in order to confirm them', not (as I think Adam takes it) 'in order to make itself secure'. But such process of confirmation is not by going to an unhypothetical ἀρχή; and in the *Phaedo*, 101 C, D, something very like it is described as part of the procedure which Socrates had adopted as second best (τὸν δεύτερον πλοῦν, 99 D), because he was not able to explain things by reference to the good: whereas here he assumes this to be possible.

Can we then find a sense in which Plato may have thought that Dialectic would destroy the starting-points or ἀρχαί of mathematics? Professor Burnet thinks we can.

We know from Aristotle that Plato at any rate attempted to get behind and give some account of what mathematics takes for granted. The attempt was connected with another —to get behind what his own theory of ideas had taken for

granted. The theory of ideas explains sensible particulars through the participation of something indeterminate in a determinate form, or its being fashioned after the pattern thereof. But the ideas themselves are eternal, and no account is offered of them. We have found that among the ideas are certain arithmetical and geometrical forms, distinct, as Plato came at some time to see, from the subjects of mathematical treatment, and holding to the *μαθηματικά* the same relation which *αὐτοάνθρωπος* holds to men: these are the *ἀσύμβλητοι ἀριθμοί*, and linearity, circularity, &c. If when Plato wrote the *Republic* he had not yet distinguished these from the *μαθηματικά*, he would have thought them to be the subjects of mathematical treatment. Now these, or at least some of them, he did attempt to get behind, and to derive from principles more fundamental.

The numbers in the decad he thought to derive from two principles, unity, *τὸ ἕν*, and another variously referred to by Aristotle, as *τὸ μέγα καὶ τὸ μικρόν*, or less frequently, though more significantly, *τὸ μέγα καὶ μικρόν*: as *ἀόριστος δυάς*: as *τὸ ἄνισον* and in other ways.[1] One may compare the mention in the *Philebus* of *τὸ πέρας* and *τὸ ἄπειρον*, but according to Aristotle (*Met.* A. 987[b] 25) Plato substituted the One and the *ἀόριστος δυάς*, for these as *ἀρχαί*. The *μέγα καὶ μικρόν* he seems to have conceived as a sort of principle of multiplicity, which in itself is not determinately of any quantity or magnitude. How the one generated upon this indeterminate multiplicity definite numerical forms is not quite clear, and different views seem to have prevailed in the Platonic School: cf. Ross, ib., lix–lxiv. 'It seems most probable', says Sir David Ross, 'that Plato thought of the ideal numbers . . . vaguely enough, as successive resting-places determined by the principle of limit in the indefinite ebb and flow of the *ἀπειρία*, the great-and-small.'[2] Plato thus obtained what one

[1] A discussion of these phrases will be found in Ross, ed. *Ar. Met.*, Introd., lvii–lix, and more fully in Robin, *La Théorie platonicienne des idées et des nombres d'après Aristote*, p. 261.

[2] Cf. A. E. Taylor, op. cit., p. 512.

may call the simplest and most abstract system of unities, or differentiations of the One: in which the One was the formal, and this quite unspecific great-and-small the material factor. The next stage was to find in the numerical forms thus obtained the formal principle in entities slightly more concrete, viz. in the geometrical essences. In *Met. Z.* x. 1035^a–1036^b Aristotle is discussing the relation of matter and form; the form of man has never been found except in bones and flesh; should these enter into the definition of man, or are they but a material in which the definable occurs, but out of which it might also occur? Such a case seems to occur, though it is not clear when it occurs; so that some have held that circle and triangle should not be defined by lines and the continuous, but that these are like the flesh and bones of a man, or the brass and stone of a statue; and 'they bring everything up to the numbers' (*ἀνάγουσι πάντα εἰς τοὺς ἀριθμούς*) and say that the definition (*λόγον*) of line is that of two. Among the advocates of the Ideas some say that the dyad is *αὐτογραμμή*, others that it is the form of the line; since in some cases the form and that of which it is the form are indistinguishable (e.g. the dyad and the form of the dyad), but in the case of the line it is so no longer. Plato, according to Sir David Ross, was of the first opinion.[1] But either way, we have an attempt at reducing the geometrical to the arithmetical.

