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J. N. Findlay

PLATO'S UNWRITTEN DIALECTIC OF THE ONE AND THE GREAT AND SMALL

In the present paper I wish to deal with certain main points in the Unwritten Doctrines of Plato, which are detailed in the reports of Aristotle on these teachings, which reports must have been based on Aristotle's own memories and notes of what Plato actually said in the seminars or *συνομοίαι* which he and many others attended, and which are further elucidated by the many ancient commentators on the writings of Aristotle, such as Alexander, Simplicius, Philoponus, and Syrianus, as well as by a most valuable anti-Platonic polemic of Sextus Empiricus in the Tenth Book of his treatise Against the Mathematicians. Aristotle, the Aristotelian commentators and Sextus Empiricus put it beyond all doubt that Plato had an important body of Unwritten Doctrines which were only inadequately adumbrated in the Dialogues, but which can none the less be advantageously used to illuminate very many passages in the Dialogues, and particularly some in the Republic, the Timaeus, the Parmenides and the Phileas. In my book Plato: The Written Unwritten Doctrines and in my shorter book Plato and Platonism, I have tried to use the material touching the Unwritten Doctrines to illuminate the written Dialogues, and in the former work I have also provided a translation of much of this material, which brings together much of this material, which is otherwise widely scattered. I do not consider that anyone can rightly interpret Plato's written work who neglects to consider the light thrown on it by the reports of the Unwritten Doctrines. These reports are in many ways enigmatic, and have had, moreover, a very indirect, equivocal influence on subsequent philosophy. The Neoplatonists made comparatively little use of them, though their stress on the One as the Supreme Hypostasis in their Absolute, and their identification of it with the Socratic-Platonic Good, plainly derives from this source. The Schoolmen of the Middle Ages, including Aquinas, were content to repeat Aristotle's reports and censures with little attempt

either to understand or evaluate them, while the Nineteenth Century followed Schleiermacher in basing all accounts of Platonic doctrine on the written Dialogues, coming to the conclusion, since the reports of the Agrapha Dogmata did not square with the written Dialogues, that these Doctrines were the pitiable products of some decline of Plato's genius into final senility, which had best be passed unnoticed. Eduard Zeller, the authoritative late Nineteenth Century historian of philosophy, took this view, and in this country the great scholarship of Harold F. Cherniss attempted, in important books written in 1944 and 1945, to save the reputation of Plato by holding that the so-called Unwritten Doctrines were really all a colossal misunderstanding and misinterpretation of Aristotle, who certainly had a genius for misunderstanding the views of other philosophers, and that Plato in fact had no Unwritten Doctrines of any importance, and that he could be, and should be, completely studied in the Dialogues alone. This opinion had prevailed in strength throughout the long night of analytic philosophy in this country and in Europe, and has only been broken in quite recent times by the works of Gaiser and Kramer in Germany, and of myself in the Anglo-Saxon world. Particular scandal attaches to the fact that Plato in his Unwritten Doctrines is said to have identified his Eide with Numbers, an identification in itself absurd, and then not even with ordinary Natural Numbers, but with Numbers of a special eidetic sort which involved no addition of unit to unit, and which were begotten by the transcendental intercourse of two generative, Pythagorean Principles, Unity itself, an intrinsically equalizing good Principle, which imposed limit or definiteness on a second Principle, which was always indulging in a bad, blind process of indefinite increase and diminution, limitless and bad. Modern analytic philosophers cannot generate Numbers out of an intercourse between absolute Unity and endlessly burgeoning multiplicity, and must hesitate to attribute such mystical nonsense to the Plato whom they at least want to admire. Our suggestion, however, is that Plato's arithmetization