Now the mere derivation of geometrical notions from arithmetical, and of these from something more general, is not an *ἀναίρεσις* of what is derived. But if you are giving an account of line when you say it is really two, you are leaving out something which the geometer retains. As Burnet says:[2] 'The hypothesis of three kinds of angles has a spatial character, and that is just why the geometer is forced to use sensible diagrams. The ideal is that Arithmetic, Geometry, and the rest should all be reduced to one science, and this

[1] *Met.* ii. 203; cf. Robin, op. cit., pp. 620–2.
[2] *Greek Philosophy*, p. 229.

cannot be done so long as their special hypotheses remain. It is only when these have been removed that we can ascend to a first principle which is no longer a postulate (to an *ἀνυπόθετος ἀρχή*), viz. the Form of the Good. Then, and not till then, can we descend once more without making use of sensible diagrams of any kind. The whole of science would thus be reduced to a sort of teleological algebra.' But further, Burnet thinks (v. 320–4) that in regarding the Great-and-Small as a principle of number Plato was abandoning the view that all numbers are integers. The conception of number was to be extended to cover such quantities as $\sqrt{2}$. Similarly the point was no longer *μονὰς θέσιν ἔχουσα*, as Zeno had said, but *ἀρχὴ γραμμῆς*: the line being generated from it by fluxion. That Plato did give up the indivisible unit, and so regard irrationals as numbers, 'the best proof is', says Burnet, 'that Aristotle always insists against him that there is no number but number made up of units (*μοναδικὸς ἀριθμός*). It follows that Plato maintained there was.' And if he did, the hypotheses of arithmetic, which treats a number as a sum of units, and maintains that every number is odd or even, must be given up.

I think this part of Burnet's view probably wrong. The contention that there is only *μοναδικὸς ἀριθμός* is explicable as a rejection of the *ἀσύμβλητοι ἀριθμοί*, which were not sums of units, but were also not irrationals, and whose nature we have seen Aristotle failed to appreciate. The derivation of numbers from *ἕν* and *τὸ μέγα καὶ μικρόν* seems, in the text of Aristotle, to have been a derivation of integers; and in the *Republic* at any rate the indivisibility of the unit is asserted very strongly. But it seems to me he may be right in supposing that Plato hoped to reach, in such principles as the One and the Great-and-Small, and what could be deduced from them, something more abstract than the entities from which mathematics starts, and so to show that in those entities the eternal forms appeared in a matter which was not indeed the sensible matter of bones and flesh wherein the

form of man appeared, but none the less obscured the true nature of the forms appearing in them. The doctrine that there are matters of various kinds, ὕλη αἰσθητή in sublunary bodies, ὕλη τοπική in the heavenly bodies that, although eternal, move, and even a ὕλη νοητή, appears in Aristotle; and it would not be surprising if here, as often elsewhere, he was building on the very teaching which he criticized. And it would accord with such a view that Plato should think that the forms are more clearly seen in dialectic, which connects them with the good, than in mathematics, as visibles are more clearly seen in sunlight themselves than in their shadows or reflections. The view also imputes to him a confusion between mathematical ideas—the common natures of aggregates of the same number, or of all lines or circles—and particular numerical aggregates or lines and circles; or rather, a passing from one to the other without noticing the difference.

I admit that if Plato did hope thus to find the truth of the mathematical sciences in a system of forms more universal than those of mathematical objects, I think he was mistaken. There I should agree with Aristotle, who dissents from Plato expressly on the point that you cannot deduce the ἀρχαί of the special sciences from any common ἀρχαί. In this connexion there is, too, a very instructive criticism (*Met.* M. viii. 1085^b5–21). He is discussing not the Idea-numbers indeed, but mathematical number. This, however, was also to be derived, according to the view at any rate of Speusippus,[1] from ἕν and πλῆθος.[2] But the many units of arithmetic are not each αὐτὸ τὸ ἕν, the principle from which with πλῆθος all numbers are derived. They therefore must be derivative themselves from these principles. Aristotle indicates various difficulties besetting that supposition, and winds up by saying

[1] v. Ross, ed. *Ar. Met.*, p. 457, on M. viii. 1085^b5.

[2] v. Taylor, op. cit., 506–7 where he holds Aristotle wrong in thinking that in '3 + 1 = 4', 3 is a πλῆθος μονάδων: but surely he himself is overlooking the distinction between μαθηματικά and ideas of number. And it did not need the consideration of surds to lead Plato to his ἀριθμοὶ ἀσύμβλητοι.