of the Eide was a sublime, is unsystematic anticipation of the whole of modern scientific rationalism, with its stress on unifying patterns and measures, and that, in his retention of the countering presence of the Great and Small in all things, he also recognized the pervasive presence of an element of inexactitude and continuity in all things without which the limiting work of the reasonable element in things would be null and void. And, by his introduction of two such antithetical Principles, Plato may be held to have made a most interesting contribution to Value-theory, in that the Good is seen by him as essentially active and causative, and as engaged in an endless task of subordinating the intrinsically indefinite and chaotically multiple to predictable order and simplicity. The Principle of Unity and Limit is first at work on the timeless plane of the Eide, and gives rise to the endless array of Natural Numbers, of geometrical Points, Lines, Surfaces and Solids, and then of Motions which involve an abstractly idealized Space and Time, and which point on to Principles of Self-motion or Soul, whose type of orderliness can further generate the many-souled orderliness of Society. How this whole immense generation of differentiated multiplicity out of partless Unity was to have proceeded was never, arguably, for Plato, a completely conceived concept, but rather a grandiose project, something that the true philosopher would have to elaborate if he were ever to put an end to human confusion and wickedness. He did not believe that he himself possessed the generative dialectic in question, or that his writings and discourses were more than an adumbration of it. The reported Unwritten Doctrines of Plato are hard to understand because they were not only unwritten, but not fully formulable in the argumentative discourse of the time. They represented an ideal towards which the thinker had to work, and of which all theoretical, practical and aesthetic endeavors compassed only the beginnings. They were not for Plato a finished body of doctrine to which he possessed a perfect key, and it is for this reason that the traditions regarding Plato's Unwritten Doctrine are so hard to expand and to expound convincingly.

Plato's progression towards the Unwritten Doctrines may be held to have taken place in two steps, which may be called, respectively, the Socratic and the Pythagorean illumination. The Socratic illumination represents the turning of the dialectic of Socrates into an ontology. Socrates was concerned to arrive at Logoi or analytic accounts of the generic natures or meanings common to a wide range of specific and individual cases, and particularly to the generic natures or meanings peculiar to cases of the moral life: the Just, the Wise, the Temperate, the Courageous and their opposites. It was possible for these natures or meanings to be present unanalysed in a man's character or conduct or moral opinions, but a man could only have knowledge of them if he could frame definitory accounts of the meanings in question, saying exactly what they covered or excluded, in all their applications, and omitting what only applied in some of their applications. It also involved arranging these generic meanings in a comprehensive pattern, which set forth all their communities and specific differences in relation to one another. Socrates recognized the presence of generic meanings in other regions than the moral: he had Pythagorean followers who led him to see them in mathematical fields, and he was not uninterested in the speculative conceptions of the physicists. But it was axiological and moral conceptions to which his dialectic was principally devoted, since he did not believe that one could really live well unless one had clear and certain knowledge, not merely fluctuating opinion, of what Goodness in all its species really was. Plato applying his genius to the Socratic dialectic turned it into an ontology: generic meanings, whether in moral discourse or elsewhere, were not only real presences in the world through their many species and instances, and known and enjoyed in these, but had a more absolute being than those species and instances, and in fact conferred on the latter all the real being that they possessed. They were, moreover, not merely apprehended through their species and instances, which were often only poor illustrations of them, but rather gave

their species and instances all the intelligibility of which they were capable. To generic natures or meanings Plato gave the new name of Eide or Ideas, and they were held to be neither general names on men's tongues, nor general thoughts in men's minds, but the only entities that could without qualification be said to be, and which were further, in some sense, supremely causative, since their instances only were what they were by exemplifying them, while they were what they were without regard to an exemplification or instances. While essentially able to have instances, they did not need to have any, and in fact never had instances that perfectly exemplified or embodied them. Of Eide as so depicted Plato held that they were separated by an ontological gulf from all their instances, since they were general meanings themselves rather than specific cases of these: the Just Itself is the pure essence of Justice, not a specific, probably imperfect case of Justice. Some modern interpreters have criticized Platonism for, as they hold predicating the Eide of the Eide, regarding them as perfect instances of themselves, and so merely adding a world of perfect exemplars to our world of imperfect ones, which fail to explain anything in our imperfect world. Aristotle's criticism of Platonism in the Metaphysics and elsewhere made similar objections. But Plato, arguably, never saw the Eide as exemplary instances, but as something better than the most exemplary exemplar, being the pure essences which, while communicating themselves to their instances in varying degrees, were a radically different sort of thing from them. And the immense gulf between Eide and instances did not mean that Eide were cut off from the cases which 'shared' in them or were 'modelled' upon them, but merely that they had a different role, and belonged to a different ontological type, being what can be shared in or approached by the character of its instances, without itself being an instance of any sort at all. The very terms 'participation' and 'imitation' were arguably meant by Plato to indicate a very real and essential relation which demands, and does not violate, a gulf of type. General

meanings make a radically different contribution to the world - we may say metaphorically - but this does not exclude, but rather requires, that instances should be instances of Eide, and that Eide should at least be capable of instantiation.