ἔτι οὐθὲν ἄλλο ποιεῖ ὁ τοῦτο λέγων ἀλλ' ἢ ἀριθμὸν ἕτερον· τὸ γὰρ πλῆθος ἀδιαιρέτων ἐστὶν ἀριθμός: i.e. in presupposing πλῆθος you presuppose the very fact of number, which you are attempting to deduce.[1]

I have referred to this because of recent years attempts have been made to find a science more ultimate than geometry, and even than arithmetic, which shall show the truths of those to be only special applications of its own: and the philosophizing mathematicians are many of them disciples. R. Dedekind, in a famous pamphlet (pub. 1887) *Was sind und was wollen die Zahlen?* first tried to show that from considering the nature of a *Menge* or Manifold, and of the correspondence that there may be between one such manifold and another, and how the terms in the representative or imaging manifold may be terms in that imaged, you can elucidate the nature of the infinite series of natural numbers or integers; and he and others have tried to show that the whole nature of the continuous, or quantity, can be elucidated in relations of number. For this purpose they extend the term 'number', as Burnet thinks Plato did; so that $\frac{1}{2}$ and $\sqrt{2}$ are called numbers. But they do not think they are introducing any fresh hypotheses, of space or time. It seems to me there is the same error here as Aristotle imputes to Plato. The *Menge* from which Dedekind starts is itself an aggregate, a πλῆθος ἀδιαιρέτων. The so-called rational numbers, like $\frac{1}{2}$, are relations exhibited in aggregates either of units or of unit-quantities—quantities, i.e. not indivisible, but equal and considered without regard to their divisibility. The irrationals are relations of quantities, not of aggregates of units, and could not be understood without reference to lines and other quantities. The belief of mathematicians that there is an abstract science of order, which studies the nature of manifolds of as many dimensions as you please, without need to

[1] Cf. Taylor, op. cit., 503–16 and *Mind*, vol. xxxv, N.S. (1926), p. 418 and vol. xxxvi, N.S. (1927), p. 12. But again Aristotle seems to think Plato was concerned with the derivation of integers, not of irrationals.

consider what other nature—spatial, e.g., or temporal—these may have, I am convinced is illusory. But if it is true, they are dispensing with any reference to objects that we need to think of by the help of sensible models and diagrams, precisely as Plato thought the dialectician would. For if we can think at all of objects belonging to a 4-dimensional or a non-Euclidean space, we certainly cannot do it by the help of visible bodies like them. It has been said that intelligence is a three-dimensional manifold. This does not mean anything so absurd as that there are cubic feet of it: but that there are three factors—I forget what, but say power of attention, of association, of discrimination—each capable of continuous variation, independently of the others, and all involved in every manifestation of intelligence. Thus the formal nature of intelligence might be represented as identical with that of spatial volumes. The universe might be exhibited as constructed throughout on the same principles, whether these principles of construction appear in the spatial or the mental. I do not wish to maintain this. But there is a good deal of such doctrine knocking about; and I think Plato may have had notions like it.

But supposing he had, yet I think there are more valuable elements in his notion of Dialectic than that. What I have been saying refers to the derivation of the Ideas from principles more ultimate. There is the problem also of the relation of the Ideas to each other when derived. The dialectician will understand this also. Plato in his dialogues indicates to us various ways in which these relations may be traced. But before coming to them, I should like to make here some general remarks about the doctrine of Ideas.

CHAPTER VI

THE DOCTRINE OF IDEAS AND THE RELATION OF IDEAS TO EACH OTHER

THOUGH the words εἶδος and ἰδέα occur often in untechnical senses, yet as technical terms they mean to Plato the common nature of many particulars, or what we call a universal. On the origin of this doctrine, cf. Ross's *Ar. Met.*, Introduction, xxxiii–li. It is enough here to remind you that Plato contrasted these Ideas, as unchanging objects of knowledge, with the changing and perishing sensibles in which they are somehow revealed. Whether, as Aristotle says, he went beyond Socrates herein, or, as Burnet and Taylor would have, is only expounding Socrates, does not matter at the moment: it is the doctrine that we are examining. At any rate Aristotle[1] expressly ascribes to Plato the position that definition is not of anything particular, but of something the relation of the particulars to which is expressed by the word παρά, signifying a separation: and this χωρισμός is again ascribed to the Platonists or Plato (οἱ δέ) in the parallel passage M. iv. 1078^{b}32. It is one of Aristotle's principal grounds of dissent. It remained a subject of controversy in the schools of the Middle Ages; some realists asserting *universalia ante rem*, others only *universalia in re*. Modern critics have at times refused to believe that Plato could have taught the transcendence, χωρισμός, of the Ideas[2] because it has seemed to them so fantastical. I should like therefore to suggest that it is not thus incredibly foolish.