There are many further respects in which Eide had to differ ontologically from their instances: they had all to be essentially non-sensuous, however much present in, and required by their sensuous instances. The qualities of the senses varied from occasion to occasion and from person to person, but had to have a foundation in pure proportions and numbers which only the pure mind could compass non-sensuously. The Eide, further, are essentially unchangeable, and out of time altogether, whereas their instances are part of the perpetual flux of instantial being, and are constantly coming into being and passing away, or being replaced by the instantiation of some other Eidos. Instances further can instantiate conflicting Eide, e.g. unity and multiplicity, in a manner impossible at the eidetic level, and instances can be composed out of partial instances, and be dissolved into the latter, in a manner in which Eide, while permitting differences of aspect and relation, can never be compounded out of, nor dissolved into, component Eide, but retain in all relations an essential incomposite unity. Instances, further can be many and diverse and widely scattered, while the Eide which they instantiate remain wholly single and self-identical, and indivisible into scattered parts. Location in space involves distinctions of instantiation, but not of the Eide which are instantiated. Eide, further, without loss of identity, must be held to be capable of forms of mutual pervasion and communion of which instances are incapable. There are generic Eide which run through whole areas of specific Eide which have relations of mutual exclusion towards one another: thus being an animal pervades all the animal species, while these in their turn exclude one another. The Eide therefore necessarily form an immense hierarchical system, ranging from the most

pervasively generic to the most exclusively specific, and dialectic must have the task of placing each Eidos in this hierarchy, and relating it to the more generic Eide above it, and the more specific Eide beneath it, as well as coordinating it with Eide which stand in neither of these relations to it. Plato's later thought concentrated strongly on such hierarchical divisions and collections, but it is wrong to suppose that such an arrangement was not implicit in his thought from the start, since the very notion of a Logos, is that of saying what an Eidos covers and what it excludes, and so giving it a place in a hierarchy which can be indefinitely extended. Socrates, we may say, was at all times giving Eide tentative places in hierarchies, and Plato merely worked out the rationale of this whole dialectical procedure.

It is plain finally that the Platonic ontology, which arose out of Socraticism, was also from the start not only an ontology, but an axiology: it implied, though not always plainly stating it, that the prime Eide were patterns of excellence or goodness, and of an intelligibility which could not be sharply separated from goodness, and that the bad and the imperfect could only be thought of in so far as were excluded by, or declined from a standard of perfection. There are countless cases in the Platonic literature where Eide of things bad or imperfect are considered, the impiety which is the opposite of piety, the injustice which deviates from justice, the distorted forms of the human soul or of human societies, the confused motions of the original chaos, the absolute Non-being which is the object of Agnosia or Agnoia or what not: we even learn that all knowledge is of opposites, and that knowing what an Eidos or nature is, involves knowing all the Eide or natures which deviate from it, either absolutely or with varying degrees of remoteness. This axiological aspect of the Eide made it natural for Plato to make all the Eide specific forms of the Good, and if, in the Phaedo, he sees it as the supreme task of the physicist to determine how and why certain natural arrangements are good,

he also opines in the same dialogue that the Eide are the true causes of anything being as it is, the Eide being therefore given an essentially axiological significance. In the Academy, we are told by the commentators, it was early held that there cannot be Eide of everything, not, e.g. of things evil or negative or changeable or accidental or partial, or hybrid or compound, or artificially constructed, or due to choice or chance, but only of perfect substances and their essential excellence. The practice of Plato in seeming to give eidetic status to perversions and distortions, and to structures as artificial as a bed, is best seen as springing from an axiology deeper than the ordinary, one that sees the absolutely good as being as essentially revealed in what negates it, or deviates from it, as in what perfectly exemplifies it: in excluding what deviates from the well-formed and intelligible, the Absolutely Good in a manner includes the former. To know what is the good form of anything is to know what is not its good form. The placing of the Good at the apex of the eidetic hierarchy likewise exemplifies the union of ontology with axiology. The intelligible forms of things are the good forms of them, and we understand the dark and confused through their departure from the luminous and perspicuous. The Good, however, being the pervasive spirit of the whole eidetic hierarchy, and all deviations from it, must necessarily transcend the well-formed, intelligible being of the Eide: being the very Principle of Good Form, it cannot be seen as merely a particular case, however exalted, of the well-formed. The mysticism of the Platonic approach to the Absolute Good, its transcendence of being and definitional knowledge, a mysticism also present in Plato's magnificent Second Epistle, is a profoundly rational mysticism: it merely recognizes that a Principle cannot, except by an impermissible of understandable extension, be ranged alongside of its applications.