One of the arguments mentioned by Aristotle (*Met.* A. viii. 990^{b}14) for the belief in Ideas is referred to in the words κατὰ τὸ νοεῖν τι φθαρέντος. The sensible thing has perished: its nature still remains an object of thought. To the apprehension of this nature sense-perception is not necessary: the

[1] *Met.* A. vi. 987^{b}1–10.

[2] Cf. Lotze, *Logic*, III. iii, and *Microcosmos*, ii. 324–8, 651–7.

nature therefore is nothing sensible. We understand it without at the same time perceiving any sensible. But if it could only exist in connexion with what is sensible, in the isolation of conception it would be misapprehended. For to conceive apart what in its being is not apart is to misconceive. The apparent possibility, on the side of the mind, of intelligence without sense was, I think, to Plato a strong argument for the independent existence of the intelligible. And though Aristotle in places says that if there is not sense there must be imagination (*οὐκ ἔστι νοεῖν ἄνευ φαντασίας*), there are objects of thought which cannot be imaged, as Hume saw to his perplexity; and Aristotle himself denies imagination, not less than sense, to the divine intelligence. Nor, if you are to take seriously the statement that the soul can exist apart from the body—and that Plato did so, is evident not only from *Republic*, x, but from such passages as *Phaedo*, 76–8, *Phaedrus*, 247—can you avoid considering whether it can then retain a consciousness of sensibles which seems to be bound up with the conditions and limitations of the body's organs of sense. We see from *Parmenides* 133 B–134 E that Plato was alive to the difficulties involved in this separation of intelligence from sense; it is hard, he says, to see either how the mind sensuously conditioned can really know what is purely intelligible, or how pure intelligence can know the things we do. Nevertheless beliefs like that in the *χωριστὰ εἴδη* lie not very far from the language at least, if not from the thought, of men of science to-day. It is a commonplace to say that the physicist is concerned with abstractions. He thinks of the world as a system of invisibles, in whose movements certain laws are increasingly exhibited, and though their dispositions are continually changing, the changes always satisfy the same equations. The colour and sound and scent and all the other glories of this visible scene—*ἡ δι' ὄψεως φαινομένη ἕδρα*—have no being in the world of which he gives an account; he is even content to speak of its contributive parts in terms of energy, which, whatever it may be, is nothing properly sensible. It

is true that this physically real world is somehow connected with the sensible world—how, he does not always trouble to inquire, and often he will say they are the same thing; and in many ways what he describes in terms of colour and soft or hard, of sound and scent and flavour, is far more important to him than what he describes in his equations. But, though without experience of the first he would never have been led to try to account for it by the second, if he ceased to have senses, he would cease to have experience of the first. On the theory of the subjectivity of the secondary qualities it does not follow that the second would cease to be; and the ordinary explanation of sense-experience, which states that the first and the experience of it arise together when certain combinations of elements occur in the second, implies that it would not cease to be. The real, on this view, is at least non-sensible. It is not conceived as Plato conceived his world of Ideas; for these are universals, but the physicist's is a world of non-sensible particulars. Yet even this distinction may at times wear thin; for the ever-shifting play of elements in the physicist's real world is contrasted with the laws which that play constantly exemplifies and his equations express. These equations involve among their variables space and time. But we are told (how truly does not now matter, for the question is not how far we are to believe what physicists tell us, but what right they would have to cast a stone at the Platonic doctrine of *χωρισμός*)—we are told that space and time are relative to the individual, not less than sound and colour; for him they are somehow separated out from that Space–Time which can only be expressed mathematically; my real world as described by the help of particular space-relations and time-relations is not the same as yours, until abstraction is made from the differences which relativity brings: and then what is left identical is the purely intelligible all-comprehensive equation, which somehow the conditions of our several experiences alike satisfy. I do not think, if paradox is absurd or scandalous, that there is less absurdity