I do not, however, wish to remain further absorbed in Plato's first great illumination, how ontological-axiological restatement of Socraticism. I wish

to pass to his second great illumination which never received full written expression, though his writings, on my view, contain hints at it at countless points. This was his Pythagoreanization of the Eide, his arithmetization of them, and his reduction of all natures to numerical structures and relations, which are not, however the numbers of our ordinary computations. It will be this second illumination with which I shall be concerned in the remainder of my paper.

On my view there was nothing that speaks of lateness or decline in Plato's second great illumination: it must have occurred when Plato made his first visit to Sicily and Southern Italy in 388-7 B.C. He then arrived at the view that the eidetic ontology into which he had transformed the ethical dialectic of Socrates demanded a further transformation into a Pythagorean ontology, in which Eide would be reduced to arithmetical patterns, and relations of Eide to a derivation of all complex, many-dimensioned patterns and operations from some absolutely simple and basic ones. After a fashion, we may say that Plato was led by the Italian Pythagoreans with whom he consorted to aspire to a comprehensive philosophy of mathematics, of which the modern works of Frege and Russell are in some respects fuller elaborations, though they do not attempt to cover the whole territory of deductive science as Plato did.

Plato's arithmetization of the Eide was a natural development of his belief in their absolute non-sensuousness. The qualities of the senses vary from moment to moment and person to person, and their relations cannot be rendered perspicuous as those of numbers can. The generation of all numbers from a principle of primal Unity, successively imposing itself on a principle of indefinite continuity, was at least an inspiring enterprise, and could perhaps be extended to cover the complexities of nature and human society as one could not hope to derive the latter from the Hot and the Cold, the Moist and the Dry, and other sensuous differences. Aristotle was wholly unclear as

to what Plato's identification of the Eide with numbers could possibly mean, and from Aristotle the perplexity has spread to most later thinkers. Does Plato mean that an Eidos like that of a Horse is to be identified with a Natural Number such as Eight? This is obviously fantastic. Or does it mean that the essences of everything are ratios of numbers, as Empedocles taught of the proportions of the elements which make up bone? If this is so, of what elements are they the ratios? And how does Plato propose to educe Lines, Figures and Solids, which come after the Natural Numbers, to Numbers? Will they involve other non-numerical principles? And how can anyone explain the Decad? Obviously one cannot allot Numbers to everything if one has only ten Numbers. It seem obvious, however, that Plato could not have meant by his universal arithmetization an identification of each Eidos with a Natural Number or a ratio of such Numbers: he can at best have meant that the essence of everything, and of whatever was good in it, could be stated in a complex set of numerical ratios and relationships, a view by no means absurd. What is the face of Mona Lisa, and its beauty, but a complex pattern of such ratios? And obviously the varying dimensions of space can be covered by extensions of the Number system in new directions, as has in fact been done in the Complex Numbers of modern mathematics. Plato would seem to have thought of Lines as continuous or flowing Numbers determined by two limiting points, surfaces as products of at least two numbers fixed by at least three points, and solids as products of three numbers fixed between at least four points. If we know that the generation of such dimensions requires more resources than Plato disposed of, he at least made a beginning in the right direction. And his restriction of all Numbers to the Decad cannot have meant a restriction of all essences to the first ten Natural Numbers, but rather a limitation of the types of numerical complexity that are reflected in the dimensions of Space. The Decad 10 is the sum of $1+2+3+4$, and hence is the Principle of all the Natural Numbers, all the one-dimensional Lines,

all the two-dimensional surfaces and all the three-dimensional solids, and so covers in a sense all Numbers. These identifications of numerical dimension could be extended to cover motions in time, and so could further be applied to Souls which are in Platonism the ultimate sources of all motion, and are further explicable in terms of the numerical patterns they inwardly understand and can impose on the movements of bodies.