or scandal in this teaching than in Plato's *universalia ante rem.*

I have compared the Platonic Ideas to our laws of nature; and the comparison has often been made, though the two are not equivalent; e.g. we think that the laws of nature are always exactly exemplified in sensible events, but Plato thought the Ideas were not adequately expressed in sensible particulars; and laws of nature formulate change, whereas Ideas define things so far as they do not change. But there is another notion, that of a plan or purpose, which may also help us to understand the Ideas. For though Aristotle complained that Plato had not shown how Ideas were causes of change, in calling them patterns or παραδείγματα Plato implies that somehow they controlled the process of becoming in sensibles; and the doctrine of the ἰδέα τοῦ ἀγαθοῦ, as we have seen, brings even into the being of the ideas something like a purpose eternally fulfilled. And to the difficulties besetting the doctrine of χωριστὰ εἴδη there is a difficulty closely analogous in what is often nevertheless believed to-day about the place of purpose in the world. We talk of a divine providence or plan being worked out in the world: whether as somehow immanent, or through the power of a Creator who leaves the world he has made to run itself, does not here matter. But we do not generally think of this purpose as embracing all the trivial details of events. Now it is extremely hard to draw any line. We talk of a general providence; but if there is a providence, can anything be too special for it? Such tiny things determine the shape of Cleopatra's nose as determine also the wart on Cromwell's cheek; yet the first is said to have changed the course of history, and the second had no historical importance. A general providence would have to include the conditions which determine the first; and how could it then exclude those which determine the second? Unless you are content to regard the deity as intervening where the consequences accordant with his laws would defeat his purpose in those

laws, you will find great difficulty in distinguishing between what does and what does not fall within the sweep of his providence. And so Christ said that the hairs of our heads are all numbered, and that not a sparrow falleth to the ground without our Father. And Parmenides in the dialogue called after him (130 E) tells the young Socrates that some day he will regard nothing as too trivial to be considered, when Socrates has boggled at admitting Ideas of such things as hair and mud and dirt—i.e. at regarding their being as provided for in the eternal plan of things.

This question, of what there are Ideas, rightly attracted attention in the Academy. The uncompromising spirit which made Plato maintain the transcendence of the Ideas perhaps failed him when he considered what Ideas there were. The instances given in the dialogues are indeed multifarious. The commonest are moral, like *ἀγαθόν* and *κακόν*, justice, &c.; aesthetic, like *καλόν* and *αἰσχρόν*; and mathematical, like *ἴσον*, *δύο*, *ἕν*, *μέγεθος*, *τετράγωνον*, &c. But we find bodily states like *ὑγίεια* and *ἰσχύς* (*Phaedo*, 65 D, E), states or activities of the mind, like *ἐπιστήμη* (*Parmenides*, 134 C), manufactured things, like *κερκίς* and *τρύπανον* (*Cratylus*, 389 A–C), *κλίνη* and *τράπεζα* (*Republic*, X. 596 B), grammatical facts like *ὄνομα* (*Cratylus*, 389 D), natural kinds, like *ἄνθρωπος* and *βοῦς* (e.g. *Philebus*, 15 A), the elements, like *πῦρ αὐτὸ ἐφ' ἑαυτοῦ* (*Timaeus*, 51 B). The most important enumeration, one in which the instances are given in the order of their claim, is in *Parmenides*, 129 D–130 C. There Socrates has no doubt about admitting *ὁμοιότητα καὶ ἀνομοιότητα καὶ πλῆθος καὶ τὸ ἓν καὶ στάσιν καὶ κίνησιν καὶ πάντα τὰ τοιαῦτα*; nor regarding ideas *δικαίου καὶ καλοῦ καὶ ἀγαθοῦ καὶ πάντων τῶν τοιούτων*: he has often been puzzled whether there is *αὐτό τι εἶδος ἀνθρώπου ἢ πυρὸς ἢ καὶ ὕδατος*; and rejects such *οἷον θρὶξ καὶ πηλὸς καὶ ῥύπος ἢ ἄλλο τι φαυλότατόν τε καὶ ἀτιμότατον*: he says that he has often been tormented by the question whether there are not ideas equally of all things, but has fled from the suggestion in fear of falling into a pit of nonsense. It

is at that point that Parmenides, who in his question has given this fourfold grouping of instances, says that when he is older he will think nothing despicable. There is indeed a passage in *Republic*, x. 596 A which is commonly taken to be thus all-embracing—*εἶδος γάρ πού τι ἓν ἕκαστον εἰώθαμεν τίθεσθαι περὶ ἕκαστα τὰ πολλά, οἷς ταὐτὸν ὄνομα ἐπιφέρομεν*. But it is doubtful if that interpretation is right. On the other hand, according to the testimony of Aristotle, Plato, or the Platonists, rejected Ideas of relatives, *τὰ πρός τι*; of negations, *αἱ ἀποφάσεις*; and of artefacts, *σκευαστά*; while some that he admitted Aristotle thinks he should have rejected. Various explanations have been offered of the apparent discrepancy between this testimony and the evidence of the dialogues. The whole matter is very fully discussed in pp. 121–8 of Robin, *La Théorie platonicienne des idées et des nombres d'après Aristote*. At any rate it is clear that this point in the theory exercised men's minds. And it is instructive to consider the order in which Parmenides is made to propound examples to Socrates for his acceptance. The latter introduced his distinction between the sensible many and the ideas in answer to Zeno, who had attempted to confute the existence of the many sensibles we perceive by pointing to the fact that contradictory predicates can be asserted of them, so that they cannot be real, and thereby had brought support to the Parmenidean doctrine that nothing exists but the One. Sensibles, says Socrates, may be at once like and unlike, one and many; but likeness cannot be unlikeness, nor unity multiplicity; and if we distinguish *χωρὶς αὐτὰ καθ' αὑτὰ τὰ εἴδη, οἷον ὁμοιότητά τε καὶ ἀνομοιότητα καὶ πλῆθος καὶ τὸ ἓν καὶ στάσιν καὶ κίνησιν καὶ πάντα τὰ τοιαῦτα*, we shall not find the same contradictions in them, and can admit them to be real, although many. Parmenides, by proffering successively the other three groups of examples that I quoted above, is asking in effect how far Socrates is prepared to carry this articulation of the ideal world.

We find Socrates drawing the line at instances like hair,

mud, dirt, and others despicable or trivial. Why? I think for the same sort of reason that would make us hesitate to regard as providential events that seem trivial or unimportant. The world of ideas is something whose existence is justified by its absolute goodness; and after this goodness (which, as we saw, is hardly distinguishable from the articulated system wherein alone it can be displayed), the sensible world is fashioned, though incapable of reproducing it fully. Can we suppose that it matters to the goodness of this system, that there should be things like mud and dirt? They are rather mere accidents. We mean by calling something accidental not that it occurs uncaused, but that it is not purposed. It occurs in the course of executing a purpose, perhaps owing to the nature of the material in which the purpose has to be executed; and Plato seems to have put down much of the disorder found in the sensible world to the fact that the Ideas manifest themselves in a material not completely subdued to them. And hair perhaps he conceived as accidental too; its biological significance was not recognized, and it was counted by Aristotle as a product of superfluous nutriment. From these considerations we can perhaps understand what Plato meant by saying in *Republic*, x that God made the Idea of a bed or table. These artefacts are not without purpose; they are designed to satisfy certain needs of man; and if what belongs to man's nature occasions these needs, a plan which includes the being of manhood will include that of bedhood. Necessary relations, we saw, hold between individuals, not between universals; but if the side of a square must be incommensurable with its diagonal, something in the natures of squareness and diagonality seems involved in the fact. Similarly, if a man's needs cause him to make a bed, something in the manhood of the man and the bedhood of the bed seems involved in that: and both will be Ideas.

That ideas of natural kinds, and of the fundamental inorganic kinds or elements, should be less readily rejected is not surprising. Neither seem to arise accidentally. Both, on

Plato's view, belonged to the permanent order of the sensible world, though individual plants or animals arise and perish, and individual elementary particles, according at least to the *Timaeus*, may do the same. Further, in these, according to the same dialogue, the mathematical necessities that determine the regular solids are exhibited; and in those men have at all times been ready to see evidence of design. It is just the denial of design, and the explanation of living things in terms of chemistry and physics, that makes it so hard to attach any reality to those species which yet biologists will often tell us have evolved. Nevertheless, though it may belong to the eternal plan of things that there should be constant forms of living things or non-living elements, it is hard to see why they must be just such as we find. Leibniz invoked here the principle of sufficient reason, and the sufficient reason was that if they had been otherwise the universe would have been less good: though he did not pretend to demonstrate this in detail. I think in effect Plato's ἀνυπόθετος ἀρχή was the same. Neither would confine the application of his principle to contingent truths. But Leibniz recognized also necessary truths or truths of reason; and what they concern could not conceivably be otherwise, even though making contribution to this being the best of all possible worlds.