Aristotle tells us that Plato believed in two classes of Numbers, the eidetic Numbers and the mathematical Numbers. The eidetic Numbers were each unique and single, whereas their mathematical correlates were numerous: there was only one eidetic Three, very Threeness itself, but there were infinitely many mathematical threes. One can in mathematics say that a three added to a three together make a six. Mathematical Numbers resemble Eide in being eternal and non-sensuous, but they resemble instances in being many alike: they are as it were ideal instances, intermediate between Eide and sensible instances, and for this reason are well illustrated by the latter, as Plato says in the Republic. Mathematical Numbers can be added to one another, or subtracted from one another, to yield other mathematical Numbers, but their eidetic originals are neither addible or subtractible. Fiveness does not consist of Threeness plus Twoness, nor does Threeness consist of Fiveness minus Twoness. Eidetic Numbers are in fact wholly incomposite: they have the profound unity of each and all of the Eide. Aristotle finds this all quite unintelligible. How can there be a Three itself which does not consist of three units or of a single unit plus a couple? Plato would answer that eidetic Threeness is not a case of Threeness, but Threeness itself, the Threeness in which all triads participate but whose unity they cannot share. Aristotle is then forced to the fantastic view that each eidetic Number must consist of units peculiar to itself, but an eidetic Number can have no constituents. Plato further applies the notion of intermediate mathematical to Lines, Figures and Solids as well as Numbers. There are many geometrical

Straight Lines, Triangles and Cubes but only a single Eidos of the Line, the Triangle and the Cube as such. Here again we have ideal instantiations in a position half way between Eide and sensuous instances. And there are motions in the dynamic problems of pure astronomers which are neither the motions of actual bodies nor the eidetic types of motion which are ideally instantiated in such problems.

The doctrine of the mathematical intermediaries is never clearly stated in the Republic, but is hinted at again and again: such intermediaries are plainly needed to provide peculiar objects for dianoetic thought, though Plato says it would be too complex to detail such objects, (See 516a, 525b, 526a, 534b). Just as there are shadows and reflections which correspond to the solid measurable realities of reliable perception, so there have to be upper-world shadows and reflections of eidetic patterns, and these can be none other than the Objects of Mathematics. And Mathematics leads on to the upper-world, dialectical study of the Eide, precisely because it introduces us to well-formed, timeless images of the Eide even if these happen to be many alike. And Mathematics works on hypotheses, since it takes for granted the being of the eidetic essences which its multiple images exemplify, whereas Dialectic derives them all from a non-hypothetical first Principle of Absolute Unity or Goodness, which transcends all the mathematical Eide, and all their ideal and sensuous instances, by being their unquestioned, unhypothetical first principle. The hypotheses of which Plato speaks are, we may note, positings of entities or concepts, not assertions of propositions.

Plato also took over from the Pythagoreans, we learn from Aristotle and from other sources, a systematic 'generation' of all the eidetic Numbers, and of the geometrical entities which come 'after' them, by the repeated interaction of two Principles, both plainly Pythagorean. One of these Principles was that of Unity or the Good, which set definite bounds to quantitative variation in any

direction, and was plainly the same as the Pythagorean Principle of the Peras or Limit, while the other Principle was the 'bad' Principle of the Continuum, which Plato called, not the Infinite or the Indefinite, as the Pythagoreans did, but the Great and (the) Small, or the Indefinite Dyad. Aristotle thought that Plato meant to introduce two Principles in place of the one Pythagorean Principle of the Infinite or Indefinite (Apeiron), but this is obviously not the case. The Great and Small is simply the Principle of Indefinite Quantity, of what can be increased or decreased indefinitely, and which nowhere has fixed boundaries. The Greeks, like ourselves, were fascinated by the continuity of space and time, and by their reflection in numerical fractions and ratios, and by the sheer impossibility of setting final bounds to them in either direction. The basic form of the Great and Small was the Many and Few, the raw material, as it were, for the Natural Numbers. It had a sub-species called the Long and Short which provided the raw material for Lines, a sub-species called the Broad and Narrow which, together with the Long and Short, provided the raw material for Surfaces and Figures, and a sub-species called the Deep and Shallow which, together with the two previous species, provided the raw material for Solid Figures. It seems possible, from what Plato says in the Republic, that Plato recognized a further form of the Great and Small which made motion possible: this was the Swift and the Slow which underlies the velocities in which astronomers are interested. Regular motions always reflect the action of the One setting bounds to the irregularities due to the Great and Small. All this generation of the Eide by the imposition of Unity on the Great and Small was not meant to take place successively in time, but to be essentially timeless. Talk of generation with its temporal suggestions is only for expository purposes, though Aristotle is disposed to take it literally.