When we come to such terms as Just, Beautiful, Good, and so forth, we find Socrates admitting there are Ideas denoted by them without hesitation. I think the reason is this, that there is nothing contingent in them. That there should be instances is contingent, just as it is that there should be a material octohedron: but the distinction between just and unjust seems not to be one between particular acts or characters, but to hold or exist independently of them. You may say that animal nature also is what it is, whether there are instances of it or not, and Plato no doubt held this, or he could not have spoken of αὐτοάνθρωπος &c.; yet there is this difference, that what it is we can only discover by examining

instances that we find, and we cannot go beyond them; whereas of the just or beautiful we seem to apprehend more than any particulars reveal to us—we can proceed from the judgement that an act is unjust to the conceiving of justice, in a way to which nothing in the other case corresponds. One might say that these natures stand waiting to be exemplified, and could not have been otherwise than they are. Descartes, jealous of any limitation on the omnipotence of his first cause, said that God made that to be just which is so, by an arbitrary act of will. But, if so, he could not approve justice before injustice; that implies that its superiority is independent of him. A man who arbitrarily decides that red shall be the colour for regimentals does not approve it as more suitable. And Cudworth in his *Eternal and Immutable Morality* quite rightly criticized Descartes on this count, and urged that such essences were eternal, and independent of will.

The same may be said of those which Socrates in the *Parmenides* himself puts in the forefront, but with this addition: that whereas those like Justice and Beauty need not be exemplified, these must be exemplified in any whether sensible or intelligible world. Hence in *Sophist*, 248–60 Plato signalizes these—*στάσις*, *κίνησις*, *ὄν*, *ἕν*, *ταὐτόν*, *ἕτερον*—and he could have added *ὅμοιον*, *ἀνόμοιον*, *πολύ*, as *μέγιστα γένη*, which participate in each other, and all else in them: for there can be no object of thought or sense which has not being, and is not one and the same with itself, and different from something else, and so forth. The inclusion of *κίνησις* as a necessary character of any intelligible, as well as *στάσις*, presents some difficulty. But we shall not be persuaded, says the Eleatic Stranger, in 248 E, that movement and life and soul and thought are absent from the most real, the *παντελῶς ὄν*. Perhaps Robin is right in understanding this movement as meaning not change, but a sort of eternal procession of ideas one from another, in their hierarchy, and an eternal movement of interconnexion.[1]

[1] Op. cit., pp. 493–4, 593.

That the ideas did not stand each in isolation from all the rest, like a world apart, but intercommunicated, was a fundamental part of the doctrine. And we may turn now from questions concerning what ideas there are to questions concerning their relations. Two problems arise here: that of their relations to sensibles, and that of their relations to each other. It looks as if the second only attracted attention after the first. It is well known that several metaphors were used to indicate the first—*μέθεξις*, *ὁμοίωσις*, *παρουσία*: and the inadequacy of the first two is shown in the *Parmenides*. H. Jackson held that the substitution of *ὁμοίωσις* for *μέθεξις* marked a later theory of Ideas; but both are criticized in the *Parmenides*, and both occur in the *Timaeus*, which is ascribed to the period of the later theory. The truth surely is that the relation of a universal to its particulars can only be apprehended by reflecting on instances of it; it is not the same relation as any of those terms, *μέθεξις*, *ὁμοίωσις*, *παρουσία*, is properly intended to denote; and therefore we can only be misled by trying to regard it as a case of what they properly signify. But we must recognize that there are 'instances of the same'—that particulars called by the same name may have the same nature, in spite of being each a different individual, in respect of that which the name is intended to signify in them. The problem of the one and the many presents itself in various forms: when one subject is the many alleged in divers predicates, or many parts are one whole, as well as when many subjects are one in respect of some predicate. In *Philebus*, 14 D, E, the two former are dismissed as 'vulgar marvels about the one and the many, which almost everyone is now agreed to let alone'; and the first is really inseparable from the third; that one sensible subject should have many predicates, and that one predicate should be in many sensible subjects, raise the same problems about the relation of the particular and the universal. We may perhaps conclude that Plato at that date was prepared to trouble no further about the criticisms levelled at descrip-

tions of that relation. It is problems arising within the field of Ideas which in *Philebus*, 15 A he indicates to be really serious; just as in *Parmenides*, 129 A, B Socrates is prepared to admit particulars to exhibit contrary characters, but not that these characters themselves should exhibit self-contradiction; cf. *Republic*, vii. 523. And there is a reason we may readily conjecture for this. The sensible world is not completely intelligible: the intelligible must be. Any problems therefore arising there about the one and the many must be solved.