The precise nature of the generation is very obscure, and has had to be filled in at many points by such interpretations as those of Robin, Stenzel and

Ross. In the case of the integers Plato did not generate them in their natural order by the addition of a unity to its predecessor: he preferred to proceed by multiplication and intercalation. An integral number is conceived as a multiplicative power. Two doubles, Three triples, and so on, and hence all factorizable Numbers can be obtained by multiplying Numbers by themselves or by other Numbers, e.g. Nine is thrice Three etc. The Prime Numbers then give rise to a problem: how are they to be generated? Plato, on Robin's interpretation, seems to have imagined by a process of splitting the distance between two factorizable Numbers, dividing it into two equal segments. The Number Two has a unique origin: the obscure tendency to increase and decrease being so limited that we have a precise doubling Unity. This being granted, self-multiplication yields all the powers of Two. Three then arise by an equal division of the interval between Two and Four, and we now dispose of all the products of Two and Three. We can now generate Five by splitting the difference between Four and Six and so on. Multiplications and splitting of differences thus yield all the Natural Numbers, and fractions can be generated in similar ways. I am not sure how much I understand of all these timeless processes: obviously they prompt many questions. Further generations are very obscure and would seem to have involved some sort of timeless ideal fluxion. Sextus Empiricus, in this attack on the metaphysical mathematicians, among whom Plato is plainly to be included, says that 'some say that Body arose from a single point whose flux produced a Line, whose flux in its turn produced a Surface, and, when this moved into depth, three-dimensional Body was generated. Solid bodies were thus constructed under the hegemony of Number. And from them lastly sensible things arose, Earth and Water and Air and Fire and the cosmos as a whole'. Regular motion is a further product of this generative process, and a final product is the Soul, the principle of living motion and thought. Aristotle says in De Anima 404b 'In the same way Plato in the Timaeus, makes the Soul out

of the elements. For like is known by like, and things arise from their Principles. In the way in Plato's discourse On Philosophy it was laid down that the Living Creature Itself came from the Idea of Unity Itself with the first Length, Breadth and Depth, and other things in similar fashion. And in yet another fashion they make Intuitive Mind (Nous) be the One, Knowledge the Dyad, since it proceeds in a single line to one point, Opinion the number of the Surface, and Sensation the number of the Solid. Things are judged by Intuition, Knowledge, Opinion and Sensation, and these Numbers are the Eide of things. It will be plain from these citations that Plato's identification of the Eide with Numbers, and their generation by the intercourse of Unity with the Great and Small, was an immensely complex theoretical construction, which Plato hoped to see worked out by the labours of many insightful philosophers, and not at all presently compassed by himself. We have now to say some words in assessment of this grandiose project which has been so little considered by the interpreters of Plato's dialogues. On our view Plato's mature thought in the Phaedo, Republic, Symposium, Phaedrus, Parmenides etc. cannot be properly understood without an understanding of the Unwritten Doctrines. They became an aspiration of Plato, not at a late, but at a quite early stage of his development. All Platonism and Neoplatonism and their many mediaeval offshoots show traces of the doctrine that they were unable to interpret and develop satisfactorily.

The reduction of all natures of things, and all values and excellences, to complexes of Numbers is of course somewhat strange to the modern philosopher, who is inclined to stress the irreducibility of what is qualitative. Science may have reduced all colours, sounds, etc. to differences in wave-length and frequency etc., but the philosopher is disposed to see something irreducible and irremoveable in the passage from mere quantity to quality, and vice versa. And all our aesthetic responses to the world and its contents seem to depend in great part on differences that are qualitative, and not merely quantitative.

The importance of measure and proportion as underlying beauty and moral goodness was, however, deeply Hellenic: both Aristotle's Ethics and Plato's Philebus express this. And after all, what makes an animal be a tiger or a musk-ox or an elephant can be nothing but its characteristic shape and size and proportions, all of which consist in ratios and measures. And the beauty of a face is plainly a matter of measure: thicken the mouth or lengthen the nose or distance the eyes a little, and it may be replaced by ugliness. And the regular motions of sun, moon, stars and planets, which to us are uninteresting, were to antiquity the very type of the beautiful and orderly. Such harmony is also in immortal souls, and obviously notions of due proportion and equalization enter into the virtues of Temperance, Courage and Justice, and into the practical Wisdom that presides over them all. The Platonic Republic was moreover run entirely on Numbers, the times and frequencies of pairings for the various classes of the citizens being decided by them, and a healthy, virtuous society would become a corrupt, evil society if such Numbers were disregarded. Plato had no experience of the ugliness and wretchedness of a computer-run society, or one with only a limited number of uniform products: it was understandable that he should see health and beauty and truth and virtue in men and societies dominated by the mathematical equation. Plato, however, like Aristotle, recognized the necessary presence of the element of the inexact, approximate, indefinite, continuous, ever burgeoning and ever shrieking element, in thought and reality, so that the mathematization of all eidetic thought-patterns does not mean that exactness and arithmetical simplicity will carry the day in all cases, and that all deviations from this will be signs of depravity. For Platonism believes that, not only all instantial existence, but also the eidetic paradigms that they copy or share in, involve an element of the indefinite and inexact on which the limits of goodness and precise measure are imposed. Even in the realm of the Eide we have a prototype of Space and Time, the media of instantiation: Arithmetic arises when the

Many and Few are bounded by Absolute Unity, Linear Geometry when the Long and the Short are thus bounded, Plane Geometry when the Long and Short and Broad and Narrow are thus bounded, and Solid Geometry when the limitation is extended to the Deep and Shallow. Time then becomes rhythmic and beautiful, and a moving image of eternity, when the disorderly flux of primeval being becomes a matter of fixed tracks and invariant velocity such as we see in the heavens. All this domination of the Great and Small by Absolute Unity is not only carried out in the sensible Cosmos by the Demiurgic Mind, but more perfectly and timelessly in the realm of the Eide, for they too exhibit the Indefinite dominated by the Definite. If all things are reflected upon, we can make sense of Plato's eidetic Republic as an Eidos laid up in heaven, representing a perfect ordering of all physical and psychic patterns in a single community, the most glorious triumph of Unity over the Great and Small. The Christian Kingdom of Heaven is an Eidos having much the same coverage as the eidetic Republic of Plato, and we may well hold that Christianity merely added a few complements and corrections to Plato's idea of the perfect society. Seen in these lights, Plato's mathematicization of the Eide need not be nigglingly precise: there are branches of mathematics that deal with the inexact and probabilistic and topological, and arguably these are as fundamental as those which are rigorously exact. I do not suggest that Plato foresaw the existence of topology. I shall not continue my discourse further: you can pursue the matter in my two books, and in those of Gaiser and Kramer. I shall be content if I have led you to turn your backs on the view of Plato's Unwritten Doctrines as a senile aberration of Plato, or as a gross misinterpretation of Aristotle, or as academic garbage which accumulated in the early Academy. I would also suggest that, not only the Republic, but also the Parmenides shows the continuous influence of the Unwritten Doctrines. The Absolutely Good is there identified with a Unity which is in one perspective beyond all definite numerical and other determinations, while in another

perspective permitting the derivation of all such determinations from itself, and which is opposed by a principle of the Indefinite which, if we try to isolate it, has just such an ever elusive shiftingness of content as we take the Great and Small to have. Hypothesis VII in particular is a wonderful picture of the Great and Small, which is always ready to dissolve into a multitude of distinct units, liable to indefinite further dissolution. If one wants to see a sort of existentialism in Plato, here one has it, but the serene profile of Absolute Unity remains above undisturbed. And in the world of the Eide the forces of division and gross expansion are always perfectly under control, even if, in the world of instances, everything always exceeds or falls short. And Plato is seen not to be a dualist. For the expansion of the Eide into the realm of instantiation is seen not to be an inexplicable fall, but a carrying further of the domination of multiplicity and detail which is already present at the eidetic level. A Neoplatonist like Proclus worked the whole mystery out: the One must go forth from itself into endless specification and instantiation in order to return to itself eternally and, so to be the One. And these thoughts also underlie the Dialectic of Hegel, for whom the Absolute Idea is the eternal vision of itself in its Other. Hegel must have derived this conception from the Parmenides of Plato, and so ultimately from Plato's Unwritten Doctrines. The best of philosophy is therefore, to imitate an apophthegm of Whitehead's, only a postscript to Plato.

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