Now to deny unity to what is is to deny being. If x is, it is one; else it is not x, but y and z; and so *ad infinitum*. Yet to deny plurality is equally impossible; for unity and being are distinguishable, yet what is has both. These forms κοινωνεῖ ἀλλήλων. But not all forms thus intercommunicate. To set each up in complete isolation—τὸ πᾶν ἀπὸ παντὸς ἐπιχειρεῖν ἀποχωρίζειν—is fatal; τελεωτάτη πάντων λόγων ἐστὶν ἀφάνισις, says Plato, *Sophist*, 259 E, τὸ διαλύειν ἕκαστον ἀπὸ πάντων· διὰ γὰρ τὴν ἀλλήλων τῶν εἰδῶν συμπλοκὴν ὁ λόγος γέγονεν ἡμῖν. It is equally fatal to misconceive the connexions; and the business of Dialectic is to trace them as they are.

Needless to say, this was never achieved by Plato. It would have been the completion of the journey which Socrates says he cannot now make with us. But we may ask what he had in mind, and whether he could point to any modes of connectedness in earnest of the mind's power to trace them in Dialectic.

I think there are four kinds which he would have instanced. The first is that of διαίρεσις, or logical division. There is a great deal up and down the dialogues about this. That a generic nature should display itself in just those specific forms which we find ought not to seem a mere accident. Sometimes it does not; we understand how angle is capable of the forms right, acute, obtuse, and of no others. We ought to understand this equally in all cases. If we did, we should make a division rightly, by differentiae that were not

arbitrary—*τὸ μέρος ἅμα εἶδος ἐχέτω*, says Plato; we should proceed by due stages, not overlooking the intermediate steps of differentiation nor going straight from summum genus to infimae species;[1] we should divide nature at the joints, *κατ' ἄρθρα, ᾗ πέφυκεν*; our species would be properly balanced at each stage, not a small part against all the rest of the genus. Perhaps Plato at times thought of *τὸ ὄν* as a summum genus, which we could trace necessarily differentiating itself into all particular modes of being. That this cannot be done, is a fundamental part of Aristotle's doctrine of categories.

Aristotle says of *διαίρεσις* that it is *οἷον ἀσθενὴς συλλογισμός* —an attempt to prove the definition of a species, which breaks down; because it is proved neither that the genus must have the differentiae assigned to it, nor that the species falls in that branch where it is placed. This is true; but Plato was not conceiving the movement of thought in Dialectic as syllogism, nor could it well be.

διαίρεσις would exhibit the relation and connexion of all forms that can be ranged in a hierarchy—of *σχῆμα*, *κύκλος*, and *τετράγωνον* and so forth. But if there are characters cutting across the divisions made in our classification, or mutually predicable of each other, they will not fit into an hierarchical scheme. Such are the *μέγιστα γένη* already spoken of. In regard to them we can trace, with immediate apprehension of the facts as necessary, how they connect with each other and with all else, but the procedure is not *διαίρεσις*.

Thirdly, I suppose that the demonstrations of the mathematical sciences would, in Plato's view, somehow be retained, though without the help of sensible diagrams and models, at the level of Dialectic. The characters exhibited by numbers and figures must be somehow connected in their own natures, in order that in particular numerical aggregates or figured bodies they should accompany each other as they do; but

[1] Cf. *Philebus*, 16 C–E.

the connexions here again are not those of genus and species, not yet are they the same as among the μέγιστα γένη; for they display themselves only in subjects of a certain sort, not in all subjects; nor are they displayed mutually in each other. How this sort of demonstration can be carried on without any thought of particular figures or aggregates, Plato has not shown; we saw before that modern mathematics in some respects claims to do this.

But besides all this, there is more required. For of the genera whose differentiations we trace, or of the species whose properties we show to be connected, even of those most universal characters which we call μέγιστα γένη, we may ask a reason why they are. It is here that we reach the θρυγκός. Only if we can show the whole system, which we have thus delineated and linked into one, to be good, do we fully understand it. I need not add to what I have said above about the meaning of this ἰδέα τοῦ ἀγαθοῦ. But we can see now that it is not on a par with any other Idea. It is not a genus of which they are species, though it can be predicated of each of them; it is not like one of the μέγιστα γένη, a highly abstract character in what is; it is not a particular character demonstrable of this subject and not of that. It is one, because only the whole system displays this goodness; it is many, because it can be displayed only in the system of all these forms, and each of them is good, though not with the goodness of the whole. And it furnishes a reason for the presence of every term and relation in the system, because each is necessary to its being.

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PRINTED IN
GREAT BRITAIN
AT THE
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OXFORD
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PRINTER
TO THE
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